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Corporate Sustainability:
Competitive Advantage through Sustainability Reporting

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Abstract

This paper examines the current trends of corporations that have completed a Global Reporting Initiative (GRI) sustainability report. To gain an overview of the rapid growth in sustainability reporting the issues and trends that are analyzed are geographic locations of main headquarters, size by number of employees, size by market capitalization, sector breakdown and financial performance. The paper presents a mental model that builds on the theory of competitive advantage by Porter (1980, 1985, 1990). The mental model argues that sustainability can be the crystallization concept to build and retain intellectual capital through the development of stakeholder dialogue, corporate culture, corporate governance and corporate reputation. The paper proposes that the ability of corporations to blend sustainability into the creation of intellectual capital is a dimension that can be added to all three of the generic strategies developed by Porter (1980): low-cost leadership, product/service differentiation and market specialization to achieve competitive advantage. The corporation that can also implement sustainability indicators across what Porter (1980) called the horizontal strategy and both up and down the vertical chain may gain triple-bottom line benefits. These sustainability benefits are the initial steps towards the creation of a learning organization focused towards sustainable development.

Introduction

The principal problem that will be examined in this thesis is the present state of sustainability reporting and how the concept of sustainability may lead to competitive advantage. The topic was selected to shed light on the emerging corporations that are embracing the concept of sustainability. While the author recognizes that not one of the corporations are truly sustainable, the point of interest was to gain a broad view of regional and market sector strategic responses towards corporate sustainability. The importance is that these pioneering sustainability reports must only be baby steps by corporations towards future improvement strides. A push for greater improvements by stakeholders as well as greater transparency and corporate governance is essential in regaining public trust of corporations. The thesis will therefore try to achieve a broad overview, or metaphorically speaking, be similar to a person climbing a mountain to capture ‘photographs’ of corporate sustainability at this time period.

To capture the moment in time, the paper will present the relevance of the topic through the development of a theoretic mental model. The model will present the argument that a shift in strategy towards implementing a corporate sustainability strategy, developed as a top-level priority to management, may have internal effects that create a dynamic corporate culture, increase transparency, and improve corporate governance. The result of this shift in strategy is the creation of intellectual capital that may also have external effects on stakeholder dialogue resulting in a more positive corporate reputation. To present the ‘photographs’ in time, the results section will display the current trends in sustainability reporting.

The paper has a direct connection to sustainable development due to the enormous impact that business has on the earth. While the combined number of companies presently publishing a sustainability report represents only a miniscule portion of the world’s companies and sectors, their tentacles in the form of subsidiaries, impacts on communities, and products/services sold cover the globe and even reach into space. The dissemination of sustainability knowledge through the unconventional channel of corporations will be a positive impact. Business firms are major economic, environmental, and social actors and increasingly business managers will be seen as stewards of these resources in a sustainable direction. As Hawken (1996, p. 11) states, “While business teaches us effective forms of human organization, environmental science reveals that those forms do not necessarily preserve the natural resources that are the basis of our well-being.”

Method and Material

The selected method for this thesis was the development of a mental model. The main reason is that the point of view of the thesis is from a broad or holistic level, crossing countries, cultures and industries that can be best represented in a mental model. A causal-loop diagram was initially developed, but was excluded in the thesis due to the applicability. I view causal-loop diagrams (CLD) and modeling better suited for case specific situations such as the application of GRI indicators to a specific corporation. If a CLD was to have been included, the archetype could be ‘success to the successful’ with success being measured by comparative advantage. By using a mental model, a direct relationship between the methodology and the scope/analytical framework is established. The mental model provides the foundation to connect the multi-disciplinary subject areas with an interpretative approach within a limited scope.

The material included in the thesis was selected from primary and secondary sources. The primary sources consisted of taking three graduate classes at the Copenhagen Business School from July to December of 2001. The first class was in financial topics that provided background information on applying financial theories to corporate sustainability. The second class on business ethics provided a basis in the attempt to select corporations that could be screened as sustainable. The final class was in corporate communications and provided information on communication theory of the identity (Who we are?) of the corporation to image (How we are viewed?) of the corporation by stakeholders. The classes also provided me with the opportunity to discuss with the instructors and students the relationship of sustainability and the subject areas¹.

In addition, all three classes provided a wealth of secondary source material in the form of books, journal and periodical articles, and web information. To supplement theoretical gaps in my mental model not provided from the above class work, similar secondary source materials were included from my education at LUMES, my prior education in business, as well as outside sources. The data for the selection of the organizations studied was based on the website of the Global Reporting Initiative, and additional data was provided on the corporations from the websites of Yahoo! Finance and Quicken. Corporate websites and links to their sustainability reports were useful for background and trend information. Moreover, numerous other websites provided extensive information, but due to the lack of

¹ For example, for the class presentation project in the finance course, I led a discussion in sustainability investing in corporations. To my disappointment, not one person in a class of 25 had heard of the concept of sustainability, and I spent the majority of the time explaining the concept.

peer-review on the subject, the information was generally not included. However, information from some of the websites of the larger business consultancies was included to demonstrate the important developments within implementation of corporate sustainability. Due to the methodology of this study, the most important of the various sources was the use of books and journal articles.

Objectives and Scope

The objective of this study is to examine one of the emerging frontiers of business, the growing number of organizations that have issued sustainability reports. This new development stems from the result of the emerging stakeholder and corporate sustainability paradigms. The specific research questions to be examined in this study are:

- How can competitive advantage as defined by Porter (1980, 1985, 1990) be gained by producing a sustainability report?
- Who and what types of companies are publishing a sustainability report in regards to geographical location, industry sector and company size indicated by market capitalization and number of employees? Are there any trends? Why are corporations publishing sustainability reports?
- Do companies that publish a sustainability report perform better financially?

The study is focused on organizations that based their sustainability report on the GRI format and were also listed on the GRI web site as of August 5, 2002. The cumulative list is updated monthly, so a limitation of this study is that all companies that completed a sustainability report may not be included. In fact, there is tremendous discrepancy in the actual number of organizations publishing a sustainability report. Waddock, Bodwell and Graves (2002) state that currently over 1,000 organizations have issued some form of a GRI report from 35 countries, and the GRI (2002) states that over 2,000 organizations have used their format. For the purpose of this study, the current number of organizations examined is 140 from 21 countries. The list used for this study is predominantly represented by corporations, but also includes a few NGOs, universities, and utilities. For the analysis of the industry sector, market capitalization, number of employees, and financial performance the number of organizations are reduced to 59 publicly traded corporations. The aim of the reduction is to include only the corporations that were listed on the New York Stock Exchange, American Stock Exchange and the NASDAQ. All of the 140 organizations were researched to determine if they were first a corporation, and second, were publicly traded on the above exchanges. The reason for the elimination is reducing the task of acquiring

company specific information, as well as time and resource constraints. In addition, the paper does not explore the ethical questions in relation to sustainability of the goods produced by some of the corporations; for example, non-renewable resources (oil companies such as Royal Dutch/Shell Group), harmful products to society such as smoking (British American Tobacco), and effects on future generations (nuclear fuel, mining and processing by COGEMA).

A major limitation of the study is a result of my western perspective, as well as the 59 corporations that were studied were from an equivalent western mindset, excluding Japan. The bias is unfortunate, but challenging to overcome due to the education environment in which I was raised. Therefore, the paper suffers to incorporate some of the major worldviews. In addition, the paper does not address inequality, one of the current major challenges of sustainable development. A large percentage of people aspire to the standard of living of the 'developed' world. But, meeting these aspirations from an environmental standpoint is currently unachievable (Welford and Jones, 1998).

Theoretical Framework

While the term sustainability draws origins from previous sources, it became popularized by the publication of *Our Common Future* (WCED, 1987), also known as the Brundtland Report on the Environment. In the report the concept is defined as “...*the ability to meet the needs of the present generation without compromising the ability of future generations to meet the needs of others.*” And while this meaning is rich in description and broad in scope, there is a gap in how to translate this definition into practice in the corporate setting. Elkington (2001) defines corporate sustainability, or triple-bottom line, as a focus towards economic prosperity, environmental quality, and a third area of growing focus, social justice. However, Welford and Jones (1998, pg 237) state that, “...strategies are needed to translate conceptual theories of what sustainable development means into practical ways of achieving it over time within a corporate context...requiring them (companies) to look at their own ethics, their objectives and their own forms of organization, corporate culture and communication.”

To fill the gap between sustainable development and corporate sustainability, the Global Reporting Initiative (GRI) evolved in 1997 between a partnership with the Coalition for Environmentally Responsible Economies (formed due to the Exxon Valdez 1989 oil spill) and the United Nations Environment Program. The main purpose of the GRI is to develop a standardized corporate reporting format based on the concept of sustainability, and to

promote transparency of performance. The GRI format has been so far translated into eight languages: Dutch, English, French, German, Japanese, Korean, Portuguese, and Spanish.

On the path to corporate sustainability, the 140 organizations selected for this study had completed a sustainability report using the GRI guidelines as of August 2002. In addition, five to ten new companies file a sustainability report each month from numerous nations and industries. Examples of some of these companies are: Nike, Budweiser, Canon, British Airways, Volvo, Sunoco, Royal Dutch/Shell, Nokia, KLM Royal Dutch Airlines, AT&T, Chiquita Brands, University of Florida. A full list can be found in Appendix 1².

Sustainability seems to be an emerging model or paradigm of our time that addresses various stakeholder demands. Corporate sustainability attempts to align the self-interest of individuals and companies in a longer-term view using markets and eco-efficiency to drive innovation while addressing social and environmental concerns. One of the newest market indexes, the Dow Jones Group Sustainability Index (DJGSI) was created to demonstrate the sustainability corporate leaders in each industry. The creation was led as a partnership between the Dow Jones & Company Ltd. of New York, and Sustainable Asset Management of Switzerland. The primary importance of the DJGSI is the creditability and legitimacy that the concept of corporate sustainability has gained in business and financial circles. The DJGSI offers the following definition of corporate sustainability:

“Corporate sustainability is a business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social developments. Corporate sustainability leaders achieve long-term shareholder value by gearing their strategies and management to harness the market's potential for sustainability products and services while at the same time successfully reducing and avoiding sustainability costs and risks.” (DJGSI, 2002)³.

The above definition generally represents the major business interpretation of the term. However, differences between corporate sustainability and sustainable development will occur due to divergent philosophical interpretations of the concepts. Significant differences are issues such as rights, equity, time frame, primary objective and other important social and environmental goals. Bansal (2002, p. 124) touches on a fundamental divide between the concepts in the following statement:

“Corporate sustainability is defined primarily by the economic principle, which is rooted in neoclassical economics. Sustainability implies sustainable competitive advantage, not sustainable development. Firms are focused on shareholder value, market share, and innovation. Hence, organizational goals are tied to economic

² For a cumulative list see; <http://globalreporting.org/GRIGuidelines/Reporters.htm>.

³ The quote was taken from the website of DJGSI and a page number was not available.

performance, not environmental or social equity. This orientation is understandable given that a firm's time horizon is considerably shorter than society's. If a firm does not survive the next organizational challenge, the question of societal sustainable development is moot."

The above quote also illustrates two central facts. First, in the business literature review of this paper, in the majority of instances, the term sustainability is interpreted or viewed as some type of financial gain over the long-term for the firm. This can present a problem in communications between actors in sustainable development and business. The second fact is that deep in the roots of capitalism is the principal objective of a corporation to seek competitive advantage. In the past, this quest for competitive advantage conflicted with sustainable development. However, this paper will not argue for sustainable competitive advantage, but for corporations to gain a competitive advantage by creating and retaining, the intellectual capital of the corporation in a sustainable way.

The seed for the development of competitive advantage draws origins from classical economics. The theory branches from the work of both Adam Smith who developed the concept of absolute advantage, in which the lowest-cost producer of a good becomes the principal exporter, and David Ricardo who sophisticated the theory to comparative advantage, that a nation will allocate resources to the most productive industries by market forces (Porter, 1990). The study of strategic management focuses on the concept of competitive advantage and Porter (1980, p. 278) offers the following description of the concept:

"The existence of competitive advantage is a classic determinant of global competition. When a country or countries have significant advantages in factor cost or factor quality used in producing a product or service, these countries will be the sites of production and exports will flow to other parts of the world."

