

Toward an Integrated Theory of Sustainability

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Abstract: The strategic management literature is combined with a cross-national and cross-cultural perspective to offer a broad conceptual framework that guides the development of a research roadmap that begins with an inductive theory building phase which is followed by an empirical testing phase. The potential benefits, of such an approach, include movement toward an integrated theory of sustainability that will provide useful insights to multiple constituents including managers and policy makers.

Key words: strategy; sustainability; cross-cultural

JEL codes: M14, M16, M19, Q56

This paper proposes a conceptual framework by drawing together different research streams that have addressed sustainability from different perspective. In addition, a research design is proposed that will be viable in a cross-national and cross-cultural context and, as a first step, engage in inductive theory building.

The primary goal of the conceptual model and research roadmap is:

Advancement of knowledge: build and test a theoretically grounded model that informs the role of culture and external factors in shaping organizational strategies for sustainability. Specifically, the proposed research will seek to understand:

- (a) What is the relationship between structural factors such as economic, technological, social, political and regulatory conditions and firms' sustainability strategies? How do these relationships vary across different countries?
- (b) How does national culture influence the worldview of firms and inform their sustainability strategies?
- (c) How do the relationships between structural factors, cultures and strategies vary across different types of firms, namely small firms, large corporations, and multinationals?
- (d) What are the dynamic elements that govern these relationships and how do they change over time?

1. Context

Consider the strategic choices of firms in four Mediterranean countries with similar sun exposure, yet very different responses to the benefits of solar energy. In Spain, long term government incentives are in place to promote solar energy solutions and numerous alternatives compete in the retail market, ranging from the most basic rooftop panels to expensive parabolic dishes (Whelan, 2008). The larger players in the market sell products

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primarily sourced from China and Israel, as well as locally. In Greece, while financial incentives are in place, there isn't as intense a push for alternative sources of energy, even though the country critically depends on expensive fossil fuel imports for its needs (Melander, 2009). Just a bit further east though, with substantively similar structural factors, the island of Cyprus has enthusiastically embraced solar energy (Jensen, 2000). Across the sea, residents of Israel are required by law to get their hot water from solar energy; consequently, a rather inexpensive, if not unattractive solar panel and water tank adorns every rooftop; domestic firms dominate the market (Maple, 2009; Rabinovitch, 2009; Thomas, 2008). Israel and Cyprus are the world's leaders of solar water heaters with over 90% penetration among the countries' households, yet Cyprus has little local production (Maxoulis, Charalampous, & Kalogirou, 2007). Moreover, dozens of Israeli start-ups are investing in research and development to develop new solar energy capabilities (Kloosterman, 2009). In all four countries, the penetration of solar panels is much higher compared to North America, even in sun drenched Southern United States and Mexico. Moreover, while both large and small firms are active players in the green energy movement, one observes a broad range of different strategies pursued by local and international firms.

Contrast the responses from firms in the above countries to those in Canada. Canadians are genuinely concerned about the natural environment and are quite informed about issues of environmental stewardship and sustainability (Bord, Fisher, & O'Connor, 1998; Dunlap, Gallup, & Gallup, 1993; Franzen, 2003). The effects of global warming are well understood, yet, on a per capita basis, Canadians are the highest users of energy on the planet (International Energy Agency, 2010) and international environmental conservation organizations take issue with Canada's energy intensive exploration of the oil sands in Alberta and Saskatchewan (Prebble et al., 2009; Yakabuski, 2011). In spite of the large landmass and suitable sites, Canada's wind farms are still rather underdeveloped (Liming, Haque, & Barg, 2008). Traditional energy producers dominate the landscape. By contrast, recent reports from China suggest the emergence of a major drive toward green energy spearheaded by capital availability, incentives and regulation (Schreurs et al., 2007; Bradsher, 2010); small and large firms alike are investing heavily in wind and other clean energy projects that are promising to make China the largest green energy producer in the world.

2. Literature Review

This proposed research aims to move sustainability research from simply describing what organizations do toward a systematic understanding of the factors that guide organizations' sustainability choices and strategies. Oriented in the strategic management paradigm, which originated from the industrial organization economics theory of structure-conduct-performance (s-c-p), this research initiative will identify the structural factors that guide firms' sustainability choices as well as consider the role of culture in influencing these choices. Undeniably, regulations and financial incentives compel firms to undertake sustainability initiatives. A number of studies have compared regulatory frameworks of different countries (King & King, 2005; J. I. Lewis & Wiser, 2007; Lund, 2009; Schreurs et al., 2009). Little though, has been done to connect regulatory frameworks with business strategies and substantiate potential connections between environmental regulations and corporate performance (Barnett, 2007; McGee, 1998; Rugman & Verbeke, 1998; Salazar, Husted, & Biehl, 2011). Industry structure has been shown to determine firm conduct but the research on sustainability strategies has not been able to link any traditional structural variables to sustainability choices (Husted, Allen & Kock, 2011). And although conceptual work has looked at the results of individual firms' sustainability efforts, the results have been mixed. Available

