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Environmental Attitudes and Environmental Stewardship: Implications for Sustainability

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Abstract

Although shareowners and boards are critical to shaping a firm's environmental behavior, this paper gives focus to management practitioners based on their operational functions within the firm. It argues that environmental stewardship is determined by the worldview of managers from which their attitude and ethical response to environmentally-related issues are shaped. The New Ecological Paradigm (NEP) scale is applied to determine the environmental attitude of managers, but the discussion also considers the Dominant Social Paradigm (DSP) to provide further valuable insights to enhance the implications of worldviews on sustainability.

Introduction

Nature is an important part of our productive base, but the extent and intensity in which it is being used for development is much faster than the biosphere can replenish (Sutcliffe et al., 2008; Wackernagel, et al., 2002; Heywood & Watson, 1995). This disparity has escalated the environmental challenges associated with our capability to develop in a sustainable manner. Consequently, environmental problems such as climate changes, ozone depletion, deforestation, degradation of ecosystems, and biodiversity loss continue to plague our planet. These environmental problems are directly linked to the evolution of societies and economies in which business plays a central role. Given the role that business plays in development, it becomes necessary for firms to become more environmentally responsible and align their business activities with environmental preservation and the proper management of natural resources

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(Buysse & Verbeke, 2003). Firms are then expected to maintain and grow their economic, social, and environmental capital base (Dyllick & Hockerts, 2002) to create sustainable societies. To do so, however, shareowners, boards, and managers are required, as a pre-condition, to hold an appreciation of nature that allows them to adopt an attitude of environmental stewards.

While shareowners and boards are critical to shaping a firm's environmental behavior, this paper gives focus to management practitioners based on their operational functions within the firm. The paper argues that environmental stewardship is determined by the worldview of managers from which their attitude and ethical response to environmentally-related issues are shaped. Using a sample of private sector management practitioners in Trinidad and Tobago (T&T), the paper attempts to explain how worldview impacts environmental attitude and hence, environmental stewardship. While the New Ecological Paradigm (NEP) scale is applied in determining the environmental attitude of these managers, the Dominant Social Paradigm (DSP) is also used to provide further insights to the discussion.

The article is intended as a contribution to the ongoing sustainability discourse particularly in the context of developing economies and values-based leadership. The article is structured as follows: Section 1 reviews the DSP, NEP, and Environmental Stewardship concepts and the environmental conditions in T&T; Section 2 considers methods and findings; and, Section 3 considers implications for environmental stewardship and ethical decision-making.

Key Concepts

The DSP

The environmental problems of the world are largely a result of the capitalist system of production, distribution, and consumption (Duffy 2000; Wilson et al, 2008). Intrinsic in this system are beliefs and values that drive and perpetuate its existence and thus, the environmental challenges encountered. These beliefs and values represent an anthropocentric worldview which initially represented the culture of Western societies, but then was disseminated to other parts of the world. It has the following perspectives:

- 1. Humans are superior and above nature;
- 2. There is an abundance of natural resources so there is no need for conservation;
- 3. Human beings, by virtue of possessing culture and technology, are able to adapt nature to human ends, rather than adapt to the natural environment; and
- 4. Social sciences considered humans as exempt from ecological constraints.

This anthropocentric worldview has been expressed in the construct known as the "Dominant Social Paradigm" (Dunlap, 1980). It entails: (1) A belief in limitless resources, continuous progress, and the necessity of growth; (2) Faith in the problem-solving abilities of science and technology; and (3) A strong emotional commitment to a laissez-fair economy and to the sanctity of private property rights (Albrecht et al., 1982).

In the DSP, economic growth and development are dependent on technology and therefore technological progress is equated to material progress (Kilbourne & Polonsky, 2005). In the context of environmental attitude, this implies that whatever environmental

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problems occur as a result of material progress, humans will also possess the technological ability to address these problems. In addition, in the DSP, economics has been separated from nature resulting in little or no consideration to environmental degradation or consequences. Economic transactions focus on extraction costs and ignore any possible payment to nature (Kilbourne & Polonsky, 2005), and nature is considered a free input to be exploited in the pursuit of economic growth (Mundt, 1993).