Porter (1990) argues that the study of competitive advantage must be focused on the company and industry level since corporations are central to the study of national advantage. Porter (1990) concluded in his large study of ten (developed) countries⁴ that globalization has not made nations less important, but made them more important due to highly localized processes. He (1990, p. 19) goes on to state that, "Differences in national economic structures, values, cultures, institutions, and histories contribute profoundly to competitive success." One conclusion Porter (1990) made from the study presents a paradox for the sustainable development agenda. He concludes that national governments must encourage

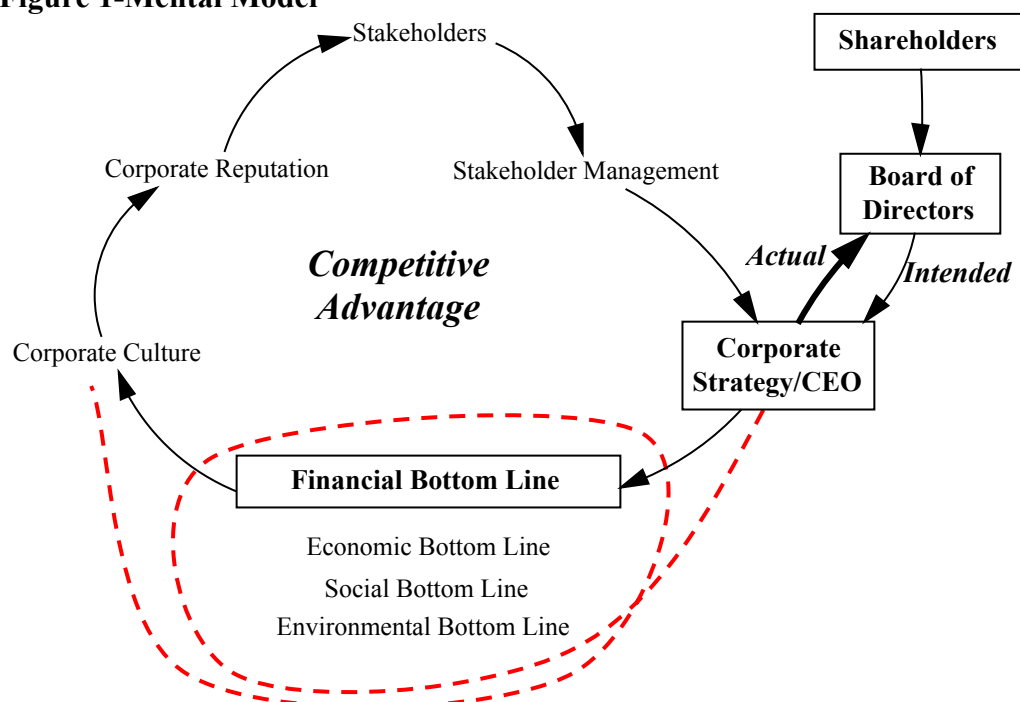
⁴ The countries studied are Denmark, Germany, Italy, Japan, Korea, Singapore, Sweden, Switzerland, United Kingdom and the United States.

competition by setting appropriate goals to reach economic prosperity, not by protectionist strategies such as subsidies and collaboration. However, this conclusion will not find agreement with some government officials and actors engaged in sustainable development who seek protection of local companies and markets. Yet, companies to become more sustainable will need to be pushed and challenged by the government to change. Porter (1990, p. 30) does conclude that, “National economic prosperity need not come at the expense of other nations, and many nations can enjoy it in a world of innovation and open competition.”

Mental Model

The common thread weaving throughout the mental model in Figure 1 is the creation of competitive advantage. An essential difference between economic theory and competition theory is that there is no state of equilibrium in the latter. As Porter (1990) points out there are always new ways of production, service, marketing, financing, emerging markets and other ways to compete, but the question to examine is “Why do some companies innovate faster than others?” This paper attempts to answer this question within the context of implementing sustainability objectives through the use of GRI indicators. The theoretical framework section of this paper follows the dimensions of the mental model (Figure 1) with a straightforward approach. The dimensions in bold and in the boxes suggest the historical interpretation of the role of a corporation in society. The red dotted line suggests the incorporation of the triple-bottom line approach in strategy for companies interested in

Figure 1-Mental Model



moving towards a stakeholder dialogue.

The scientific tradition of the paper is embedded in an interpretative approach using holistic thinking to gain understanding of the broader trends in sustainability reporting. The logic of the mental model is based on Porter's (1980, 1985, 1990) theory and framework of competitive advantage. The selection of the use of primarily one author as the basis was due to the impact that Porter has on strategic management, the scope of his completed research, and the simplicity of his framework and basic theories. The mental model builds from my previous research in organizational theory examining corporate branding of external perception of organizational culture (Kowalczyk and Pawlish, 2002).

Shareholders

The study of shareholders and financial performance is extensive with vast quantities of research material, methods and metrics. The role of shareholders is a critically important topic that will only be briefly discussed in this section, but will be a theme throughout the paper. As a starting point, the role and the responsibilities of the investor has multiple meanings, but for the purposes of sustainable development and socially responsible investments the definition of Monks (2001, p. 30) will be used:

“Investment is the process of foregoing immediate expenditures in order to build a more prosperous future.”

The definition will not find universal agreement with a large percentage of shareholders, but it reflects the longer-term view that is needed as a foundation of the mental model. The area of social responsible investing continues to grow with one out of every eight investment dollars going to a social responsible investment, or a total of \$2.03 trillion dollars invested as of 2001 (Waddock, *et al.*, 2002). An additional recommendation for method of investing is the use of a “value investing” strategy as prescribed in *Graham and Todd's Security Analysis* (Cottle, Murray, Block, Leibowitz, 1988; Graham, 1959). “Value investing” seeks to discover both equity and debt assets that are valued below their market price and has been used most effectively by investors who studied under Professor Benjamin Graham of Columbia University, and most notably Warren Buffet. Finally, the use of a diversification strategy of sustainability-screened stocks should give investors risk reduction and an investment in corporate social responsibility.

Stakeholders and Stakeholder Management

The study of corporate sustainability is a young discipline that draws origins from the study of corporate social responsibility. Both fields view business responsibilities in a broader

context than the more narrow economic perspective of profit maximization for shareholders. Therefore, a general claim to the corporate social responsibility development is a more inclusive form of management or what Freeman (1984) has coined stakeholder management. According to Freeman (1984, p. 25) stakeholder management is "...any individual or group who can affect or is affected by the actions, decisions, policies, practices or goals of an organization."

The trend towards stakeholder management and an increasing demand by the international community for corporations to be more responsible, can be demonstrated by the following quote. According to the *1999 Millennium Poll on Corporate Social Responsibility* prepared by Environics International (1999) that surveyed over 25,000 people from 23 nations⁵ and six continents, *"Two in three citizens want companies to go beyond their historical role of making a profit, paying taxes, employing people and obeying laws; they want companies to contribute to broader societal goals as well."*

The traditional view of management throughout the industrial age has primarily focused on a shareholder perspective, with the view that social and environmental goals were outside the boundaries of the definition of a corporation. The main objective that was practiced and taught, principally in the US and the UK, to both business students and managers was to maximize shareholder wealth. The culture of mainland Europe and Japan had more of a history of balancing multiple objectives through working with various stakeholder groups for example, employee participation through unions in management (Copeland, Koller, Murrin, 1994). The US and UK approach reflects the more narrow view of the classical economic school, and can be exemplified in a seminal article by Friedman (1970) that was the subject of much debate. Friedman (1970) argued that the role of management was to make as much money as possible within business and ethical guidelines and that social issues were clearly not the concern of business or management.

The debate as to the boundaries of business has evolved since Friedman (1970) due to a broader social paradigm that is progressively incorporating economic, environmental and social issues into the boundaries of business. Gradually over time the perspective of management has developed beyond just investors to include customers, employees, and suppliers. A more encompassing view of stakeholder theory is presented in Table 1 by Wheeler and Sillanpää (1997) with a distinction in their theory of a division by primary and

⁵ The countries covered are Argentina, Australia, Canada, China, Dominican Republic, Germany, Great Britain, India, Indonesia, Italy, Japan, Kazakhstan, Malaysia, Mexico, Nigeria, Poland, Russia, South Africa, Spain, Turkey, United States, Uruguay and Venezuela.

secondary stakeholders and social and non-social stakeholders. Waddock, *et al.*, (2002) examine stakeholder groups in a slightly different categorization: primary stakeholder pressures, secondary stakeholder pressures and social and institutional pressures.

Table 1-Stakeholder Groups-Source: Adapted from Wheeler and Sillanpää (1997, p. 5)	
<i>Primary Social Stakeholders</i> <ul style="list-style-type: none"> ➤ Employees and Managers ➤ Suppliers and Business Partners ➤ Customers ➤ Shareholders and Investors ➤ Local Communities 	<i>Primary Non-Social Stakeholders</i> <ul style="list-style-type: none"> ➤ The Natural Environment ➤ Non-Human Species ➤ Future Generations
<i>Secondary Social Stakeholders</i> <ul style="list-style-type: none"> ➤ Government and Civil Society ➤ Social and Developing Nations ➤ Pressure Groups and Unions ➤ Media and Commentators ➤ Trade Bodies 	<i>Secondary Non-Social Stakeholders</i> <ul style="list-style-type: none"> ➤ Environmental Groups ➤ Animal Welfare Groups

Wheeler and Sillanpää (1997) go on to argue that the company should not just manage stakeholders from a strategic approach, where profits are maximized for shareholders while only considering stakeholder factors, but move towards a *stakeholder corporation*. At the heart of a stakeholder corporation is the recognition of claims, rights and expectations of the different groups, and Wheeler and Sillanpää (1997) believe that success in the 21st century will go to companies, which shift towards a stakeholder approach. A corporation that is moving towards engagement with stakeholders would need to implement some of the following procedures: surveys, focus groups, community panels, corporate advisory panels and written/electronic communications on a frequent basis (GRI, 2002).

As the world continues to roll into the age of information, two of the most important factors that have changed the playing field for corporations are globalization and information technology. The result is that the corporations that are embracing this shift will move (or have moved) towards a more open form of dialogue. At the center of the new stakeholder dialogue is a transformation of corporate communications from a “one-way” street towards a “two-way” highway of information. Stakeholder theory will still share the same heart as shareholder theory, economic viability, since no corporation can survive without a solid financial base. However, the main advantage of stakeholder theory is to gain a competitive advantage by closing the gap in time by monitoring and responding to stakeholder concerns. The recognition of the speed of information travel from other groups, such as media, NGOs,

politicians, and grass-root movements from around the globe, will increasingly be needed to coordinate a communication plan.

The access and flow of electronic information and media from across the world has made stakeholders more critical to corporations. Increasingly, a growing number of investors are looking beyond the financial bottom line towards the social, environmental and ethical performance; while consumers are rather quick to demonstrate the will to boycott a product resulting in negative financial performance. The importance is to monitor the changes in expectations of various stakeholders and develop a proactive response. The involvement of the views of individual and group stakeholder expectations, and possible future reactions to developments may prevent loss of earnings or more importantly corporate reputation, which is one of the most important assets of the firm (Fombrun, 1996).

Corporations have been traditionally reactive to strategy on environmental/sustainability issues due to either legal sanctions (civil, administrative, and criminal penalties), or social sanctions (product boycotts and disapproving press leading to negative reputation and image). This reaction could therefore be framed in the context of corporate strategy responding to either legal/regulation or to protect their reputation. The response for either was a lack of enthusiasm for change, or an outright legal fight to prevent the environmental regulations, which were supported by environmentalists. However, business perceived the regulations to reduce competitiveness and increase costs for prevention and clean-up fees. In the USA, this tug of war between environmentalist and industry has been occurring since the 1970's, resulting in environmental regulation that does not enhance resource productivity. Porter (1995b) recognizes that business is in a transitional phase of history since companies have not become creative or innovative in seeking solutions to environmental issues due to inexperience.

Environmental regulation represents one of the historically strong stakeholder groups in forcing corporations into compliance or change. However, the fault of environmental regulation has traditionally focused on end-of-the-pipe solutions and "best available technology" that does not push companies to innovate. Porter (1995a) argues that properly designed environmental regulation makes corporations more competitive. He goes on to state that (1995a)⁶:

"Policy makers, business leaders, and environmentalists have focused on the static cost impacts of environmental regulation and have ignored the more important offsetting productivity benefits from innovation. As a result, they have acted too often

⁶ Journal article was downloaded from the Internet and the page number was not provided.

in ways that unnecessarily drive up costs and slow down progress on environmental issues. This static mind-set has thus created a self-fulfilling prophecy leading to ever more costly environmental regulation. Regulators tend to set regulations in ways that deter innovation. Companies, in turn, oppose and delay regulations instead of innovating to address them.”