frameworks have not been able to convincingly connect sustainability strategies to performance offering alternatively positive and negative explanations (Margolis & Walsh, 2001; 2003; Husted & Allen, 2007; 2009). Barnett (2007) argues that firms' ability to improve stakeholder relationships is instrumental in converting socially responsible behaviors to financial performance. While conceptually appealing, this line of work has not yet been followed by empirical research nor has it gone beyond the proverbial "it depends" to provide useful advice to managers and public policy makers with respect to choices of CSR strategies and their expected payoffs.

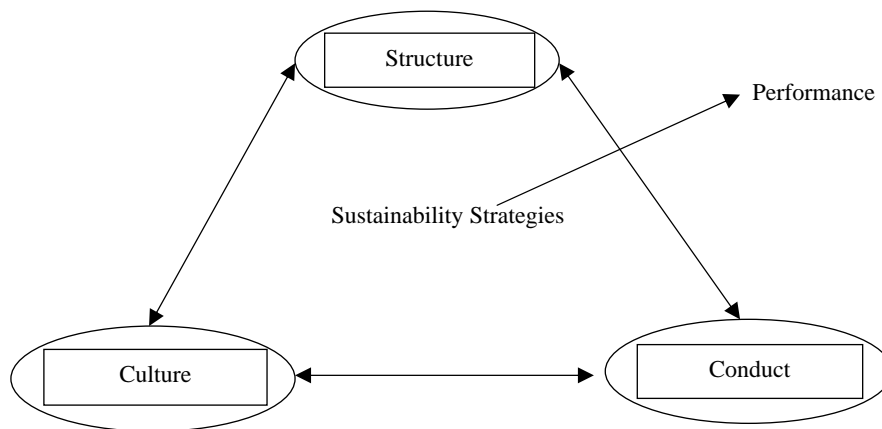
Similarly, studies of environmental attitudes have attempted to capture individuals' diverse predispositions toward the natural environment and their corresponding behaviors (Felonneau & Becker, 2008; Grob, 1995; Kaiser, Wolfing, & Fuhrer, 1999; Scott & Willits, 1994; Vining & Ebreo, 1992; Vitouch, 1996). A fair number of studies have focused on individuals' values and their attitudes toward sustainability (Corraliza & Berenguer, 2000; Grunert & Juhl, 1995; Poortinga, Steg, & Vlek, 2004; Stern, Dietz, Kalof, & Guagnano, 1995) and projects have even attempted to conduct cross-national surveys (Ester, Vinken, Simões & Aoyagi-Usui, 2003; Leiserowitz, Kates & Parris, 2006; Oreg & Katz-Gerro, 2006; Schultz et al., 2005; Schultz & Zelezny, 1998). At the individual level, frameworks such as the New Ecological Paradigm (Dunlap & Vanliere, 1978; Stern, Dietz, & Guagnano, 1995), the Nature Relatedness Scale (Nisbet, Zelenski, & Murphy, 2009), and the environmental attitudes inventory (Milfont & Duckitt, 2009) have been developed to assess individuals' tendencies toward the environment. Moreover, theoretical models under various names such as "value-attitude-behavior" or "value-belief-norms" have been adapted to link individuals' environmental values to behaviors (Guagnano, Stern, & Dietz, 1995; Homer & Kahle, 1988; Kaiser, Hubner, & Bogner, 2005; Oreg & Katz-Gerro, 2006; Stern, Dietz, Abel, Guagnano, & Kalof, 1999; Vaske & Donnelly, 1999). These conceptual links have been admittedly complex and results have been mixed, although a stream of literature has attempted to explain the observed value-behavior gap and identify the obstacles to pro-environmental behavior despite environment friendly values (Bardi & Schwartz, 2003; Blake, 1999; Kennedy, Beckley, McFarlane & Nadeau, 2009; Kollmuss & Agyeman, 2002; Stern, 2000; Tilley, 1999; Torelli & Kaikati, 2009). What is more, these models describe individuals' daily routines such as composting food scraps and walking or bicycling, but are inherently inconsistent with an understanding of the factors that guide organizations' sustainability choices and strategies.

