

## **DISSERTATION SUMMARY**

### **Business sustainability: Achieving Financial, Environmental, and Social**

#### **Performance Simultaneously**

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### **RESEARCH QUESTION**

Does the principle of sustainable development at society level, simultaneous achievement of economic prosperity, environmental integrity, and social equity, apply to the firm level of analysis? Does the alignment of the three pillars strengthen over time?

### **INTRODUCTON**

In 1986, the World Commission on Economic Development (WCED, 1986) made popular the term ‘sustainable development’. They argued that economic development was intimately tied to environmental integrity and social equity. All three conditions were necessary for the long term sustainability of mankind and the planet. There has been substantial support for these arguments at the societal level of analysis (Banerjee, 2003; Gladwin, Kennelly, & Krause, 1995; IUCN, UNEP, & WWF, 1991).

The aspiration of sustainable development, however, requires the explicit commitment of organizations, particularly corporations. However, corporations are in the business of making money, they are not in the business of pursuing environmental

integrity and social equity. There is no reason, then, that the three pillars of sustainable development will align at the societal level of analysis.

On the other hand, management researchers have argued that there is a positive relationship between social equity, often framed as corporate social responsibility, and financial performance, and a positive relationship between environmental integrity, often framed as corporate environmental management, and financial performance. The motivation for such studies, however, is often to establish a business case for social and environmental responsibility. There have been no efforts, to our knowledge, to assess whether the principles of sustainable development are relevant to the microcosm of corporations. In fact, only a few researchers even acknowledge the recursive relationships between CEP, CSP and CFP (Bansal, 2005; McGuire, Sundgren, & Schneeweis, 1988; Waddock & Graves, 1997), and even fewer researchers discriminate between the differential effects of social and environmental issues.

In this paper, we argue that the three pillars of sustainable development do apply to the firm level of analysis – not because of the interdependence of the three pillars at the firm level of analysis, but because of the interaction of the three pillars between the firm level of analysis and the institutional level of analysis. The institutional environment values sustainable development, and in doing so, provides the context for firms to develop resources and capabilities to capitalize on this environment. Those firms that are able to achieve the greatest alignment in these three pillars are then able to also shape the institutional environment, resulting in a virtuous cycle of CEP, CSP, and CFP. An important byproduct of this research is that we also focused on the discriminant validity between CSP and CEP, which has also been absent in prior research.

## **DEFINITIONS**

Corporate Financial Performance (CFP): *the value that firms add to shareholders.*

Corporate Environmental Performance (CEP): *an organization's commitment and contribution to reducing the negative impact that its operation may have on the biophysical environment, and/or facilitating any effort by others toward environmental protection.*

Corporate Social Performance (CSP): *an organization's commitment and contribution, beyond its profit generating role for shareholders, to creating and fairly distributing value among its stakeholders with intrinsic claims, and ameliorating societal problems.*

## **HYPOTHESIS**

*H1: Corporate environmental performance (CEP), social performance (CSP) and financial performance (CFP) are situated in a social system of simultaneous mutual benefits, where each of them reinforces the other two.*

*H2: Corporate environmental performance (CEP) is more positively associated with accounting based measures of corporate financial performance than with market based measures of financial performance.*

*H3: Corporate social performance (CSP) is more positively associated with market based measures of corporate financial performance than with accounting based measures of financial performance.*

*H4: The alignment between CSP, CEP, and CFP will be increasingly stronger over time.*

## **DATA AND SAMPLE**

The sample of firms was extracted from social ratings data published by Kinder, Lydenberg, and Domini & Co. (KLD), which has been used extensively by researchers of CSP. KLD has published summary spreadsheets that provide social performance evaluations of approximately 650 publicly listed U.S. firms, including S&P 500 and Domini 400 social index firms, since 1991. To create a time series cross-sectional data set, we imposed a number of screens. First, we excluded firms with less than four years of data. Second, we only included firms for which there was matching financial data from the Compustat database and market data from the CRSP database.

Our final sample included 738 firms with data from 1991 through 2003, resulting in 9594 observations. This large data set has the most comprehensive dataset of which we are aware, which allows us to test the hypothesized relationships in a dynamic system. In addition, we employed an extensive process to validate the measurement of major constructs such as CSP and CEP. Primary data were collected from a survey on 201 business students to identify valid formative items for these constructs based on original KLD data.

## **ANALYTICAL METHODS**

**Hypothesis 1 and three stage least squares.** Hypothesis 1 was tested using three-stage least-squares (3SLS) (Zellner & Theil, 1962). Specifically, we entered a set of structural equations simultaneously into the same model, where each dependent variable served as an independent variable in the other two equations.

**Hypotheses 2 and 3 and two stage least squares.** To test the relationship between CSP and CFP, we applied a preprogrammed panel data two-stage least-squares

(2SLS) procedure. This procedure allows us to control for endogeneity by using instrumental variables (Baltagi, 2001).

**Hypothesis 4 and latent growth modeling.** The latent growth modeling technique available in Structural Equation Modeling will be used to test the strength of sustainability over time.

## **RESULTS**

Hypothesis 1 predicted that the three performance variables, CEP, CSP and CFP, were part of a social system that were simultaneously determined. The results provide partial support to this hypothesis; CEP and CSP reinforce each other, but CSP significantly advances market CFP only.

H2 is not supported, where CEP is not associated with any of the CFP measures, after controlling for endogeneity. In respect to H3, CSP has a significant positive effect only on stock market performance, supporting this hypothesis. H4 is supported as well.