A broader example of the debate between business and environmental groups can be compared to the implementation of Total Quality Management (TQM). Particularly in the automotive industry, the US companies argued against quality improvements in the 1970-80's because they believed there was a fixed trade-off between quality and cost. However, it was not until the Japanese manufacturers used TQM to become more competitive, and to prove that in most cases innovation could improve quality while actually decreasing cost (Porter 1995a). Similar to defects in TQM, pollution or wasted resources can point out flaws in both the design and production of the process. From the economic resource-based view, the elimination of hazardous materials, the efficient use of resources, and the elimination of processes will drive the firm towards innovation while reducing cost and creating a learning organization.

Corporate Governance

The study of corporate governance permeates throughout the latter half of the previous century, and more recently has been the focus of much debate due to the recent scandals in Europe and the United States, such as the Enron Corporation and Arthur Andersen. This paper only briefly touches upon the subject, but recognizes the extreme importance of corporate governance issues in the selection of a healthy and strong board of directors. As recognized in the mental model in Figure 1, there is a gap in the perception of how boards were *intended* to work and how boards *actually* function. The gap represents one of the major tribulations in corporate governance issues, and is mostly due to the historic division of ownership from management. Originally, corporations were owned and managed by one person or small group. According to Carroll and Buchholtz (2000) as the corporation grew in size and the number of shareholders increased with dispersed ownership, the creation of the board of directors was to represent shareholder interest. Carroll and Buchholtz (2000) go on to suggest that due to ineffective boards, strong CEOs or conflicts of interest within the board, management dominates board elections and decisions. The result is a concentration of power by management, or what can be called agency theory. One development of agency theory stems from the divide in ownership from management, and occurs when representatives of the company pursue individual goals over the objectives of the

organization. An important example is compensation packages for both CEOs and board members.

The levels of CEO pay have exponentially increased in the past twenty years, and the increase is mostly due to boards that have become complacent in their duties to protect both shareholder and stakeholder interests. For example, in 1980 the average CEO salary was 42 times the average factory worker (Carroll and Buchholtz, 2000). In 1990, the rate increased to 85 times the average factory worker⁷ and in 1998, the gap jumped to 182 to 1⁸. This presents a problem to society with repercussions to many stakeholder groups. The high CEO salaries in companies that experienced large levels of employee lay offs would be expected to also experience destruction of morale, corporate culture, corporate reputation, and possibly result in decreased earnings. For consumers, the excessive costs for CEO compensation would result in higher cost of products or services, and for shareholders and investors the costs would reduce the financial bottom line. To control management, ineffective boards will need to be restructured to protect stakeholder groups in order to provide high-quality advice to management on vision and strategic issues.

Corporate Strategy

The primary goal of the board of directors and the CEO is to set the strategic course of the corporation by setting the direction of the company for the future. The process instills the prerequisite for the need to set goals, objectives and establish indicators. One of the factors behind ‘why an organization would implement a triple-bottom line business strategy’ can be boiled down to, “What gets measured, gets done.” This expression is argued by some as a method to increase long-term shareholder value by integrating economic, environmental and social factors into a corporation’s business strategy. Elkington (2001) recognizes that business leaders and CEOs will need to measure the requirements and expectations for sustainability by the use of indicators that are evolving to measure the triple-bottom line to reach the broader objectives of the firm. The setting of objectives with a link to indicators can provide clearer communications to accomplish the mission of an organization. One of the strengths of the GRI is that it provides simple and exact indicators that have been

⁷ Byrne, John (1994) The Flap Over Executive Pay, *Business Week*, May 6, p. 95. In Carroll, Archie & Buchholtz, Ann. (2000) *Ethics and Stakeholder Management*, Cincinnati, Ohio: South-Western College Publishing.

⁸ Fisher, Anne (1998) Readers on CEO Pay: Many are Angry, A Few Really Think the Big Guy is Worth It, *Fortune*, June 8, p. 296. In Carroll, Archie & Buchholtz, Ann. (2000) *Ethics and Stakeholder Management*, Cincinnati, Ohio: South-Western College Publishing.

internationally agreed upon by government agencies, NGOs and corporations; furthermore the GRI indicators are both quantitative and qualitative.

A limitation within the study of management is the lack of agreement on a single coherent paradigm (Shrivastava, 1995), as well as a unified paradigm within the functional area of strategy (Barney, 2002b). The reason for a lack of cohesion is that business is made up of a potpourri of organizations of various sizes, shapes, and industries in which it is challenging to build theory (Carroll and Buchholtz, 2000). The “dominant paradigm” (Kuhn, 1970) that exists in business has focused on ‘hard’ or ‘scientific’ approaches, which according to Peters and Waterman (1996), have controlled top management and filtered throughout the corporate culture. The functional area of finance has been the engine of the traditional driver towards content or ‘hard’ analysis, which is based strictly on the financial bottom line. A well-documented example of this school of thought is in the actions of Robert McNamara who in the 1950-60’s was employed as a financial officer at the Ford Motor Company, and had such a strong obsession with numbers that his influence caused the company to develop a lack of ingenuity and innovation in both product and corporate culture. Even worse and more devastating are the social effects (for both sides) of the Vietnam War when he was appointed to the Secretary of Defense, and he focused more on body count for policy and strategy making than understanding the Asian mindset (Peters and Waterman, 1996). The Asian culture and mindset has a longer view of time (Hofstede, 1994) that McNamara probably failed to incorporate into his narrow policy and strategy recommendations.

Peters and Waterman (1996) claim that due to a failure of management with a numerative and rationalist approach to business, or a failure in Kuhnian terms, a new paradigm is evolving that incorporates a ‘softer’ or more people focused view. According to Starkey (1996, p. 9) the new paradigm “...emphasizes quality/value/service, faith/creativity, experimentation/fluidity, communication/informality, values/culture, and adaptation/change.” This fundamental shift occurring in the business paradigm could be viewed within some societies as a much broader shift in context towards sustainable development. A further and future step towards corporate sustainability is that management and strategy at both the corporate level, and as taught in MBA and undergraduate programs, will need to move away from an anthropocentric worldview. Shrivastava (1995) believes that a paradigm shift towards ecocentric management will strive to improve the quality of life worldwide for all stakeholders while building sustainable economic development.

The modern study of strategy mostly stems from two intellectual traditions. The first mainly draws origins from analytical thought and gains understanding of corporations, industries and markets from neoclassical, evolutionary and institutional economics. The other tradition, now labeled a “resource-based-view” examines strategic organizational theory, and the study of leadership in the managing of organizations through learning processes including core competencies, culture, and history of the firm. This paper will integrate both traditions beginning with the development of the analytical thought on competitive advantage, and then continue to follow the mental model from a resource-based-view.

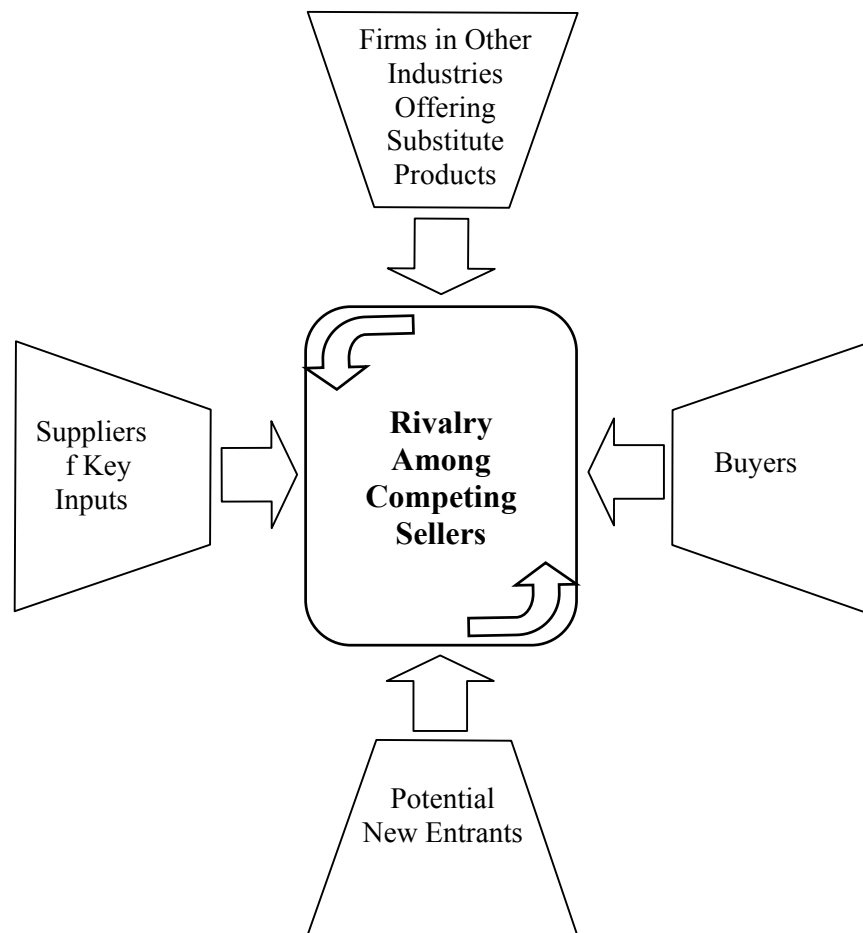
A current foundation stone in the study of strategic management (Barney, 2002b; Argyres and McGahan, 2002a) from an industry and competition perspective is the book, *Competitive Strategy* by Michael Porter (1980). The book is clearly not written from a sustainability perspective, however it does represent a starting point for the study of the dominant mindset of business and academia from a western perspective for strategic management. The main idea of the book is that a firm’s success or failure can be understood by five forces that determine the industry, and is represented in the Five Forces Framework in Figure 2. The framework was originally designed for the study of corporations, yet over time the framework has been applied in some instances to organizations such as NGOs, non-profits, possibly universities and others. Listed below is a brief summary of the dimensions of the Five Forces Framework:

- **Industry Competitors-** The competition between firms typically revolves around percentage of market share, competition on price and service, rate of product introductions, and marketing rivalry (Porter, 1980).
- **Bargaining Power of Buyers-** The competition in the market place is determined by buyers who place a downward pressure on profitability by bargaining for better quality or services and playing competitors off each other (1980).
- **Bargaining Power of Suppliers-** The relationship with suppliers is similar to buyers in that the supplier can affect profitability by raising prices or lowering the standard of goods and services purchased (Porter, 1980).
- **Potential New Entrants-** The threat of entry into an industry will depend on the barriers to entry that are present, added to the reaction from entrenched competitors (Porter, 1980).
- **Threat of Substitute Products or Services-** From an economic perspective, substitute firms place a downward pressure on profitability due to the greater the attractiveness of profits, the more the incentive for entry by outside firms (Porter, 1980).

The framework developed by Porter (1980), has weathered the test of time in a field that suffers from numerous fads and fashions so far. The strength of the framework is that within every industry, a practitioner or academic can effectively apply the framework to a

specific company or case. This ability of the framework to be firmly grounded is a reason for the success and popularity. Another strength of the framework is the view Porter has on profitability; simply stated as revenue minus cost. But behind this simple relationship is the important concept of “superior economic performance” as determined by the “...yield on long-term government securities adjusted upward by the

Figure 2-Five Forces Framework



Source: Adapted from Porter (1980, p. 4)

risk of capital loss.” (Porter, 1980, p.5). While others stress the importance of measuring profitability by measures such as stock market price which is a purely shareholder perspective, Porter’s view incorporates a ‘narrow’ stakeholder view. As Barney (2002b, p. 53) states in regards to Porter, “...equity holders (shareholders) are assumed to be a firm’s residual claimants; that is, they appropriate all the profits generated by a firm after all other claims-by employees, customers, suppliers, and debt holders-are satisfied.” In economic terms, shareholders therefore have the last claim on earnings and assets in the case of liquidation behind stakeholders.