This research proposal and design reflects a conceptual departure from prior perspectives which look for parallels between the individual and firm levels. Here, it is proposed that macro factors are salient influencers to sustainability behavior. Moreover, values, embedded within national cultures or what some call "collective mental programming" (Hofstede, 1980) decisively influence individual and organizational behaviors and as such, they play a dominant role in the making of these sustainability choices. Different models have been proposed and wide-scale comparisons of different cultures have been compiled (Hofstede, 1980, 2001; Inglehart, 1977; Schwartz, 1994a, 1994b) in attempts to codify human values. Cultures have been seen to incorporate individuals' values and norms as they are informed by their perception of power distance, individualism, masculinity, uncertainty avoidance, and long term orientation (Hofstede, 1990). Altruistic and egocentric values are or ought to be reflected in these dimensions and shape environmental attitudes. In contrast, referring to ecological issues, Stern (2000) argues that social structures such as pertinent legislative configurations and financial incentives shape individuals' values regarding environmental issues. Both positions support the presence of some relationships between structures, cultures and sustainability strategies but advocate very different relationships. Moreover, despite all this work, researchers have been unable to transfer many of the insights across different levels of analysis, particularly from individuals to organizations and across countries. The dependent variables

have stubbornly remained at the individual level and when researchers have focused on the implications of cultural differences on organizations (Barney, 1986; Hofstede, 1990; Kogut & Singh, 1988; R. D. Lewis, 2000; Newman & Nollen, 1996; Schein, 1990), they have not considered these implications for sustainability issues. The proposed research explicitly addresses these weaknesses and is designed to explore and explain the structure, culture and conduct relationships that govern organizations' sustainability strategies.

Critically, even under similar economic, technological, social, political, and regulatory conditions substantial differences seem to arise among the behaviors of organizations, as well as their performance related to sustainability. Virtually nothing has been done to appreciate these differences, while arguably among all factors, the largest impact on the environment and society potentially arises from the actions of corporations. Academic fields such as management, political science, environmental studies, sociology, international business, as well as law and economics are asking similar questions (Barnett, 2007; Margolis & Walsch, 2003) highlighting the importance of the proposed research program and the potential contributions of its findings.

The overarching network of macro factors may be depicted as follows:



The literature has documented the impact of many aspects of the macro structure within which firms operate including industry configurations as well as legal and regulatory pressures. The inclusion of culture in the proposed research roadmap is significant given the impact of culture on underlying assumptions and values, world views, and mental models. The role of conduct is also important given the numerous and varied drivers of the choices firms make based on intentional and/or realized strategies, industry recipes, behavioral inertia, competitive imperatives, and types of engagement with stakeholders. All three macro factors should influence the sustainability strategies chosen by the firm and help explain the evolution of these strategies especially as they move from simple to deeply embedded. The performance (economic, environmental, and social) of the firm is a function of the specific sustainability strategy choices made within the larger context of the macro factors.

3. Methodology

The first research question focuses on the structural factors and potentially different sets of factors that serve to inform the sustainability choices of firms. Given that neither existing knowledge nor available frameworks provide a parsimonious answer here, the proposed research needs initially to address theory building rather than theory testing; appropriately, we will first carry out a series of intensive case studies in four different countries with the aim of providing the basis for the development and calibration of the conceptual model. Using an

inductive approach, the research design will follow traditional multiple case studies methodology (Eisenhardt, 1989; Yin, 1994). The design will allow us to draw on the strategic management and the sustainability literatures integrating and extending insights and constructs already developed within that body of work into the theory developed in the course of this research roadmap (cf. Fischer et al., 2007). The choice of countries is both opportunistic and fortunate. The researchers have extensive contacts in India, Israel and Mexico, and Canada and these countries will provide a point of departure for the first phase of the proposed research. The four countries exhibit substantially divergent scores in the World Bank's development index, in regulatory, political and social structures, and in Hofstede's cultural dimensions, affording the research design the requisite variety in structural factors and cultures.

The cases to be developed will be chosen so as to represent a range of firms that engaged in substantial decision processes that led to the adoption of noteworthy sustainability strategies. We will use three sources of data to identify potential cases: (a) available annual sustainability reports, typically published by publicly traded firms; (b) the Corporate Knights annual survey of responsible business; as well as (c) scan the local public press for suitable candidates. Initially the focus will be on cases in the manufacturing and traditional energy sectors to ensure comparability, as well as diversity. The two sectors represent broad elements of any economy, and in particular the countries at the focus of the first stage of this research, and are typically identified as both major causes and potential solutions to sustainability. We plan to develop twelve case studies. This number is consistent with other case based research (e.g., Eisenhardt & Graebner, 2007; Zott & Huy, 2007), and we believe it is warranted given the sources of variation between cases and a need for considerable attention to inter-case differences in order to map out a theory that identifies the relationships between factors, cultures and strategies, as well as afford us sufficient base cases for subsequent longitudinal studies.