Further, the ethical aspects of economics have been removed because they were not easily empirically quantifiable and consequently regarded as a non-science (Kilbourne & Polonsky, 2005). Therefore, questions of morality were removed from economic discourse and environmental considerations were only tangentially integrated (Kilbourne & Polonsky, 2005). Environmental attitudes have been found to be related to the DSP and its economic beliefs are identified as most influential in determining environmental attitudes. An overarching principle in the DSP is the belief that mankind is separate and morally superior to the rest of nature. Thus, humans perceive themselves to be the masters of nature – subduing and exploiting it for their own purpose (Kilbourne & Polonsky, 2005). With such an attitude, humans have largely failed to take a custodian approach to the environment.

The NEP

At the opposite end of the continuum is "ecocentrism" which considers nature to have inherent value regardless of its usefulness to humans. Ecocentrism does not view humans as having rights superseding or negating those of other life forms which are considered to have inherent value in their own right. Ecocentric theorists argue that our current ecological crisis is a consequence of this overinflated sense of human value. This pro-environmental worldview is expressed through the "New Ecological Paradigm" (NEP). The NEP is based on beliefs about humanity's ability to upset the balance of nature, the existence of limits to growth for human societies, and humanity's right to rule over the rest of nature (Dunlap et al, 2000).

The NEP is anti-anthropocentric and embodies the following views: (1) high valuation of nature; (2) generalized compassion toward other species, other peoples, and other generations; (3) careful planning and acting to avoid risks to humans and nature; (4) recognition that there are limits to growth to which humans must adapt; (5) a new society with cooperation, openness, and participation; and (6) consultative and participatory new politics emphasizing foresight and planning (Milbrath, 1984).

The NEP scale can be used to measure the extent to which people are subscribing to a pro-environmental worldview. The NEP is designed to measure whether an individual holds pro-environmental or anti-environmental beliefs and attitudes (Dunlap et al, 2000). It was designed to identify five (5) possible components of an ecological worldview:

- 1. Limits of growth;
- 2. Anti-anthropocentrism;
- 3. The fragility of nature's balance;
- 4. Rejection of "exemptionalism" (the idea that humans are exempt from nature's constraints); and

5. The possibility of an ecocrisis (Dunlap et al, 2000).

The NEP consists of 15 likert scale questions, three on each component. Answers to each question are summed to calculate an NEP score. Individuals with a higher score are considered more environmental. Possible scores range from a minimum of 15 to a maximum of 75.

The NEP has become the most widely used measure of environmental concern in the world and has been accepted as a reliable and valid instrument for assessing environmental attitudes (Aldrich et al, 2005; Dunlap et al, 2000). It has been employed in hundreds of studies in dozens of nations. The NEP scale provides comprehensive coverage of key facets of an ecological worldview and has internal consistency (Dunlap et al, 2000) which makes it an appropriate instrument for our study. Using the NEP scale, the article examines the environmental attitudes of private sector managers in the context of Trinidad and Tobago.

Environmental Stewardship

Environmental Stewardship is defined as the comprehensive understanding and effective management of critical environmental risks and opportunities related to climate change, emissions, waste management, resource consumption, water conservation, biodiversity protection, and ecosystem services (UN Global Compact, 2010). Environmental stewardship is considered by the global business community as extremely important to business; however, only a small percentage of companies on the global market have taken strides in the direction of true stewardship (UN Global Compact, 2010). The NEP is closely linked to environmental stewardship since both concepts aim to promote responsible management and utilization of natural resources to ensure a sustainable future.

Environmental Conditions in Trinidad and Tobago

Trinidad and Tobago (T&T) is one of the most industrialized countries in the Commonwealth Caribbean. It is challenged, however, with environmental problems related to the production of commodities ranging from processed food, petroleum products, nitrogen, ammonia, urea, fertilizer, paint and wood products. In addition, the demand for goods and services stemming from population growth and development has had negative impacts on the physical characteristics and natural resource base of the country. Resource exploitation is driven by short-term economic gains with little consideration for long-term sustainability (National Environmental Policy, 2005). Landbased activities have contributed significantly to the impairment and loss of inland and coastal resources and ecosystems -wildlife, fisheries, mangroves and other wetlands, beaches, and coral reefs. For example, discharges from industrial activities in the East/West Corridor of the island are deposited into the Caroni River and its tributaries. Similarly, the Gulf of Paria has been damaged as a result of intensive offshore petroleum exploitation and exploration operations on the west coast of the island. Further, rich wetlands are being rapidly converted for a variety of uses associated with human social development including residential, industrial, port, and waste disposal (National Environmental Policy, 2005).

