

RESEARCH AND DEVELOPMENT, FIRM SIZE AND CORPORATE SOCIAL RESPONSIBILITY-EVIDENCE FROM US-BASED and JAPAN-BASED FIRMS

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ABSTRACT

Corporate social responsibility (CSR) issues have received academic interests in the last two decades. The present research argues that there exist curvilinear relationships between firm-specific factors (R&D and firm size in this study) and CSR. Hypotheses are tested by a sample consisting of 79 US-based and Japan-based firms listed in Dow Jones Sustainability Index (DJSI) during the period from 2004 to 2011. For the whole sample, empirical findings show that there is U-shape relationship between R&D intensity and CSR, while an inverted U-shape relationship between firm size and CSR. Notably, we found very different quadric relationships between R&D intensity, firm size and CSR in the subsamples of US-based and Japan-based firms.

Keywords: corporate social responsibility; R&D; firm size; resource-based view; stakeholder theory

INTRODUCTION

Although there are a number of empirical studies focuses on the impact of firm-specific factors such as firm size [e.g. 3] and R&D intensity [e.g. 5] on a firms' CSR engagement, few of them have paid attention to the non-linear relationship between these variables [e.g. 1]. To fill this gap, this study aims to explore the nonlinear links between CSR and two firm-level variables, namely, firm size and R&D intensity.

LITERATURE REVIEW AND HYPOTHESES

R&D intensity and CSR

There are two competing logics for R&D intensity-CSR relationship. First, [5] conclude that high R&D intensity leads to product and process innovations which then lead to CSR-related process and products. Second, depending on the industry or the product life-cycle stage of the industry, employing CSR as a tool for differentiation strategy is limited [4]. This indicates that given limited resources firms may consider CSR as a competing alternative to its R&D projects. Thus, we propose a curvilinear relationship between R&D and CSR as follows:

H1: *R&D will be positively associated with corporate social responsibility, but this positive effect will weaken after reaching certain level of R&D investment.*

Firm Size and CSR

Large firms are more likely to create correspondingly larger social problems because of the sheer scale and prominence of their activities. Previous researchers confirm that larger firms are subject to public scrutiny, thereby raising the likelihood of such firms acting in more socially responsible ways [2]. On

the other hand, small firms might be equally motivated to pursue CSR initiatives. The small and medium-sized enterprises make up 90% of the world business, and many firms still involve in CSR in their operations. Building on these findings, [6] proposed a U-shaped nonlinear relationship between firm size and CSR. Thus we propose our second hypothesis as follows:

H2: *The firm size will be positively associated with corporate social responsibility, and this positive relationship will weaken after firms reach a certain threshold size.*

METHODOLOGY AND ANALYSES

Methodology

Our sample comprises 79 large corporations from US and Japan that are included in at least one year of 2004-2011 DJSI indexes. All the financial data was collected from S&P's COMPUSTAT database and the logit regression model to panel data in STATA 12 was used to test the proposed hypotheses.

DISCUSSION AND CONCLUDING REMARKS

The present study attempts to fill the theoretical gap in the literature by exploring the curvilinear relationship between two firm level variables (R&D intensity and firm size) and a firm's CSR engagement, while previous researches focus on the linear relationships. The current research provides empirical support for H2 regarding the curvilinear relationship between tangible resources (firm size) and CSR. However, H1 regarding the curvilinear relationship between intangible resources (R&D) and CSR is not supported, although an opposite curvilinear relationship is found. This study has several limitations. First, the firms in our sample are all large corporations from several industries, thus it may not effectively reflect the curvilinear link between firm size and CSR. Second, the research sample only incorporates US and Japanese firms which are from developed economies. We did not control the institutional characteristics that may also lead to biased conclusions drawn from the current study. Third, although DJSI is a recognized CSR ranking index, the binary nature of our dependent variable might be another limitation. Last, it is possible that certain firm-level resources are related to the certain elements of CSR. For example, R&D might be more relevant to environmental protection than other dimensions of CSR.

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