Cases will explore firms' sustainability strategies, analyzing the decisions that led to the "low hanging fruit" of pollution prevention, energy efficiency, and process improvements, as well as more complex strategies such as adoption of product stewardship, life cycle analysis and clean technology. Consistent with the literature on managerial cognition and decision theory (Peterson, 2009; but also Pink, 2006; Weitzner & Peridis, 2011), we will examine the decision making processes that lead to these strategic choices, including establishing objectives, search processes, criteria setting, evaluation of alternatives, alternative selection, as well as group think, and cognitive biases in search and selection. We will utilize both written material and interviews with the protagonists involved in the decisions. The recollections of managers and decision makers as well as prospective tracking will allow reasonable inferences about the strategic intent, and expose the cognitive and value based judgments that led to the adoption of specific strategies. The cases will allow a temporal view in order to capture the evolution of sustainability strategies over a period of time and study the dynamics of the decisions; and provide insight into the role of external conditions such as the introduction of new regulatory frameworks on firms' subsequent actions. The cases will explore and document the richness of the phenomenon and provide insights into the underlying relationships that link structural conditions, cultures, conduct, and strategic responses.

The use of explanation building modes of qualitative data analysis (Yin, 1994; Fischer & Reuber, 2004), to inform the conceptual model articulating companies' decisions about sustainability strategies, will enable the first cut of theory building. An initial set of propositions about sustainability strategy formulation will be derived from this inductive phase. The comparison of the results of initial case studies with derived propositions, will occur iteratively going between case data and theoretical propositions. After completing the within-case analysis of each individual case, the next step will be cross-case analyses comparing cases based both on individual dimensions

suggested by the literature as well as new dimensions that emerge through the process. Finally, once theoretical saturation is achieved, the resulting conceptual model will need to be operationalized to move to the quantitative research stage to systematically study the sustainability decisions and strategies of firms across countries and ascertain the impact of structural factors and cultural differences in sustainability choices.

This second phase will entail testing the conceptual model and assessing the strength and direction of the relationships between structure, culture, conduct, strategy, and performance within the realm of business and sustainability. The main activities here will involve data collection and analysis. In transitioning to the quantitative phase of this project, one of the first steps will entail the development of reliable and valid measures of the five sets of constructs. Given the present miscellany of metrics (Barnett, 2007; Lund, 2009), it will be useful to look to the cases to also illuminate measures that will be consistent across countries and across sectors. The frame of reference for conceptualizing performance outcomes will originate from the dimensions of the Environmental Performance Index developed by Yale University, Columbia University and the World Economic Forum (Yale.org, 2010) and those of the Global Reporting Initiative (GRI, 2010), which collectively measure impact on environmental health, ecosystem vitality, and environmental protection applying a lens that effectively captures each firm's triple bottom line. The case analyses will shed light on necessary adjustments to convert these dimensions to measures that can be utilized across countries and sectors.

Data will be collected through survey instruments (mainly to capture strategy and performance) and public data (mainly to capture structure and culture). To correct for reporting biases, the collection of secondary data for the former (such as reports and financial statements) and primary data for the latter (for example awareness of policies and individual values assessments) will provide better reliability of key measures. To ensure adequate variation, the research will consider firms and situations that are and are not pursuing sustainability strategies. As such surveys are more likely to elicit responses from environmental stewards than laggards, it will be essential to address non-response bias by ensuring a broad representation and a diverse population in this study. Similar steps will be taken in each country. Moreover, econometric analyses will allow the use of Heckman (1976, 1979) corrections to control for potential selection biases.

The analyses will utilize detailed data on different external factors that were present during the time that decisions were made including regulatory, technological, social, political, and economic macro variables and detailed data on values and cultures including altruism, uncertainty avoidance, masculinity, collectivism, and long term orientation. While the measures of strategic choices are yet to be determined, these will likely include utilizing metrics that capture firms' choices across different dimensions; for example, the type and the intensity of different adopted strategies, the level of entrenchment and their longevity. Also, the necessary control variables will be included so that the analyses allows for meaningful comparisons across countries and industries.

4. Future Directions and Constituents

The primary purpose of the proposed research roadmap is to develop an understanding of a set of related questions in a way that is useful to multiple key constituents. Some of these key questions and constituents are:

- What are the reasons for such diversity in firms' actions?
- What are the implications?
- Why do companies respond so differently and pursue dramatically diverse sustainability strategies across different countries?

- What could governments do to accommodate and respond to the diversity?
- What conditions would better facilitate different government programs to achieve desirable results?

Policy makers, practitioners, executives of multinational corporations and their subsidiaries, officers of intergovernmental organizations, as well as those of not-for-profit agencies could benefit enormously from answers to these questions as they would allow them to make informed choices about programs, investments, and strategies so as to pursue their objectives more effectively.

Management practice: convert the insights gained from this research program to inform managers' decision models with respect to sustainability strategies and shed light on the question of the relationship between sustainability strategies and firms' overall performance, especially addressing the role of structural factors and cultures.

Public Policy: inform the effectiveness of public policy initiatives that relate to sustainability and associated macro objectives; understand the influence of culture and external factors in the uptake of sustainability strategies and the usefulness of pertinent government policies.

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