The current environmental conditions in T&T have not occurred in the absence of environmental policies, regulations, treaties, conventions, and authorities. Trinidad and Tobago has both a National Environmental Policy and an Environmental Management Agency and has additionally committed to over twenty international treaties and conventions on conservation and protection of the environment. The challenge, however, is the ineffective implementation, monitoring, and enforcement of these various proenvironmental initiatives. Insights into T&T's practice of sustainability can also be gauged by the findings of the Travel and Tourism Competitiveness Report 2011. The Environmental Performance Index of this report ranked T&T 103 out of 163 economies or countries. Specifically, the findings indicated that environmental regulation is not stringent and the enforcement of these regulations is ineffective. In relation to carbon dioxide emissions, T&T has been identified as one of the largest emitters ranking 133 out of the 163 economies. These studies suggest that there are significant challenges related to the practice of sustainable development in T&T and the findings of this article will provide additional explanations to this situation.

1. Methods and Findings

The NEP was used to measure whether an individual holds a pro-environmental or an anti-environmental attitude. Three hundred and twenty-nine out of a total of 352 survey instruments comprised the final sample of this study. Twenty-three surveys were disqualified due to incompletion and/or nationality. Of the 329 valid questionnaires, 226 (68%) were completed by managers located in Trinidad while 103 (32%) were completed by managers in Tobago. All respondents represented private sector organizations. The pool was comprised of 55% females and 45% males. With respect to age distribution, 41% were between 20 and 34 years, 37% were between 35 and 49, and 22% over 50 years old.

Table 1 below presents the NEP statements with the corresponding responses. The frequencies and descriptive statistics for the entire population are also provided. The statements are coded as such that higher values indicate stronger pro-environmental attitudes. Thus, odd-numbered NEP statements are coded as follows:

Strongly Agree (SA) = 5

Somewhat Agree (A) = 4

Undecided (UD) = 3

Somewhat Disagree (D) = 2

Strongly Disagree (SD) =1

Values assigned to even-numbered statements are coded in the exact opposite manner. Consistent with the boundaries used by Aldrich et al (2005), the paper assumed that an average NEP score less than 2.8 indicates an *anti-environmental attitude*, an average score between 2.8 and 3.2 indicates *indecisiveness*, and an average score greater than 3.2 indicates a *pro-environmental attitude* (See Table 1).

Table 1

No.	Questions	SD (%)	D (%)	UD (%)	A (%)	SA (%)	MEAN	SD
1	We are approaching the limit of the number of people the earth can support	10	31	21	24	14	3.02	1.23
2	Humans have the right to modify the natural environment to suit their needs	20	37	10	29	4	3.42	1.21
3	When humans interfere with nature it often produces disastrous consequences	4	9	7	49	32	3.97	1.03
4	Human ingenuity would ensure that we do not make the earth unlivable	6	30	30	33	6	2.95	1.05
5	Humans are severely abusing the environment	6	5	4	45	41	4.11	1.06
6	The earth has plenty of natural resources if we just learn to develop them	5	7	4	48	37	1.94	1.04
7	Plants and animals have as much right as humans to exist	1	6	5	41	46	4.24	0.90
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations	17	55	15	9	5	3.72	0.99
9	Despite our special abilities, humans are still subject to the laws of nature	2	2	3	51	41	4.27	0.81
10	The so-called "ecological crisis" facing human kind has been greatly exaggerated	16	54	15	13	3	3.66	0.99
11	The earth is like a spaceship with very limited room and resources	10	33	13	33	11	3.02	1.23
12	Humans were meant to rule over the rest of nature	8	31	14	34	13	2.85	1.21
13	The balance of nature is very delicate and easily upset	2	13	13	51	23	3.81	0.98
14	Humans would eventually learn enough about nature to learn how to control it	15	43	20	21	2	3.47	1.04
15	If things continue on their present course, we will soon experience a major ecological catastrophe	6	7	11	48	28	3.84	1.10

In addition, the classification outlined by Kotchen and Reiling (2000) was used and individuals were segmented into 3 groups based on the sum of their NEP scores. The groups are comprised as follows:

- 1. Respondents with an NEP score of 50 or less (those who have an anti-environmental attitude);
- 2. Respondents with an NEP score of greater than 50 and less than 59 (moderately environmental); and,
- 3. Respondents with a score of 59 or more (pro-environmental attitude).

