Determinates of Executive Compensation: A Hierarchical Linear Modeling Approach

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ABSTRACT

Executive compensation continues to grow at a time when the rest of America is hurting. Why is this so? Many business pundits believe that there is a total disconnect between executive compensation and company performance. The purpose of this paper is to illustrate how hierarchical modeling can be used to better understand the relationship between executive compensation and organizational efficacy. An analysis of S&P1500 firms for 2004 was performed using a two level hierarchical design. The results show that a number of manager and firm characteristics affect total compensation including executive age, revenues and Tobin’s Q. These results can be used by compensation committees to better align executive pay with firm performance and prevailing social norms.

Keywords: Diversity, Executive Compensation, Firm Performance, Hierarchical Linear Modeling, Tobin’s Q

INTRODUCTION

The ongoing financial and economic crisis throughout the industrialized world has spotlighted a number of significant deficiencies in corporate governance and management. For example, questionable decision-making and execution has led the United States automotive industry to the brink of extinction. Similar patterns, if not worse, have emerged in many of the staid financial investment houses. Nevertheless, one familiar theme appears to be excessive executive compensation at a time when the rest of America is hurting. The Zeitgeist throughout most of America is that compensation should be tied to performance. The challenge is how to connect individual actions at one level with overall organizational performance at another level. Management teams are hierarchical in nature. Individual managers produce results that are translated into overall corporate performance.

The vast majority of executive compensation studies to date have not taken into account the hierarchical dimension of organizations. Hi-
erarchical linear modeling (HLM), also known as multi-level or nested analysis, is a relatively new analytical process, which unlike standard regression, allows for the analysis of variability in outcome variables at multiple levels. HLM has been used extensively in educational research where, for example, pupils are nested into classes, classes are nested into schools, and schools are nested into school districts. In the present study a two level model was employed where individual managers are nested into firms. The purpose of this article is to report the results of an HLM analysis of executive compensation based on S&P1500 data for 2004. This study extends the normal examination of executive pay and firm performance to include various firm level and individual level factors on senior management compensation. This paper is organized as follows: 1) a review of the relevant literature and a brief overview of the HLM approach used in this study; 2) a HLM analysis of data derived from the S&P1500; 3) a comparison of the HLM results with those derived using OLS; and 4) a discussion on how the modeling approach can be used in designing equitable executive compensation packages.

LITERATURE REVIEW AND BACKGROUND

The relationship between executive pay and firm performance has been extensively studied (Hallock, 2008; Petra, 2008; Devers, 2007; Conyon, 2006; Erturk, 2005; Core, 2003). The general consensus is that the determinants of executive compensation are numerous and complex. For example, Hallock discovered that there is a stronger relationship between pay and performance with conditionally higher paid CEOs compared with conditionally lower paid CEOs. Furthermore, Petra found that the size and makeup for the board seems to have an impact on executive compensation. Specifically, this study revealed that CEOs are more likely to receive lower levels of performance-based incentives when the majority of the compensation committee members serve on less than three other boards, and when the size of the board is less than or equal to nine members. Recent evidence also indicates that management demographics like age and education influence decision making and thus firm performance (Goll, 2005). Additionally, the level of education has been found to have a positive effect on organizational innovation and performance (Carmen, 2005). The combination of both demographic and environmental factors provides new insights into the relationship between executive compensation and firm performance.

Agency theory is often used to explain the relationship between executive pay and firm performance (Chi, 2010). The theory suggests that the motivation of the CEO can be aligned with the preferences of shareholders through a well designed compensation package. For example, senior managers who are compensated in stock options have a financial incentive to focus on increasing the market value of the firm. Several studies have shown that executive compensation is impacted by a number of factors including the manner in which both performance and compensation are measured (Baker, 2003; Cordeiro, 2003; Tosi, 2000). The Tosi analysis indicated that firm performance explained less than five percent while firm size accounts for more than 40 percent of the variance in executive compensation. Cordeiro’s study showed that governance, ownership, diversity and risk are useful supplements to the traditional factors of firm size and performance used in explaining executive compensation. Baker found that firm size has different effects on different measures of CEO incentives.

The primary hypotheses for this study, based on the literature review are as follows:

H1: Firm size is correlated to total compensation
H2: Firm performance is correlated to total compensation
H3: Industry sector is correlated to total compensation
H4: Executive’s age is correlated to total compensation
H5: Executive’s tenure is correlated to total compensation
Risk Management: Strengthening Knowledge Management
[www.igi-global.com/article/risk-management-strengthening-knowledge-management/2730?camid=4v1a](www.igi-global.com/article/risk-management-strengthening-knowledge-management/2730?camid=4v1a)

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