Thus, Porter’s ‘narrow’ view clearly incorporates only the financial bottom line of the above primary stakeholders, and fails as Barney (2002b) points out to address stakeholders that are hurt or jeopardized by a firm’s broader actions. In addition, the framework misses one of the focal points of this paper, the importance of employee stakeholders in creating a dynamic corporate culture. In an interview by Argyres and McGahan (2002b), Porter states that the primary importance is for the framework to be grounded in fundamental economical

thought, and goes on to state that other ‘soft’ dimensions such as skills, culture and causes can be integrated into the framework. One final criticism of the ‘narrow’ perspective is that the framework is built on an economic and anthropocentric worldview that fails to embrace the ecocentric worldview of sustainable development.

The next step in the work of Porter (1980, 1985, 1990) was that while conducting an industry analysis the firm must position the goods or services produced within the industry from three generic strategies: low-cost leadership, product/service differentiation, and market specialization⁹. Using the automobile industry as an example, the Ford Motor Company would be an example of a low-cost leader serving a wide market. Daimler-Benz on the other hand, before the merger with Chrysler, would be an example of product differentiation to a selected market through high performance. Finally, a market specialization strategy could pursue either a low priced or high premium focus. Hyundai pursues a low cost strategy focused on producing only small cars, in contrast with Ferrari that differentiates by serving the very limited market of high premium, ultra-high performance automobiles. From a resource-based-view, the importance in regards to competitive advantage is that sustainability reporting could be an added dimension to enhance all three generic strategies, and presents a method for an individual firm to differentiate against competitors to gain a competitive advantage.

In addition to the three generic strategies that corporations can follow towards competitive advantage, firms can further fuse sustainability gains in both vertical integration and horizontal strategy. Vertical integration for any firm can be viewed from two perspectives; *upstream* that looks at all the inputs needed to manufacture the goods and services, or *downstream* which examines any criteria to sell, lease or provide maintenance for the goods or services. A traditional strategic debate in business is the question to ‘make or buy’ a material, component or service. Corporations seek to answer the question by balancing both their upstream and downstream integration procedures to ensure such factors as quality, timeliness and profitability. The result of the analysis is that different processes are internalized while others are externalized through some form of sub-contracting. An example of *upstream* integration could be the examination of the supply chain to possibly internalize the ownership of a raw material, product or service. A *downstream* example could be the relationship of the buyer maintenance, if the company directly services the warranty and repairs, or if the maintenance is contracted to an outside vendor.

⁹ For a wider discussion see Porter (1980, p. 34-46) or Porter (1990, 37-40).

In contrast, the horizontal strategy of a firm is internal and may offer a stronger area of improvement for corporations interested in improving sustainability gains. Porter (1985, p. 318-19) offers the following definition:

“Horizontal strategy is a coordinated set of goals and policies across distinct but interrelated business units. It is required at the group, sector and corporate levels of a diversified firm. It does not replace, or eliminate the need for separate business units and/ or business unit strategies. Rather, horizontal strategy provides for explicit coordination among business units that makes corporate or group strategy more than the sum of individual business unit strategies. It is the mechanism by which a diversified firm enhances the competitive advantage of its business units.”

To gain competitive advantage, a corporation will need to be successful in tying together a multiple of factors; across the horizontal plane, *upstream* and *downstream* on the vertical chain, and meeting stakeholder needs. Sustainability can be the bonding agent. As Porter states in an interview by Argyres and McGahan (2002b, p. 45), “The essence of most good strategies is the need to make many choices that are all consistent--choices about production, service, design, and so on.” He goes on to state that the “ignition point” of successful companies are when a person or group gain, “...insight into how a number of choices fit together.”

The central argument of this study is that implementing a triple-bottom line strategy can represent the unifying ‘glue’ of an organization by becoming a major driver in the corporation to create and retain intellectual capital. A ‘shifting’ core of competitive advantage is the development of intellectual capital. The study of intellectual capital is a growing area of research chiefly driven from a legalistic perspective. However, the concept as applied in this paper is from the view of intangible assets. The GRI (2002) recognizes that at the heart of the societal section in the GRI format, the social performance indicators can facilitate the creation of intangible assets such as networks and alliances with stakeholders, workforce relations, skills and knowledge development, and a commitment to training. The report goes on to state that this approach can lead to differentiation in products and services, and brand enhancement. From a strategic resource based view as indicated by the GRI (2002, p.4):

“Sustainability reporting is a vehicle for linking typically discrete and insular functions of the corporation---finance, marketing, research and development---in a more strategic manner. Sustainability reporting opens internal conversations where they would not otherwise occur.”

Sustainability reporting can therefore be a foundation to ‘build bridges’ across the corporation, or in Porter (1985) terminology, “coordination across the horizontal strategy” to

create intellectual capital. As indicated in Bansal (2002), the result of an organization that encourages their members to pursue interests in sustainability can have a *bandwagon effect* on more economically minded individuals to the possibility of change and growth. In addition, the initial implementation of sustainability reporting would be a top-level decision, but as pointed out in Bansal (2002) the concept of sustainable development has a grass-root origin, that if it was encouraged to grow, would have a *bubble-up effect* on the organization.

To bring all the necessary resources together to build a company that supplies products and services, involves tremendous complexity. The ability to orchestrate the company within a triple-bottom line method will demand tools for management and employees to reach the goal of linking sustainability objectives to bottom line indicators. Three of possibly many tools to meet the needs, that will be briefly discussed, are systems thinking, computer modeling, and the Balance Scorecard. Systems thinking would be a very effective tool to conceptualize solutions to implementing sustainability in the work place to build intellectual capital. Earlier examples mentioned linking GRI indicators to corporate objectives, but in addition, a host of other solutions could be found by working in groups across functional areas, or what Porter calls horizontal strategy.

Building on systems thinking, a casual-loop-diagram can be created to construct a computer model to overcome a wealth of details, complex interrelationships, and a lack of organization (Ruth and Hannon 1997). According to Ruth and Hannon (1997, p. 21) modeling has four purposes:

- I. Models enable one to experiment: A good model of a system lets one alter its components and experience the effect of such changes on the system.
- II. Good models give one insight into the future course of a dynamic system.
- III. Good models lead one to further questions about a system, what underlies its behavior, and how applicable the principles discovered in the modeling process are to other systems.
- IV. Good models are good thought-organizing devices.

On the other hand, Victor and Franckeiss (2002) argue that very few models can provide a dynamic and pragmatic approach due to the rapid change processes within corporations since models are either too simplistic or too academic. While Lyneis (1999) argues the benefits of modeling in corporate strategy for supporting business decisions, he recognizes that models have the tendency to become too complex and difficult to understand.

A recent developed tool, which is relatively simple to implement is the Balance Scorecard (BSC). The purpose of the BSC developed by Kaplan and Norton (1996, viii) is to find a balance "...between short- and long-term objectives, between financial and non-

financial measures, between lagging and leading indicators, and between external and internal performance perspectives.” The framework of the BSC is developed around four dimensions: financial, customer, internal, and innovation and learning. In addition, the framework can be applied at all levels of the corporation. For instance, the CEO can create a BSC for the objectives and indicators from a strategic level that can be translated to the middle manager, which can be further implemented to the employee to develop a BSC. Due to limitations in space of this study, I will not discuss in detail the application of sustainability indicators to the BSC, but will refer the reader to the following authors: Epstein and Wisner (2001); Figge, Hahn, Schaltegger, Wagner (2002), and Hedstrom, Shopley, Leduc (2000).

Corporate Culture

The research on organizational culture is extensive (e.g., Schein, 1985; Kotter and Heskett, 1992; Collins and Porras, 1994; Deal and Kennedy, 1982), and culture is generally defined as a set of values, beliefs, and norms shared by members of an organization. Schein (1985) characterizes corporate culture as consisting of symbols, rites, and ceremonies; these characteristics then are artifacts of the underlying values, beliefs, assumptions, and feelings shared by the members of the organization. Organizational culture is an important element in developing and implementing the best strategy for competitive advantage (Barney, 2002; Peteraf, 1993). Daft (1998) presents a model to show how the fit between an organization’s environment and its strategic focus identifies specific types of culture, such as adaptability/entrepreneurial, mission, clan, and bureaucratic. Tushman and O’Reilly (1997) argue that an organization’s culture serves as a social control mechanism that enhances or impedes organizational change or innovation. While Hawken (1996, p.10) argues “...business must judge its goals and behavior, not from inherited definitions of the corporate culture, but from the perspective of the world and society beyond its self-referential borders.”

According to Welford and Jones (1998) reporting systems that focus on sustainability performance can have a strong effect on corporate culture. Two examples, both of which completed a GRI report are the 3M Corporation and Henkel. The 3M Corporation implemented a program called the Pollution Prevention Pays (3P) Program, and from 1975 to 2001 the program, “...has prevented 821,344 tons of pollutants and saved \$857 million. The 3P program helps prevent pollution at the source - in products and manufacturing processes - rather than removing it after it has been created. When 3P was launched in 1975, the concept of applying pollution prevention on a company-wide basis and documenting the results had

not been tried before.” (3M, 2002). In addition, 3M develops team building skills through the encouragement of employees to spend up to 15% of their time on unauthorized projects that over time have developed a creative organizational culture (Wheeler and Sillanpää, 1997). 3M has successfully integrated their Total Quality Management with their Environmental Management System into a Total Quality and Environmental System (TQES) that has resulted in a progressive sustainability reporting system (Wheeler and Sillanpää, 1997).

Henkel, a German based consumer goods and chemical corporation, recognizes that “...creative employees and good ideas are the most valuable assets to a corporation.” (Henkel KGaA, 2001, p. 11). To encourage sustainability, the company instituted an Ideas Management program that rewards employees 15% of any savings that result from ideas that add to corporate sustainability. To be effective, the program needs as a foundation an EMS system with an effective measurement policy. One current example resulted in the reward of 45,000 euros to an employee with the suggestion of the installation of a water filter that recycled the wastewater and thereby reduced wastewater use by 300,000 cubic meters per year, and lowered zinc pollution by one metric ton (Henkel KGaA, 2001). The development of a sustainability and innovative corporate culture at both 3M and Henkel reflects outward by adding knowledge to the local communities, and building reputation through various stakeholders.

Corporate Reputation

The study of corporate reputation is a relatively new field with a substantial amount of research suggesting that reputation is dependent on prior economic performance (Vergin and Qoronfleh, 1998; Boyd, Carroll and Dess, 1995; Brown and Perry, 1994; Fryxell and Wang, 1994). However, the research on corporate reputation suggests that there is more to an organization’s reputational status than its economic standing (see Fombrun, 1996; Fombrun and Shanley, 1990; Brown and Perry, 1994). Fombrun and Shanley conclude “... that publics appear to construct reputations from a mix of signals derived from accounting and market information, media reports, and other non-economic cues.” (Fombrun and Shanley, 1990, p. 252).

Reputation is a perceptual judgment of a company’s actions that have been developed over time. Fombrun defines corporate reputation as “...the overall estimation in which a company is held by its constituents.” (Fombrun, 1996, p. 37). Therefore, developing this intangible asset - corporate reputation – will become increasingly important in the years

ahead. A positive reputation creates a strategic advantage or what Fombrun (1996) refers to as reputational capital. Fombrun adds:

“Ultimately, reputations have economic value to companies because they are difficult to imitate. Rivals simply cannot replicate the unique features and intricate processes that produced those reputations. Reputations are therefore a source of competitive advantage. To sustain that relative advantage requires a commitment to the ongoing management of a company’s reputation - that is, the extent to which the images a company projects coincide with and reinforce its identity.” (p. 387).

A good reputation permits a company to command premium prices for its products, pay lower prices for purchases through its ability to leverage in negotiations, recruit the top candidates to its company, enhance employee morale and loyalty, have greater stability in stock prices, and reduce its risks during a crisis (Vergin and Qoronfle, 1998; Fombrun, 1996). Strategically, reputation offers a firm greater value, rarity, inimitability, and sustained competitive advantage (Boyd, Carroll and Dess, 1995).

The importance of reputation as a strategic resource is best summarized by Barney (2002a, pg. 285), “Of all the bases of differentiation... perhaps none is more difficult to duplicate than a firm’s reputation... Reputations are not built quickly, nor can they be bought and sold... A firm with a positive reputation can enjoy a significant competitive advantage, whereas a firm with a negative reputation, or no reputation, may have to invest significant amounts over long periods of time to match the differentiated firm.” From a resource dependence perspective, reputation offers a firm a competitive advantage because it is difficult to duplicate and/or because it offers unique capabilities or competencies. Hall (1992) asked CEOs to identify the most important intangible resource (from a list of 13 intangible resources) and to rank its replacement period. He found that a company’s reputation was the most important intangible resource, as well as the one requiring the longest replacement period.

