Journal of Business Research 68 (2015) 2232–2236

Contents lists available at ScienceDirect

Journal of Business Research

The effects of corporate social responsibility on brand equity and firm performance☆

David Han-Min Wang [a,*], Pei-Hua Chen [b], Tiffany Hui-Kuang Yu [c], Chih-Yi Hsiao [b]

[a] Department of Accounting, Feng Chia University, 100 Wenhwa Rd., Seatwen, Taichung 40724, Taiwan
[b] Department of Management Science, National Chiao Tung University, Hsinchu, Taiwan
[c] Department of Public Finance, Feng Chia University, Taichung, Taiwan

ARTICLE INFO

Article history:
Received 1 September 2014
Received in revised form 1 March 2015
Accepted 1 April 2015
Available online 15 June 2015

Keywords:
Brand equity
Corporate social responsibility
Quantile regression
Structural equation modeling

ABSTRACT

Over the last decade, educators, administrators, and policy makers increasingly focus on corporate social responsibility. However, no studies examine the relationships among corporate social responsibility, brand equity, and firm performance. This study uses quantile regression and structural equation modeling to explore the causal linkages among these factors in Taiwanese high-tech companies over the period 2010–2013.
The results of quantile regression analysis show that the economic dimension of corporate social responsibility and the prestige driver of brand equity are positive and significant for all the quantiles. The brand extension driver provides a significant positive effect at the higher quantiles of firm performance. However, the findings indicate a significant negative effect on firm performance for the brand loyalty driver. The findings of structural equation modeling suggest that corporate social responsibility and brand equity positively affect firm performance. This study provides useful insights on brand equity and corporate social responsibility.

1. Introduction

In today's global world, corporate social responsibility (CSR) increases public demand of firms' transparency regarding disclosure of information to meet stakeholders' expectations. Firms that engage in business with a large public-interest component commit themselves to promoting business activities that bring economic, social, and environmental benefits to the society.

Previous research suggests that CSR brings about employee's ethical behaviors, which in turn enhance organizational efficiency (Laczniak & Murphy, 1991; Preston & O'Bannon, 1997; Sims & Kroeck, 1994). Maignan, Ferrell, and Ferrell (2005) find that firms fulfill their CSR obligations to improve corporate image and strengthen marketing tactics effects, thus positively affecting firm performance. Torres, Bijmolt, Tribó, and Verhoef (2012) find that CSR toward all stakeholders positively affects brand equity.

Lai, Chiu, Yang, and Pai (2010) investigate the effects of CSR on brand performance in business-to-business (B2B) markets. The authors apply the qualitative method of questionnaire survey to a sample of Taiwan manufacturing and service companies. Results show that CSR positively affects industrial brand equity and brand performance. However, the qualitative method that study uses may suffer from selection biases and subjective measures vulnerability.

No prior quantitative research explores the relationships among corporate social responsibility, brand equity, and firm performance. Most studies use the ordinary least squares (OLS) regression model to examine the relationships among these factors. This study uses quantile regression, in addition to the OLS model, to examine the heterogeneous effects of CSR and brand equity on firm performance in Taiwan's high-tech industries over the period 2010–2013. Conversely to OLS regression, the quantile regression analysis allows researchers to estimate covariate effects at different points of the distribution. Specifically, quantile regression analysis allows determining whether the factors' elasticities are cross-sectionally different. Furthermore, this study adopts structural equation modeling (SEM) to explore the causal linkages among corporate social responsibility, brand equity, and firm performance. Corporate managers could use the findings to develop effective business strategies.

The remainder of the study proceeds as follows. Section 2: literature review; Section 3: the data and research methods; Section 4: results; and Section 5: discussion and conclusion.

2. Literature review

Lussier (2000) and Ferrell and Geoffrey (2000) define CSR as the corporate behavior in relation to business ethics' fulfillment that includes corporate obligations and commitments to society. Daft (2003) and Vogel (2004) also suggest that CSR is an extension of business ethics and management morality that should not only meet legal regulations, but also respond to public pressure and social expectation. Therefore, CSR could deal with business ethics' principles to maintain the benefits of all company stakeholders.

☆ The authors thank the reviewers for their careful reading and suggestions.
* Corresponding author.
E-mail addresses: hmwang@fcu.edu.tw (D.H.-M. Wang), paulachen@g2.nctu.edu.tw (P.-H. Chen), hkyu@fcu.edu.tw (T.H.-K. Yu), lisahsiaomail@gmail.com (C.-Y. Hsiao).

http://dx.doi.org/10.1016/j.jbusres.2015.06.003
0148-2963/

Researchers find CSR implementation's effect on firm performance interesting because people perceive firms fulfilling their CSR as socially responsible. Many studies also argue that fulfilling CSR is equivalent to making a socially responsible investment, thus enhancing firm performance (Chu & Yang, 2009; Griffin & Mahon, 1997; Peters & Mullen, 2009; Preston & O'Bannon, 1997; Verschoor, 1998; Wang, Hsu, & Chang, 2012). Laczniak and Murphy (1991) claim that a firm that commits itself to developing the culture of business ethics would avoid incurring individual, organizational, and social costs, thus leading to a better firm performance. Sims and Kroeck (1994) suggest that a firm following the principles of business ethics could enhance employees' satisfaction and corporate identity, both of which are beneficial to organizational performance. Preston and O'Bannon (1997) demonstrate that socially responsible firms build a more complete managerial system, which could improve firm performance. Furthermore, Verschoor (1998) examines the financial data of the S&P 500 firms and concludes that CSR has a causal relationship with firm performance.