¹ As outlined earlier, the NEP was designed to identify five possible components of an ecological worldview. The NEP 15 item scale questions are divided in groups of three for each of these five components. Answers to each question are summed to calculate an NEP score. Individuals with a higher score are considered more environmental. Possible scores range from a minimum of 15 to a maximum of 75.

Using these scores and classifications, Table 2 provides greater insights into the attitudes of the respondents. ANOVA test shows that there are differences in the means scores for each group (p < .000).

Table 2

		Anti	Moderate	Pro
		n = 130	n = 167	n = 37
	The reality of limit to growth (1, 6, 11)			
1	We are approaching the limit of the number of people the earth can support	2.48	3.22	4.03
6	The earth has plenty of natural resources if we just learn to develop them	1.83	1.85	2.73
11	The earth is like a spaceship with very limited room and resources	2.53	3.18	4.05
	Overall Mean	2.28	2.75	3.60
	Anti-anthropocentrism (2,7,12)			
2	Humans have the right to modify the natural environment to suit their needs	2.89	3.69	4.14
7	Plants and animals have as much right as humans to exist	3.94	4.38	4.70
12	Humans were meant to rule over the rest of nature	2.42	3.01	3.68
	Overall Mean	3.08	3.69	4.17
	The fragility of nature's balance (3, 8, 13)			
3	When humans interfere with nature it often produces disastrous consequences	3.53	4.19	4.59
8	The balance of nature is strong enough to cope with the impacts of modern industrial nations	3.24	3.94	4.41
13	The balance of nature is very delicate and easily upset	3.45	3.91	4.65
	Overall Mean	3.41	4.01	4.55
	Rejection of exemptionalism (4, 9, 14)			
4	Human ingenuity would ensure that we do not make the earth unlivable	2.69	3.02	3.49
9	Despite our special abilities, humans are still subject to the laws of nature	4.06	4.36	4.62
14	Humans would eventually learn enough about nature to learn how to control it	3.17	3.56	4.14
	Overall Mean	3.31	3.65	4.08
	Eco-crisis			
5	Humans are severely abusing the environment	3.72	4.25	4.86
10	The so-called "ecological crisis" facing human kind has been greatly exaggerated	3.23	3.81	4.51
15	If things continue on their present course, we will soon experience a major ecological catastrophe	3.42	4.03	4.54
	Overall Mean	3.46	4.03	4.64

As can be discerned from Table 2, 40% of the respondents hold an anti-environmental worldview, 51% are seen as being moderately environmental, and 10% hold a strong proenvironmental worldview. Consistent with the results of Table 1, even the persons who expressed a pro-environmental view seem to think that there are an abundance of natural resources available to be developed. Simultaneously, all respondents (including the anti-environmental) agreed that the balance of nature is delicate and easily upset, and if we continue with business as usual then we would be heading for an eco-crisis. Further, all respondents shared the DSP perspective in the hope of a strong market economy and human ingenuity. This is an interesting scenario because all respondents support the assertion that the status quo would lead to disaster but concomitantly find it necessary to continue resource exploitation in order to pursue commercial interests to achieve uninterrupted growth. However, considering their response to item #4, both the moderately and pro-environmental groups are not confident that human ingenuity is capable of solving environmental problems.

The large number of respondents who are moderately environmental is also a point of interest. Given their overall mean for "the reality of limits to growth," it would seem to suggest that they are heavily swayed by their common desire for commercial success in their respective spheres. The indecisive scores (between 2.8 – 3.2) on a number of items would also suggest that depending on the impact and direction of moderating factors/variables such as government policies and regulations, public information, company policies, and strategic intent, managers can be swayed to adopt either the antior pro- environmental positions.