Reputations reflect the general opinion held of a firm by its multiple stakeholders (Fombrun, 1996). Given that the stakeholders represent economic and non-economic sectors, the resultant reputation of a company reflects both of these sectors. Although Fombrun and Shanley (1990) find a stronger economic contribution towards reputation, they also acknowledge that a portion of a company’s reputation may be attributed to its “softer” side or institutional record. Exactly what comprises the non-economic portion of reputation is not clear, but Fombrun (1996) suggests cultural aspects. He states that such values as credibility, reliability, trustworthiness, and responsibility are at the core of the perceptual representation of a company’s reputation. “A company’s reputation sits on the bedrock of its identity -- the

core values that shape its communications, its culture, and its decisions.” (Fombrun, 1996, p. 268). He adds: “ Identity is therefore closely aligned with notions of corporate character, personality, and culture.” (p. 277).

Application and Empirical Analysis

In applying the data collected to the mental model developed, the primary discovery is on a broad level as expected. More specifically, this macro-level view presents the managerial process of developing both the corporate culture and stakeholder dialogue focused on sustainability to the development of intellectual capital. The mental model cannot confirm any validity with the data, but for the model to be grounded, the next step for a researcher could be to examine on the micro-level the topic by conducting a qualitative case study. One suggested method would be to apply systems theory to examine the relationship of the mental model to the wider concept of corporate social responsibility within sustainable development. The goal would be to establish a preliminary test to move the model towards establishing a framework.

A case with wide recognition for application of the mental model is the effect on reputation on Royal Dutch/Shell Group in 1995. The negative press and product boycotts from the Brent Spar for environmental reasons and the human rights violations in Nigeria resulted in a dramatic shift in corporate strategy. From a financial perspective, Fombrun (2000) demonstrated that the adverse effects of Shell not only reduced share price during this time period, but goes on to demonstrate that share price was reduced for the entire oil industry. However, as Wheeler and Sillanpää (1997, p.141) argue that in the case of Shell, as long as, “...companies continue to deliver acceptable returns to institutional and individual shareholders, corporate leaders are unlikely to be replaced.” The board of directors for Shell remained in place and the share price marched back after these “reputational setbacks.” (Wheeler and Sillanpää, 1997, p. 141). To protect and regain their reputation, Shell moved to a vastly different communications method than the 1995 reports, and established a web site that seems to be emerging as a leader in both transparency and stakeholder dialogue. The sustainability reports by Shell also continue to be a leader in integrating the triple-bottom line with financial performance. On the positive side, Shell’s actions can be compared with ExxonMobil and many others in the industry, which hardly address sustainability and have the traditional strategy of non-renewable oil exploration. This is contrasted to Shell that has a growing portfolio of alternative and innovative energy products. These developments at Shell represent an interesting case study towards the effects on reputation and the altering of

corporate strategy towards transparency through implementing a stakeholder form of communication and a move towards sustainability in the product portfolio.

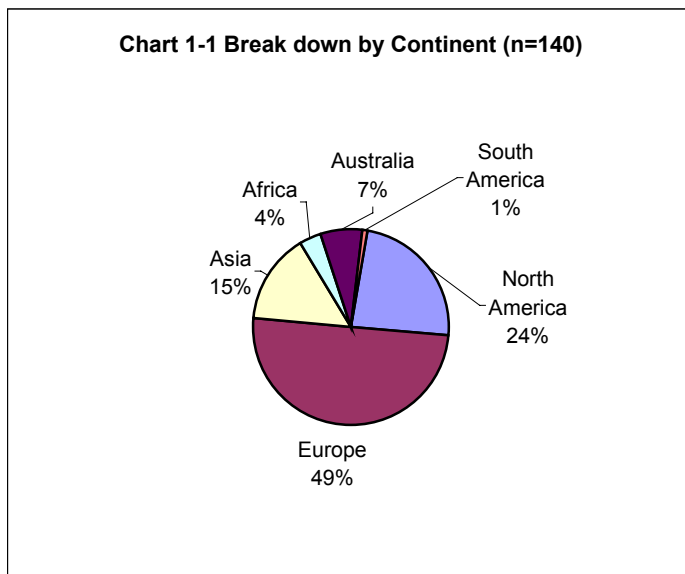
However, in a subject area in which extensive organization case studies are still relatively rare Boele, Fabig, Wheeler (2001) have presented the case of Shell in Nigeria from a *unsustainable* development perspective. Their argument presents the case from a “rights-based approach” that examines the objective of development from a human rights perspective. Boele, *et al.* (2001) constructs a strong case that the marginalized individuals and groups achieve social movements against the powerful and oppressive by using human rights as a tool. Boele, *et al.* (2001, p. 126) goes on to state that:

“This explains why social movements are critical actors in debates about the nature of corporate social responsibility and stakeholder relations with business. Their natural predisposition is to challenge existing power structures and thus it comes as no surprise that the so called new social movements have chosen to focus their campaigns on society’s most powerful actor, i.e. businesses, and particularly transnational corporations.”

In the case with Shell, the mental model developed could be implemented in most scenarios, perhaps more effectively with groups that share the same worldview. But as indicated from the above quote, some groups will be predisposed, either justified or unjustified, to not have public trust in corporations. So while Shell can gain competitive advantage by regaining legitimacy with most stakeholders, in the important area of the Ogoni the task will be extremely challenging. The reasons stem from a lengthy history of promises broken, operating with a business partner that is a corrupt and oppressive regime, different cultures, and most importantly the lives that were lost in the struggle (Boele *et al.*, 2001). For the case study of Shell in the Ogoni, these reasons may be insurmountable, so the mental model and theoretical framework would fail in this situation in the short-term. However, when viewed from a longer-term perspective and the ‘seemingly’ deep fundamental changes in strategy by Shell, the model emulates Shell’s actions to regain legitimacy. Further case studies of companies using systems theory would be needed to test the model on critical dimensions of stakeholders such as different worldviews, partnering with different forms of government, and companies with embedded histories. The current form of the mental model would be described by Boele, *et al.* (2001) as a “managerial approach” and would probably need to be developed to encompass a wider sustainable development perspective.

Results

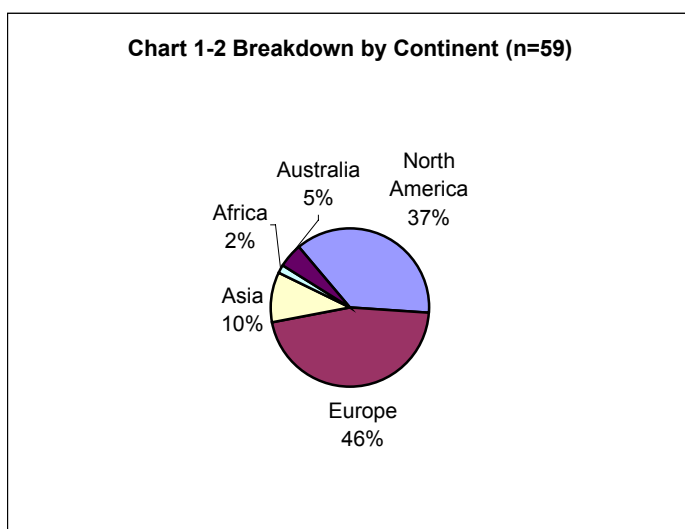
Regional Distribution Analysis



The country headquarters for all of the 140 countries is broken down by percentage according to continent in Chart 1-1. The top three countries with the most GRI format sustainability reports are the USA (26), United Kingdom (23) and Japan (19). The total number of countries for this sample size is 21. An important trend is that while the GRI guidelines were established through the cooperation of

international government agencies, NGOs and businesses there is presently a strong representation of western companies, except for Japan. A recent study by the consultancy firm KPMG (2001) of the top Global Fortune 250 companies indicated a similar trend in sustainability reporting. Two possible reasons for this present condition is that the GRI guidelines are still evolving and are gradually becoming translated to the appropriate languages and both samples reflect large western companies.

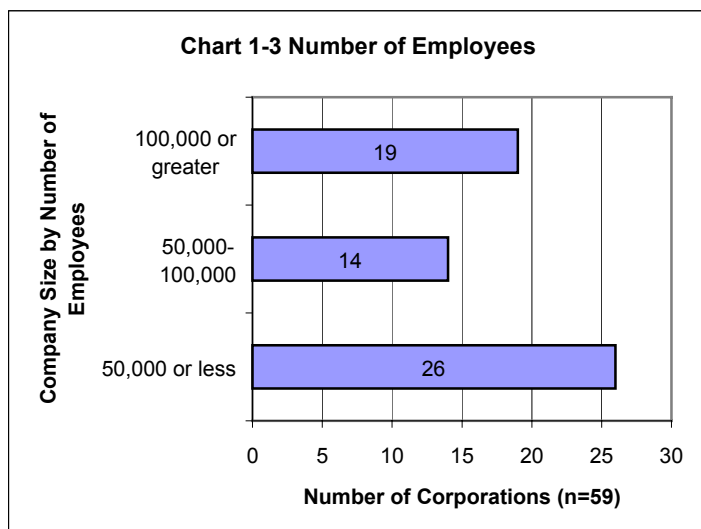
When the sample size was reduced down from 140 organizations to 59, the percentage representation by continent remained roughly equal (see Chart 1-2). The major change was



that the percentage of US firms increased, as expected, due to the method of the study of using only firms traded on US based stock markets. The result of the proportional increase in US companies caused the other continents percentage to decrease. For this study the change in composition is relatively insignificant.

Size by Number of Employees

The number of employees¹⁰ is included for two reasons; first as a gauge of the size of the company, and second as the number of people that may be exposed to the concept of sustainable development through training, performance evaluations, corporate

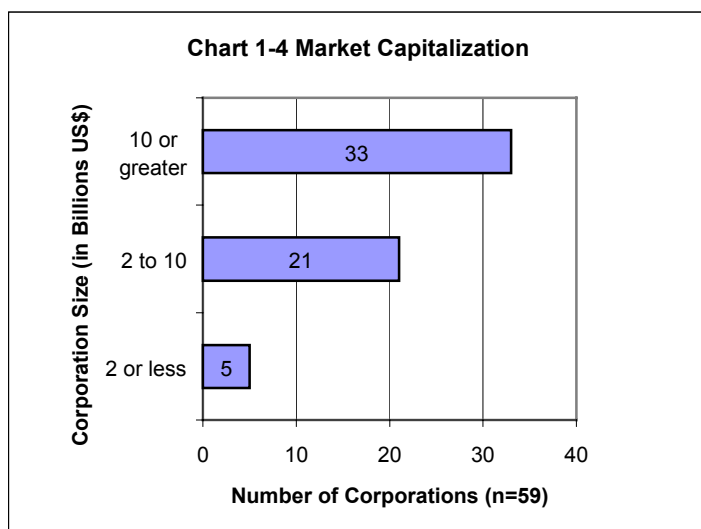


communications, or other means.

The total number of employees is approximately 5.2 million people (see Appendix 1), and a breakdown by companies into three size categories is presented in Chart 1-3. A trend in this sample size of 59 corporations is that the group with the greatest percentage of GRI formatted reports is companies with less the 50,000 people.

Average Market Capitalization Analysis

Market capitalization is an important concept for measurement of the size of the corporation, and is defined as the number of share of stock outstanding multiplied by the current price of a share of stock. Due to the daily fluctuations in price on the stock markets, and the occasional changes in number of stocks outstanding (due to new issue or stock



buyback), market capitalization can have sharp increases or decreases in value. For this study the market capitalization for each stock are from the close of trading on September 30, 2002¹¹. The current value of the different stock markets are historically low due to economic conditions; therefore, the market capitalization values listed

¹⁰ The data for the number of employees was provided by Yahoo! Finance on Sept. 30, 2002. The actual number of employees was from the latest filing period, and therefore a rough estimation.

¹¹ The data for market capitalization was provided by Yahoo! Finance.