Several studies on CSR (Chu & Yang, 2009; Maignan & Ferrell, 2004; Maignan et al., 2005) examine CSR's linkage with business marketing, suggesting that when a firm fulfills its CSR, that firm greatly strengthens corporate image, thus improving firm performance. Both Maignan and Ferrell (2004) and Maignan et al. (2005) argue that CSR fulfillment would enhance marketing advantages and reinforce stakeholders' corporate identity. Lai et al. (2010) investigate CSR's effects on brand performance in business-to-business (B2B) markets. The authors find that CSR positively affects industrial brand equity and brand performance. Torres et al. (2012) use a panel data comprising 57 global brands original of 10 countries for the period 2002–2007 and find that CSR toward all stakeholders positively affects brand equity. Sweetin, Knowles, Summey, and McQueen (2013) show that consumers dealing with socially irresponsible corporate brands are more likely to punish and less likely to reward than consumers in the other three treatment conditions.

In sum, the literature review shows that a positive correlation exists among CSR, brand equity and firm performance. Building on the literature review, this study provides testable hypotheses that a causal relationship exists among corporate social responsibility, brand equity, and firm performance.

3. Methods

This study follows Wang et al. (2012) to construct the CSR variable, which uses the conceptual scheme of Dow Jones Sustainability Index (DJSI). The CSR variables comprise economic, social, environmental, and corporate governance dimensions. The economic dimension consists of corporate contributions to stockholders and creditors. The social dimension comprises corporate contributions to the government, employees, and suppliers. Two variables form the environmental dimension: the number of penalty notices and the amount of fines owing to environmental hazards. The corporate governance dimension consists of board size and external share ownership, which represent internal governance and external governance, respectively. Because no previous research suggests the weighting method, this study uses an equal weighting scheme in the measurement of the overall CSR index.

The computation formula for the nine measures, four dimensions, and the combined index of CSR appears below:

(1) Contribution to stockholders (*SHCI*)
SHCI is the percentile ranking of earnings per share (*EPS*):

$$SHCI = Score(EPS) = Score\left[\frac{NI - PSD}{OS}\right]$$

where *Score* represents the percentile ranking of *EPS*, *EPS* is earning per share, *NI* is net profit after tax, *PSD* is dividend of preferred stocks, and *OS* is the weighted average outstanding shares of common stock.

(2) Contribution to creditors (*CCI*)
CCI is the result of the percentile ranking of total interest expense (*IE*) scaled by total debt (*Debt*):

$$CCI = Score(IER) = Score\left[\frac{IE}{Debt}\right]$$

where *IER* is the ratio of total interest expense, *IE*, to total debt, *Debt*.

(3) Contribution to government (*GCI*)
GCI is the percentile ranking of total tax expense scaled by sales revenues:

$$GCI = Score(TER) = Score\left[\frac{TE}{Sales}\right]$$

where *TER* is the ratio of total tax expense, *TE*, to company sales, *Sales*.

(4) Contribution to employees (*ECI*)
ECI is the percentile ranking of total salary and benefits expenses per employee scaled by sales:

$$ECI = Score(ASER) = Score\left[\frac{SE/EN}{Sales}\right]$$

where *ASER* stands for salary and benefit expenses, *SE*, divided by the number of employees, *EN*, scaled by sales.

(5) Contribution to suppliers (*SCI*)
SCI is the percentile ranking of annual purchases scaled by sales:

$$SCI = Score(PCR) = Score\left[\frac{PC}{Sales}\right]$$

where *PCR* denotes the ratio of annual purchases, *PC*, to sales.

(6) Environmental variable 1 (*EDI*)
EDI is the inverse percentile ranking of the number of penalty notices (*ED*) owing to environmental hazards in a year scaled by the industry average (*IED*). This means that the less damage a firm causes to environment, the higher the *EDI* is.

$$EDI = Score'\left[\frac{ED}{IED}\right]$$

where *Score′* stands for the inverse percentile ranking of the number of times (*ED*) that a firm causes environmental hazards in a year, scaled by the industry average (*IED*).

(7) Environmental variable 2 (*FED*)
FED is the inverse percentile ranking of the dollar amount that a firm pays in fines to the environment protection agency for causing environmental hazard. Similar to *EDI*, *FED* increases as the dollar amount of fines (*EF*) gets smaller.

$$FED = Score'\left[\frac{EF}{IEF}\right]$$

where *Score′* stands for the inverse percentile ranking of the dollar amount of fines (*EF*) scaled by the industry average (*IEF*).

(8) Board size (*BOS*)
BOS is the percentile ranking of the natural logarithm of the total number of board members denoted by *BM*.

$$BOS = Score(BM)$$

(9) External share ownership (*ESO*)
ESO is the percentile ranking of the sum of all external shareholdings with large equity holdings (greater than 5%).

$$ESO = Score\left[\frac{EXT}{TCC}\right]$$