There are some other notable attitudes that must be highlighted. In components 1 (reality of limit to growth), 2 (anti-anthropocentrism) and 4 (rejection of exemptionalism), both the anti-environmental and moderately environmental groups share DSP perspectives. Both believe that we have not reached our limit to growth and that there is not a finite limit to the availability to natural resources. They also hold the view that man has the right to modify the natural environment since human ingenuity would ensure that we do not make the earth unlivable. Nevertheless, they both demonstrate some inconsistency or indecisiveness by also espousing the view that the balance of nature is delicate and if things continue on their present course, we will soon experience an ecocrisis.

2. Implications for Environmental Stewardship and Ethics

The current findings have some important implications for environmental stewardship and ethical decision-making. Firstly, the prevalence of an anti-environmental attitude among the respondents suggests that the DSP is prominent within the context of T&T. Hence, it would presumptively be difficult to encourage managers to adopt the ethical duty to care for the environment. This anthropocentric attitude creates a situation where managers are predisposed to pursue the business interest of economic growth at the expense of environmental degradation. If this attitude does not change, T&T would not be able to develop in a sustainable manner and the quality of life of its citizens would inevitably diminish. Sustainability is largely determined by how effectively nature is managed. Thus, all societies require business leaders to be environmentally responsible because failing to do so would threaten the ability to meet current and future needs. An

ethical duty of care for the environment is therefore a significant requirement for achieving sustainability.

The situation in T&T, however, is not very different to what is happening on the global business landscape. While there is consensus in the global business community that environmental stewardship is extremely important to commercial growth and development, only a small percentage of companies within the global marketplace have taken serious steps toward true stewardship (Global Compact, 2010). There is still reluctance to integrate environmental stewardship as part of the business strategy since anthropocentric attitudes are still widespread.

Secondly, a large portion (51%) of managers was moderately environmental, implying that there may be situations where commercial interests would be given priority over environmental stewardship and vice versa. An established stakeholder approach of management is then needed to avoid inconsistencies and uncertainties. Management practitioners need to embrace a values-based system of decision-making that enables them to assess all stakeholder considerations. In fact, this values system must become integral to the culture and moral fiber of the organization and uniformly applied across its operations. It also suggests that even board governance has to be approached in this manner to reinforce values-based leadership. In addition, given the central role played by companies in wealth creation and development, managers need to ensure that core business activities continue to add value and are undertaken efficiently and effectively in order to make their companies sustainable. A sustainable company is aware of the symbiotic link between environmental, social, and economic concerns and is expected to create a sustainable society through its business activities (Buckley et al, 2009). This approach to development is holistic, balanced, and comprehensive, requiring the integration of all three pillars of development: economic growth, social progress, and environmental preservation and stewardship, i.e., the "triple bottom line."

Thirdly, a strong environmental regulatory framework is required to give businesses appropriate incentives to address environmental issues more seriously and to serve as a catalyst for building positive environmental attitudes among managers and business leaders generally. When environmental regulations are ineffectively implemented, monitored, and enforced, as is the case in T&T, anti-environmentalism is perpetuated. The exploitation of natural resources in T&T, as mentioned earlier, is driven by short-term economic gains with little consideration for long-term sustainability, resulting in deleterious impacts on the physical characteristics and natural resource base of the country. The manner in which land-based activities are conducted have contributed significantly to the impairment and loss of inland and coastal resources as well as entire ecosystems - wildlife, fisheries, mangroves (and other wetlands), beaches, and coral reefs (National Environmental Policy, 2005). The status of T&T's environmental regulatory framework and the environmental impacts being experienced further demonstrate the dominance of an anthropocentric worldview and the need for fundamental change. Appropriate and effective regulations will establish the level of importance, care, and responsibility that the environment should be given. Based on the urgency of environmental problems, we cannot wait for pro-environmental attitudes to organically develop. Thus laws are critical to fast-tracking environmental stewardship in the business community.

As mentioned earlier, this article adds to the ongoing sustainability discourse particularly in the context of developing economies as well as to the field of values-based leadership. Our discussion attempted to explain how worldviews impact environmental attitude and environmental stewardship and help provide the foundation for responsible decision-making. The paper limited its focus to management practitioners, but future research regarding the influence of corporate environmental values on Boards of Directors is certainly an appropriate topic.

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