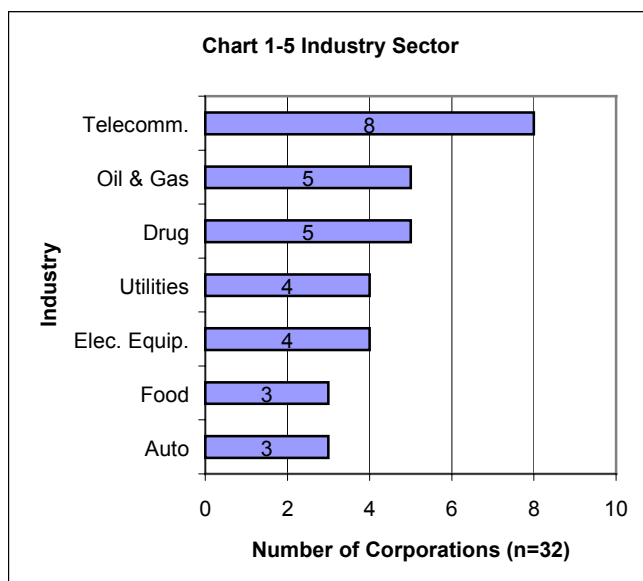
in Appendix 1 generally represent the lower range value of the corporations.

In chart 1-4 the 59 corporations are broken down into three classifications based on the size of the corporation as measured by market capitalization (market cap). Financial analysts and business people broadly define companies by size into the following three groups: big cap (\$10 billion or more), mid cap (\$2 billion to \$10 billion), and small cap (\$2 billion or less).

The data presents a clear trend with the larger corporations publishing more GRI formatted reports. This presents a few intellectual paths to explore. Most importantly does size of a corporation have a correlation with the greater publication rate? At first glance this may seem to be the case with the argument that larger corporations are better financed than smaller firms, and can expense the cost of the report to public relations, marketing or another functional area. However, this may only be partially true due to a bias in the sample size that most of the 59 companies are traded on the New York Stock Exchange (see Appendix 1), which lists stocks of the largest sized corporations.

Sector Distribution Analysis

Presented in Chart 1-5 is the summary of the top seven industries of the 59 corporations studied. Only 32 companies are listed since the remaining companies have only one or two corporations in a specific industry. The corporations represented a total of 27 industries. For compilation purposes, the corporations were grouped into industries based upon the activity that contributed most to their revenue.



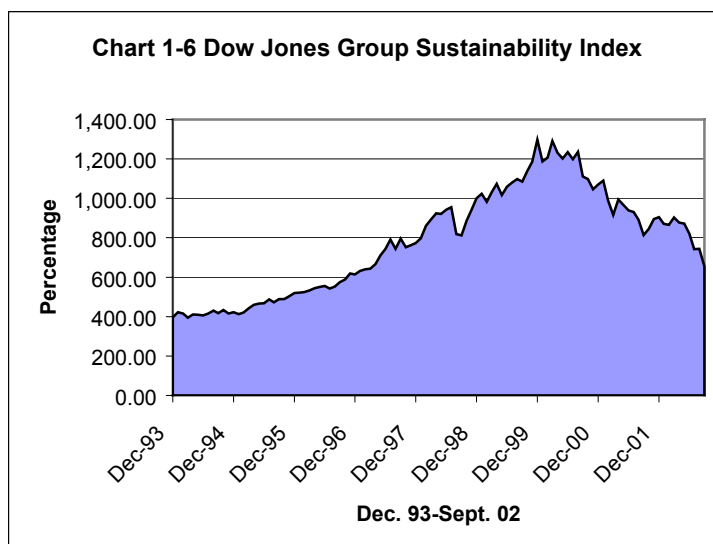
It was expected that corporations that have a traditionally negative impact on the environment, society or operate in an industry with a negative reputation would publish a sustainability report to justify and explain their respective positions. From Chart 1-5 this assumption could not be verified. However, KPMG (2002) lends support for this assumption from a study of the 100

largest (ranked by revenue) companies from 19 countries¹² that concluded stakeholders demand greater transparency in operations from industrial sector firms. The study goes on to suggest a growing trend towards publication of sustainability reports in non-industrial sectors, and of growing significance, and a trend towards independent verification of reports. KPMG (2002) and Waddock, *et al.*, (2002) recognize the growing importance of verification of the accuracy of the report by independent parties to provide legitimacy and build public trust to stakeholders.

Stock Market Performance

The original objective of this study was to examine the hypothesis that corporate sustainability is a driver for better financial performance leading to a better corporate reputation. This subject will be explained further in the discussion, however the original study was abandoned due to the realization of the complexity. To complete the original study a researcher would need to challenge fundamental theories in finance, in addition to overcoming numerous problems such as building a large portfolio in a spreadsheet program, which takes into account stocks that may be screened to be sustainability focused, the problems with back-casting, original stock purchase price, dividends, stock splits, mergers, portfolio policy (value vs. growth), return, weights and many other factors.

A simplified solution to give an indicator of financial performance was to chart the performance of the DJGSI (2002) from December 1993 to September 2002 (Chart 1-6). The



DJGSI¹³ consists of the selection of the top ten percent of 59 industries from the largest 2,500 corporations in the Dow Jones Global Index. While, Cerin and Dobers (2001) challenged the methodology with their conclusion that the DJGSI is weighted heavier towards the technology sector, and that the

¹² The countries studied are Japan, UK, USA, The Netherlands, Germany, Finland, Norway, Sweden, Denmark, France, Canada, Australia, Italy, Belgium, Spain, Hungary, Slovenia, Greece and South Africa.

¹³For a review of the methodology for the selections of the stocks that determine the DJGSI see <http://www.sustainability-index.com/sustainability/corporate.html> and <http://www.sam-group.com/e/susindex/djsi.cfm>.

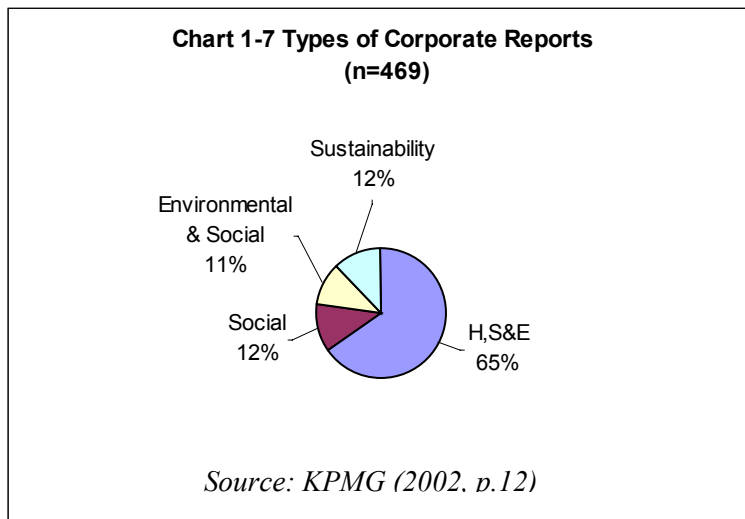
market capitalization value was two-and-a-half times greater than the Dow Jones Global Index (DJGI). The chart is effective in demonstrating that regardless of the possible bias in the DJGSI, a classical behavior-over-time-graph indicates that it was not just typical of stocks selected to be sustainable, but of the overall market conditions in this time period. From a historic perspective, this behavior-over-time-graph, or what is called a 'bull market' (the increasing part in Chart 1-6) in financial terms, is a reoccurring trend that presents a challenge for researchers studying social responsible investing.

In addition, for each of the 59 corporations, specific financial performance data is provided in Appendix 1. The data include a comparison with the particular industry return as well as the Standard and Poor's 500 (S&P 500) market index for the year-to-date (YTD) return, 1-year return, and 5-year return for each corporation. The S&P 500 is an index made up of 500 US based companies from a representative sample of leading industries, and for this situation provides a 'rough' guide of the financial performance of market conditions from a shareholder perspective of the corporations studied. From the collected data and analysis, it is inconclusive, either positively or negatively, whether producing a sustainability report leads to better financial performance or not. However, broadening the definition of performance to include the triple-bottom perspective and sustainable development can create numerous gains that have been discussed in this paper.

Discussion

In returning to one of the principle problems addressed in this study, there is much room for improvement in the present state of reporting. While the GRI is accomplishing the tremendous task of determining the sustainability indicators, there is a natural time delay of organizations to incorporate the indicators into their operations and reports. The 140 organizations that were the initial focus of this study are just a sample of the growing number of organizations issuing some form of a corporate report, and according to the management consultant company PricewaterhouseCoopers (2002), sustainability reporting presents a growing market. However, Hoffman (2000) recognizes that there are 34,000 multinational companies worldwide, and presently the same organizations that filed corporate reports are the same companies that each year are engaged in sustainability issues. What is needed is the expansion of commitment by senior-level management and board-level committees to develop the strategic thinking to implement sustainability reporting over their respective worldwide operations using a stakeholder approach (Wheeler and Sillanpää, 1997).

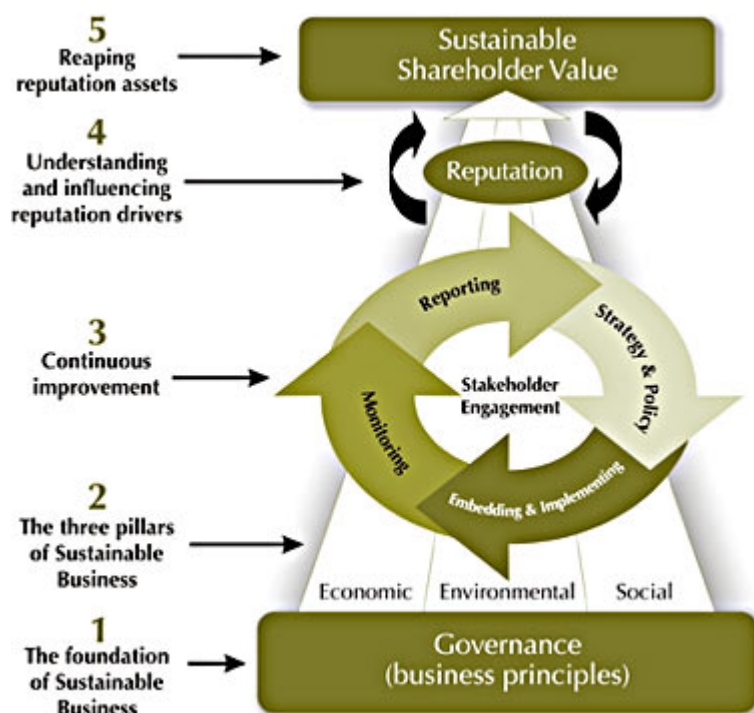
A limitation of this study is that the sustainability reports of the 59 corporations that were further studied may not actually be ‘true’ sustainability reports. Most companies are evolving from issuing some type of health, safety and environmental report (or similar) using only selected parts of the GRI format. The GRI (2002) recommends this incremental approach to implementation. An example of this present trend of different types of reports published is best demonstrated by the recent KPMG (2002) study. As illustrated in Chart 1-7,



the type of corporate report by the top 100 companies in sales revenue from 19 countries is presented. Of the 1900 companies 440 issued 469 corporate reports (in some cases the company published more than one report). The chart indicates a few trends: first, only 23% of the 1900

companies publish some type of report, second, sustainability reporting is minor, and third, the historic record of sustainability reports is therefore quite short.

Figure 3-PWC Framework -Source; PWC (2002).



This presents challenges to researchers in corporate sustainability. In addressing the second problem of the study of how the concept of competitive advantage can be built through implementing sustainability; the researcher needs to develop an argument from different theories, studies and cases. A limitation of this study is that the interpretative method used in the theoretical section did not have a large selection of publications critical of the

subject matter. Due to the youthfulness of both the GRI and sustainability reporting, case studies need to be developed and the literature needs to be expanded. An area of growth from a practitioner perspective is the recent addition of corporate sustainability services by large management consulting firms, for example PricewaterhouseCoopers¹⁴, KPMG¹⁵, and Deloitte & Touche¹⁶.

Logically speaking, this development will be a supportive factor in the growth of reporting by the selling of sustainability services. The developed mental model in this study shares similarities with most of the models and frameworks of the consultancies. PWC developed a framework illustrated in Figure 3 that deserves mentioning due to the simplistic presentation of the discussed topics. The PWC framework is comparable with my mental model, except for the final stage where the PWC framework suggests that the results of the process is the “reaping of reputational rewards” by “sustainable shareholder value.” (PWC, 2002). I disagree with step 5, and would argue that instead the creation of intellectual capital by the crafting of corporate culture and development of stakeholder dialogue may lead to competitive advantage. A further general discrepancy with the models of the consultancy groups are the linear method that does not express the cause and effect of different dimensions, or in systems vocabulary, does not incorporate feedback loops.

Beyond Corporate Sustainability

One culminating goal that corporations should strive for is, while looking from within for gains using Environmental Management Systems (EMS) and measuring sustainability indicators, to look outside the company gate towards a wider systems approach using a Regional Environmental Management System (REMS). Welford (1998) recognizes that firms taking a wider systems-based and strategic view of environmental problems and focusing on long-term problem solving can gain competitive advantage for the region. He goes on to state that synergy can be gained in research and development, waste management, energy efficiency and a common marketing policy. The corporate culture that has developed around the sustainability concept can have a ‘spill over’ effect in the region creating a learning cycle or *bandwagon effect* by working with various stakeholders focused towards sustainable development that can gain a competitive advantage for the region. Two examples are the

¹⁴ For more information on PricewaterhouseCoopers Sustainability Services see:
<http://www.pwcglobal.com/extweb/service.nsf/docid/B227A512F4622FF985256BC6004819F2>.

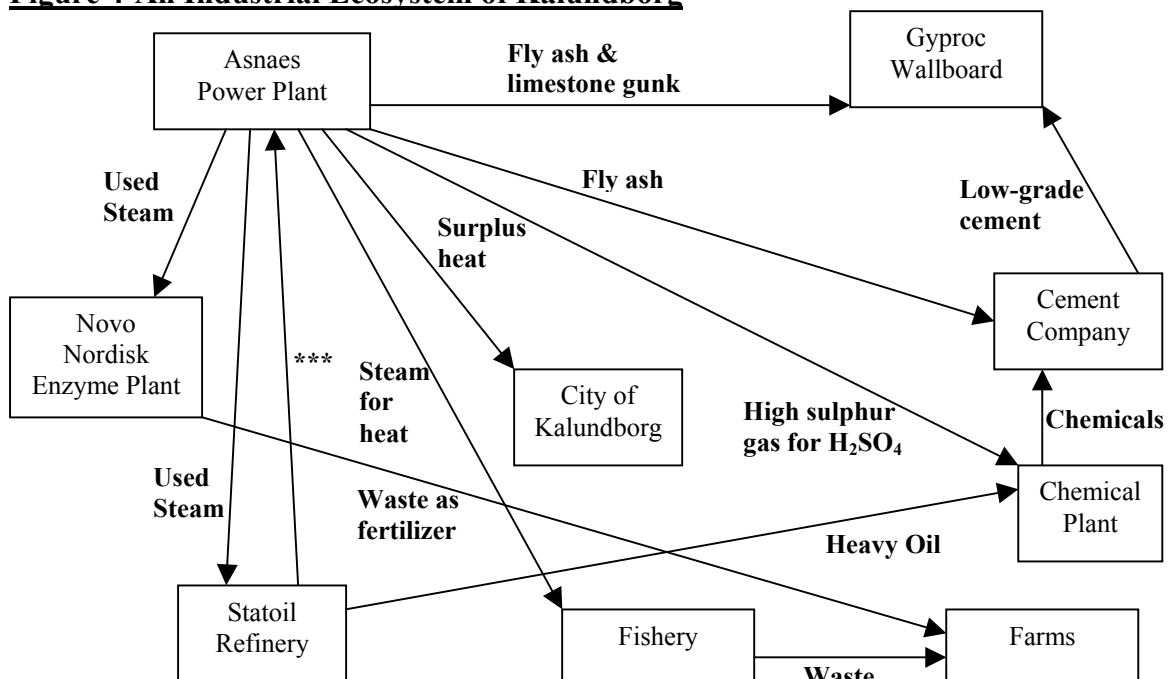
¹⁵ For more information on KPMG Sustainability Services see:
<http://www.kpmg.com/search/index.asp?searchTerms=sustainability+services>.

¹⁶ For more information on Deloitte & Touche Global Environmental & Sustainability Services see:
www.deloitte-sustainable.com.

Landskrona project in Sweden and the Prisma project in the Netherlands, demonstrating that a REMS can be successful since the environmental problems of companies are usually similar across industries (Welford, 1998).

In the future companies will gain competitive advantages by working within industrial ecosystems. The objective of an industrial ecosystem is to try and mimic the idea of natural ecosystems. The concept is consistent with the traditional management view of efficient use of natural resources and seeks to build a network of organizations that “...minimize environmental degradation by using each other’s waste and by-products and by sharing and

Figure 4-An Industrial Ecosystem of Kalundborg



*** Treated wastewater for cooling and desulphurized gas for fuel.

Adapted from Shrivastava (1995, p. 31)

minimizing the use of natural resources.” (Shrivastava, 1995). Figure 4 demonstrates the flows of wastes and resources between organizations of a simple industrial ecosystem in Kalundborg, Denmark (Shrivastava, 1995, p. 31). For an expanded description of the model and a discussion on larger scale industrial ecosystems see Shrivastava (1995, p. 31-32). This case in Kalundborg did not originate from any type of government regulations or promotions, but was the natural growth of actors working to find innovative solutions to environmental problems. This case demonstrates sustainable development in action and the possible creation of competitive advantage at the local/region level.

Conclusions



The compass in the future for reporting on corporations and organizations on the triple-bottom line will be the Global Reporting Initiative. The development by the global community from a multi-stakeholder perspective to create this reporting tool in a very brief amount of time reflects the growing importance for a more holistic presentation of the impact that organizations have on society. Increasingly, corporations are beginning to focus not only on the historic financial bottom line, but also on the environmental, societal, and economic bottom lines. This shift in corporate strategy is occurring at different rates in various countries and industries, and can be indicated by the rising number of corporations that are issuing corporate reports (KPMG, 2002). An important trend to monitor is the rate of corporations completing some form of a report, but perhaps more interesting is the shift from a health, safety and environment (or similar) report to issuing a sustainability report using the GRI format. A large area of future research is exploring the drivers of this trend. In particular, as mentioned in this study, geographic location of headquarters, company size, industry sector and financial performance as a first step can be monitored for future trends or changes. For a second step, sustainability reports could be compared within the industry or perhaps other criteria, for example companies that are primarily engaged in manufacturing, non-renewable resources or financial services. As indicated in the latest GRI Sustainability Guidelines (2002) an important area of future research would be the implementation of the GRI format in smaller organizations. This would be an important first step in applying sustainability reporting to organizations such as NGOs, non-profits, hospitals and universities. Finally, the area of outside verification of the sustainability report to add credibility and build trust to stakeholders is critical for future research.

Corporations will need to align their values, beliefs and norms with their core business strategies and the demands of society. The firms that are able to adjust can gain competitive advantage by either driving or anticipating changes in the market, while meeting the needs and demands for stakeholder groups. As John Elkington (1997) argued in his book *Cannibals with Forks*, all companies will find that their product life-cycles and value chains will be increasingly under the 'x-ray environment' from all stakeholders. This changing views of various stakeholders will penetrate deeper within the company to question the values of the firm that may affect the corporate culture. To take a step beyond Porter's (1980, 1985, 1990) definition of competitive advantage of low cost leadership, differentiation in

product/services or market specialization, further study of the creation and retention of intellectual capital will continue to be an exciting avenue of strategy research. The incorporation of the sustainable development agenda into the resource-based-view tradition of strategy using the analytical framework of Porter (1980, 1985, 1990) as a possible base, could be a research area to build theory on. As a starting point, more case studies will need to be examined to go beyond the “managerial approach” of the presented mental model and to incorporate a more multi-disciplinary approach into research.

To accomplish the above task, and to link corporate objectives to bottom line indicators, different tools will be needed by both practitioners and academics. As discussed earlier, three possible tools are systems analysis, computer modeling and the BSC. Each of these tools has their particular strengths and weaknesses in application, but may provide the method to accomplish the task. Further research will be needed to assess which tool is most useful for case studies and incorporating sustainability indicators within different organizations, corporations and industries.

The investment community has a growing demand from investors interested in ethical investments. The problem of defining sustainability as an investment criteria will continue to be debated, however since the GRI represents a multi-stakeholder response towards global reporting on the triple-bottom line, the companies as a group could be viewed as a portfolio of sustainability focused firms. For the stakeholder interested in investments, these companies as a group can be measured and compared to similar portfolios or indexes. Further research, depending on the objective of the project, could be experimenting with different combinations of corporations that have issued a GRI report against a benchmark such as the Dow Jones Group Sustainability Index, FTSE4 Good, or other sustainability screened indexes, portfolios or mutual funds. The role of the financial analyst will be important for the evolution of the indicators within the GRI due to the need to reinterpret how corporations are valued. Future research will need to be focused not just on the traditional valuation methods of book value and market value primarily based on tangible assets, but on valuing a corporation by other intangible assets such as intellectual capital.

The Global Reporting Initiative is a tool that has the potential to ‘build bridges’ across disciplines and organizations. While the tool is still in the testing and phase-in period, it presents the ability to provide both a standardized format and to encourage transparency. The GRI presents an important advancement for the shift towards the sustainable development paradigm that will be a growing research area bringing together multi-disciplinary actors.

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Appendix 1

Company	Primary Industry	Country	# Employees	Stock Market	Symbol	Market Cap. (in billions)	YTD Return	Industry YTD Return	1-Yr Return	Industry 1-Yr Return	5-Yr Return	Industry 5-Yr Return
S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
3M	Transportation, communications, and health care	USA	71,669	NYSE	MMM	45.152	-0.06%	-39.45%	+22.59%	-28.36%	+6.92%	+1.22%
ABB	Power and automation technologies	Switzerland	151,829	NYSE	ABB	4.14	-68.65%	-29.01%	-58.63%	-13.83%		-12.20%
Aeroports de Paris	Airport management	France										
Agilent Technologies	Communications, electronics, life sciences	USA	41,000	NYSE	A	6.351	-54.23%	-44.44%	-30.81%	-30.14%		-4.23%
Alliant Energy	Energy utility	USA	8,585	NYSE	LNT	1.77	-29.58%	-14.23%	-30.30%	-8.71%	+0.13%	+2.62%
Amanco	Utilities, construction	Costa Rica										
AMD	Micro processors	USA	14,415	NYSE	AMD	2.023	-66.77%	-55.79%	-33.54%	-35.81%	-14.45%	-8.50%
American Home Products/Wyeth	Pharmaceuticals	USA	52,289	NYSE	WYE	41.198	-44.43%	-23.32%	-42.18%	-25.44%	+0.47%	+3.37%
Anheuser-Busch Companies	Beverages, theme parks	USA	23,432	NYSE	BUD	44.932	+16.77%	+6.94%	+26.57%	+17.77%	+22.62%	+9.77%
Argyle Diamonds	Mining	Australia										
Arizona Public Service	Energy utility	USA										
Asahi Kasei	Chemicals, building products	Japan										

Company	Primary Industry	Country	# Employees	Stock Market	Symbol	Market Cap. (in billions)	YTD Return	Industry YTD Return	1-Yr Return	Industry 1-Yr Return	5-Yr Return	Industry 5-Yr Return
S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
AstraZeneca	Pharmaceuticals	United Kingdom	54,600	NYSE	AZN	54.105	-29.57%	-23.32%	-28.67%	-25.44%	+1.90%	+3.37%
AT&T	Telecommunications	USA	117,800	NYSE	T	48.338	-31.04%	-57.14%	-34.02%	-37.31%	-14.00%	-14.41%
BAA	Airport management	United Kingdom										
BASF	Chemicals	Germany	90,713	NYSE	BF	20.536	+0.71%	-7.56%	+10.63%	+3.08%		-9.29%
Baxter International	Medical products/services	USA	48,000	NYSE	BAX	18.942	-44.77%	-20.83%	-45.59%	-18.52%	+6.71%	+3.51%
BC Hydro	Energy utility	Canada										
Biffa Waste Services Ltd.	Utilities	United Kingdom										
Body Shop International	Personal care products	United Kingdom										
Bristol-Myers Squibb	Pharmaceuticals, personal care products	USA	46,000	NYSE	BMJ	47.438	-50.41%	-23.32%	-55.24%	-25.44%	-8.15%	+3.37%
British Airways	Air transport	United Kingdom	61,460	NYSE	BAB	1.706	-44.11%	-50.96%	-37.10%	-43.61%	-22.62%	-24.65%
British American Tobacco	Tobacco products	United Kingdom	81,425	AMEX	BTI	22.339	+26.06%	-4.82%	+16.59%	-5.24%		+5.65%
BT	Telecommunications	United Kingdom	108,600	NYSE	BTY	23.099	-24.57%	-30.26%	-47.23%	-25.41%	-12.20%	-11.36%
Cable & Wireless	Telecommunications	United Kingdom	47,904	NYSE	CWP	5.089	-53.81%	-30.26%	-45.93%	-25.41%	-17.93%	-11.36%
Canon	Electronics, cameras	Japan	94,036	NYSE	CAJ	28.757	-5.02%	-11.29%	+16.41%	+4.06%	+6.68%	-5.48%
Chiquita Brands	Agribusiness	USA	29,000	NYSE	CQB	0.603		+14.38%		+36.27%		+1.68%

Company	Primary Industry	Country	# Employees	Stock Market	Symbol	Market Cap. (in billions)	YTD Return	Industry YTD Return	1-Yr Return	Industry 1-Yr Return	5-Yr Return	Industry 5-Yr Return
S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
City West Water	Water Utility	Australia										
COGEMA	Nuclear fuel mining and processing	France										
Co-operative Bank	Financial services	United Kingdom										
Cosmo Oil	Oil Products	Japan										
Daikin	Refrigeration	Japan										
Danone	Food products	France	100,560	NYSE	DA	15.927	+3.59%	-1.43%	-4.58%	+4.10%		+1.60%
DSM	Life sciences, chemicals	Netherlands										
Electrolux	Appliances	Sweden	84,500	NASDAQ	ELUX	4.993	+14.05%	-15.19%	+65.05%	+13.14%	+1.31%	-7.51%
Environmental Management Institute EMI	NGO	Poland										
Ericsson	Telecommunications	Sweden	85,198	NASDAQ	ERICD	2.904	-91.57%	-55.55%	-87.02%	-40.79%	-35.65%	-15.13%
ESAB	Welding equipment	Sweden										
Eskom	Energy utility	South Africa										
Ford Motor Company	Vehicle manufacture	USA	354,541	NYSE	F	17.554	-35.11%	-6.82%	-39.97%	+2.49%	+0.07%	-2.96%
Fuji Xerox	Information technology	Japan	83,300	NYSE	XRX	3.841	-51.82%	-26.61%	-32.53%	-15.44%	-28.52%	-15.03%
General Motors	Vehicle manufacture	USA	365,000	NYSE	GM	22.302	-13.29%	-6.82%	-1.14%	+2.49%	-1.10%	-2.96%
Green Mountain Energy	Energy retailer	USA										

Company	Primary Industry	Country	# Employees	Stock Market	Symbol	Market Cap. (in billions)	YTD Return	Industry YTD Return	1-Yr Return	Industry 1-Yr Return	5-Yr Return	Industry 5-Yr Return
S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
Grundfos	Industrial equipment	Denmark										
Heidelberg	Printing and publishing	Germany										
Henkel	Chemicals, consumer products	Germany										
Hillside Aluminium	Aluminium	South Africa										
Hydro-Quebec	Energy Utility	Canada										
ICI	Chemicals	United Kingdom	38,600	NYSE	ICI	2.357	-31.30%	-13.69%	-12.73%	-2.24%	-17.30%	-4.84%
ING	Financial services	Netherlands	113,143	NYSE	ING	28.732	-36.23%	-41.24%	-36.97%	-39.77%	-1.16%	-3.73%
Integral Energy	Electricity marketer	Australia										
Interface	Flooring systems	USA	6,500	NASDAQ	IFSIA	0.202	-24.24%	-9.08%	-5.74%	+20.66%	-19.37%	-8.84%
Isuzu Motors Limited	Automobiles	Japan										
ITT/Flygt	Pumps and valves	Sweden	38,000	NYSE	ITT	5.702	+28.12%	-29.01%	+49.39%	-13.83%	+16.34%	-12.20%
Johnson & Johnson	Health care products and services	USA	101,800	NYSE	JNJ	164.2	-3.74%	-23.32%	+2.98%	-25.44%	+15.65%	+3.37%
Kesko	Marketing and logistics	Finland										
Kirin Brewing	Food and beverages	Japan										
KLM Royal Dutch Airlines	Air transport	Netherlands	30,381	NYSE	KLM	0.397	-22.11%	-50.96%	+6.41%	-43.61%	-25.99%	-24.65%

Company	Primary Industry	Country	# Employees	Stock Market	Symbol	Market Cap. (in billions)	YTD Return	Industry YTD Return	1-Yr Return	Industry 1-Yr Return	5-Yr Return	Industry 5-Yr Return
S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
Konica	Imaging	Japan										
Laing	Developer	United Kingdom										
Landcare Australia	Land protection, fundraising	Australia										
Landcare Research	Research	New Zealand										
Larcovi	Construction	Spain										
Loy Yang Power	Electricity generation	Australia										
Marathon	Energy	USA	30,671	NYSE	MRO	7.095	-20.87%	-15.61%	-9.20%	-7.49%	-5.17%	-2.63%
Matsushita Electric Group	Electronics	Japan										
McDonald's	Restaurants	USA	395,000	NYSE	MCD	23.427	-30.94%	-17.47%	-32.31%	-7.88%	-3.12%	-0.28%
Mead	Forest products	USA	32,500	NYSE	MWV	3.903	-30.19%	-11.26%	-20.32%	-2.56%	-6.38%	-2.37%
Metso	Factory equipment	Finland										
Motorola	Telecommunications	USA	111,000	NYSE	MOT	23.657	-29.03%	-55.55%	-30.07%	-40.79%	-11.30%	-15.13%
MTR Corporation	Railways	China										
NEC Corporation	Information technology	Japan	141,909	NASDAQ	NIPNY	7.856	-55.16%	-55.35%	-40.46%	-41.48%	-14.40%	-17.45%
Nike	Apparel	USA	22,700	NYSE	NKE	11.704	-22.05%	-9.54%	-6.25%	+8.09%	-0.54%	-0.88%
Nikko Cordial Securities	Financial services	Japan										

Company	Primary Industry	Country	# Employees	Stock Market	Symbol	Market Cap. (in billions)	YTD Return	Industry YTD Return	1-Yr Return	Industry 1-Yr Return	5-Yr Return	Industry 5-Yr Return
S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
Nissan	Vehicle manufacture	Japan	133,833	NASDAQ	NSANY	29.167	+37.38%	-6.82%	+71.30%	+2.49%	+7.45%	-2.96%
Nokia	Telecommunications	Finland	52,970	NYSE	NOK	66.055	-41.01%	-55.55%	-5.11%	-40.79%	+22.20%	-15.13%
Novo Group	Pharmaceuticals	Denmark	16,141	NYSE	NVO	9.704	-33.27%	-35.76%	-34.32%	-24.33%	+4.87%	+4.06%
NTT	Telecommunications	Japan	213,000	NYSE	NTT	54.341	+14.14%	-30.26%	-12.74%	-25.41%	-14.48%	-11.36%
Nutreco	Agribusiness	Netherlands										
Olympus	Optical equipment	Japan										
Pioneer Group	Electronics	Japan	31,220	NYSE	PIO	2.989	-27.33%	-31.28%	-14.49%	-12.89%	-0.52%	-7.38%
Polaroid	Imaging	USA										
Procter & Gamble	Consumer products	USA	106,000	NYSE	PG	114.8	+16.69%	+13.67%	+28.08%	+23.85%	+7.52%	+5.06%
Rabobank Group	Financial Services	Netherlands										
Recip	Pharmaceuticals	Sweden										
Renfe	Rail transport	Spain										
Risk and Policy Analysts Ltd	Consulting	United Kingdom										
Royal & SunAlliance	Insurance	United Kingdom	51,734	NYSE	RSA	2.296	-70.52%	-23.15%	-65.70%	-19.88%		+2.07%
Royal Philips Electronics	Electronics	Netherlands	183,641	NYSE	PHG	19.195	-45.76%	-31.28%	-15.65%	-12.89%	-2.52%	-7.38%
Safeway plc	Food retailer	United Kingdom	193,000	NYSE	SWY	10.375	-45.29%	-40.55%	-43.92%	-39.57%	-4.79%	-8.67%
Saint-Gobain	Building materials	France										

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S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
SASOL	Chemicals, energy	South Africa	26,300	NASDAQ	SASOY	7.091	+30.17%	-0.17%	+43.11%	+7.90%	+1.24%	-1.73%
Scandiflex	Chemicals	Sweden										
Scandinavian Airline Systems	Air transport	Sweden										
Schenker-BTL	Transport	Sweden										
Schiphol Group	Airport management	Netherlands										
Shorebank	Financial services	USA										
Scottish Power	Energy	United Kingdom	15,758	NYSE	SPI	10.138	+9.35%	-13.50%	+4.41%	-12.69%	+1.03%	-7.15%
Severn Trent	Water utilities	United Kingdom										
Scottish Power	Energy	United Kingdom	15,758	NYSE	SPI	10.138	+9.35%	-13.50%	+4.41%	-12.69%	+1.03%	-7.15%
Severn Trent	Water utilities	United Kingdom										
Shell International	Petroleum, chemicals, energy	UK/Netherlands	54,600	NYSE	RD	86.398	-9.79%	-11.28%	-10.34%	-11.08%	-1.07%	+1.28%
Siemens	Electrical engineering	Germany	448,000	NYSE	SI	31.054	-45.19%	-39.45%	-5.80%	-28.36%		+1.22%
SKF Group	Industrial equipment	Sweden	38,091	NASDAQ	SKFR	2.531	+22.35%	-14.63%	+68.50%	-1.91%	+1.80%	-11.36%
Smith & Nephew	Medical devices	United Kingdom	10,500	NYSE	SNN	5.563	-0.41%	-11.29%	+15.21%	+1.38%		+9.81%
South African Breweries	Food and beverages	South Africa										
Suez	Utilities	France	175,000	NYSE	SZE	17.29	-44.53%	-35.03%	-47.00%	-34.88%		+2.44%

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S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
Suncor Energy	Petroleum, energy	Canada	3,307	NYSE	SU	7.543	+3.58%	-15.61%	+23.05%	-7.49%	+14.15%	-2.63%
Sunoco	Petroleum	USA	14,200	NYSE	SUN	2.354	-16.74%	-15.61%	-11.49%	-7.49%	-2.48%	-2.63%
Suntory	Food and beverages	Japan										
Swedbank	Financial Services	Sweden										
Swedish Meats	Food and beverages	Sweden										
Tata Steel	Steel	India										
Teck Comico	Mining	Canada										
Teijin Group	Fibre optics, health, machinery	Japan										
Telecom Italia	Telecommunications	Italy	109,956	NYSE	TI	52.527	-12.21%	-30.26%	-0.58%	-25.41%	+5.41%	-11.36%
Telstra	Telecommunications	Australia	47,740	NYSE	TLS	33.505	-0.50%	-30.26%	+8.02%	-25.41%		-11.36%
Tetra Pak	Packaging	Spain										
Triodos Bank	Financial services	Netherlands										
TransAlta	Energy utility	Canada										
TXU Europe	Energy utility	United Kingdom	18,000	NYSE	TXU	11.525	-13.17%	-33.98%	-12.99%	-26.99%	+7.22%	+1.01%
Umgeni Water	Water utility	South Africa										

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S&P 500	Market Index						-27.82%		-22.45%		-1.90%	
Unipol	Insurance	Italy										
University of Florida	Academic Institution	USA										
VanCity Savings Credit Union	Financial services	Canada										
VAW Aluminium	Metal products	Germany										
Vauxhall Motors	Vehicle manufacture	United Kingdom										
Volkswagen	Vehicle manufacture	Germany										
Volvo Car Corporation	Vehicle manufacture	Sweden										
Wartsila	Industrial equipment	Finland										
Waste Recycling Group	Waste management	United Kingdom										
Watercare Services Ltd	Wastewater and water supply	New Zealand										
Westpac Banking	Financial Services	Australia	28,534	NYSE	WBK	13.708	-2.35%	-14.68%	+24.03%	-3.83%	+9.08%	-1.11%
WMC Ltd	Mining	Australia	3,047	NYSE	WMC	4.335	-18.05%	+15.57%	+2.77%	+25.75%	+4.73%	-5.27%
Yasuda Fire and Marine Insurance	Financial services	Japan										
Total			5,268,390			\$1,367.89						