

## INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

**The quality of this reproduction is dependent upon the quality of the copy submitted.** Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning  
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA

**UMI**<sup>®</sup>  
800-521-0600



## **NOTE TO USERS**

**This reproduction is the best copy available**

**UMI**



THE EFFECTS OF FIRM STRATEGY ON THE LEVEL AND STRUCTURE  
OF CEO COMPENSATION:  
EVIDENCE FROM THE CANADIAN METAL-MINING INDUSTRY

By

PARBUDYAL SINGH, B.A., M.B.A.

A Dissertation in Partial Fulfilment of the Requirements for the Degree  
Doctor of Philosophy

Faculty of Business, McMaster University

DOCTOR OF PHILOSOPHY (1988)  
(Business Administration)

McMaster University  
Hamilton, Ontario

TITLE: The Effects of Firm Strategy on the Level and Structure of CEO Compensation:  
Evidence from the Canadian metal mining industry

AUTHOR: Parbudyal Singh, B.A. (University of Guyana); M.B.A. (University of Windsor)

SUPERVISOR: Dr. Naresh C. Agarwal

NUMBER OF PAGES: 120

## ABSTRACT

Executive compensation has attracted much attention over the past few decades. However, a careful review of the literature reveals that there is a need for more empirical studies using different theoretical perspectives. In this thesis, we add theoretical insights from strategic management and analyze some of the determinants of executive compensation within a multidisciplinary framework. Using data from a relatively large sample of Canadian-based metal mining firms, we examine and discuss the effects of firm strategy on executive compensation. Areas for future research are also discussed.

## Acknowledgements

I would like to express my most profound gratitude to a number of people who assisted me with this thesis: Dr. Naresh Agarwal (supervisor), Dr. Rick Hackett and Dr. John Medcof (committee members), for their constant guidance and advice. Dr. Scott Edgett, Dr. Isik Zeytinoglu, Dr. Willi Wiesner, Dr. Christopher Bart, Dr. Jang Singh (University of Windsor), Dr. Gangaram Singh (Case Western School of Business, Cleveland) - all for reviewing an initial draft of the proposal and/or thesis and making extremely useful suggestions for improvement; all faculty members and PhD students in the Human Resources and Management area. MGD School of Business, for their encouragement; Librarians and Resource personnel at the Metro Toronto Reference Library, McMaster's Innis and Mills libraries and Micromedia - for research leads and assistance; and finally, to my wife for her encouragement and support, and for having the guts to live with a "budding academic."

Of course, all the errors are my responsibility.



## TABLE OF CONTENTS

Abstract .....	ii
Acknowledgements .....	iii
List of Tables .....	iv
List of Illustrations .....	vi
I. Introduction .....	1
II. Executive Compensation: Definition, Importance and Key Characteristics ...	6
III. A Review of the Literature .....	12
I) Economics and Industrial Relations .....	13
ii) The Behavioural Sciences .....	20
iii) Political Science and Law .....	26
iv) Accounting and Finance .....	31
IV. A Focus on Strategic Management/Business Policy .....	34
V. Theoretical Framework and Hypotheses .....	44
VI. Methodology .....	56
VII. Results .....	75
VIII. Discussion .....	91
IX. Conclusions .....	102
Appendices .....	103
References .....	106

## TABLES

Table 1	Metal Price Record .....	58
Table 2	Strategic Archetypes derived from Cluster Analysis .....	69
Table 3	Comparison of Classificatory Variables .....	70
Table 4	Descriptive Statistics .....	75
Table 5	Differences in Research Variables .....	77
Table 6	Age Distribution of Prospectors and Defenders .....	78
Table 7	Correlation Coefficients .....	79
Table 8	Regression Results: Salary as dependent variable .....	81
Table 9	Regression results: Fixed annual compensation as dependent variable..	82
Table 10	Regression results: Annual Bonus as dependent variable .....	83
Table 11	Regression results: Total short-term cash compensation as dependent variable .....	84
Table 12	Regression results: Exercised options as dependent variable .....	85
Table 13	Regression results: Fixed LTIs as dependent variable .....	86
Table 14	Regression results: Total compensation as dependent variable .....	87

## ILLUSTRATIONS

Figure 1	Theoretical framework .....	47
----------	-----------------------------	----

## I Introduction

"What makes money so fascinating a subject, after all, is the magnificent lack of justice with which it gets distributed. Salaries constitute comedy as the dictionary defines it: instances of "incongruity," "exaggeration carried to the point of the ridiculous"...Money in terms of being "deserved" or even "earned," is a treacherous subject. Zeus is known to have turned himself into a shower of gold, and probably this is the safest way to think of money - as a kind of meteorological accident which falls, like other sorts of rain, upon the just and unjust" (Maddocks, 1979, p.1-2).

Of all human resource issues, probably none has attracted as much attention across different fields as executive compensation (Gomez-Mejia, 1994), with researchers from a wide range of disciplines contributing knowledge to this fascinating and intriguing subject. A parallel fascination exists in the popular press, as evidenced by regular coverage and annual reports in *Fortune*, *Canadian Business*, *Business Week*, and *Forbes*. It is not difficult to see why executive compensation has generated such spellbinding interest. A top executive position represents an alluring goal in terms of money, power and prestige to almost any motivated person working in business. Of the one million taxpayers with incomes in the top 1 percent in the United States in 1990, approximately three hundred and ten thousand, or 31 percent, were business leaders, with the select group of chief executives heading Fortune 500 companies averaging salaries of \$1.4 million per year, plus another \$1.4 million in stock options and incentives (Bok, 1993; Crystal, 1991).

The high visibility of executive compensation and relatively easy access to archival data have also led to close scrutiny and a resultant large body of theoretical and empirical research on this topic. A careful review of the major studies in the literature reveals that much of the research has been conducted in economics and industrial relations (Finkelstein & Hambrick, 1988; 1989), where the focus is on studying the effects of firm performance and firm size on

executive compensation. Over time, many related studies have been conducted in other disciplines, including sociology (Simon, 1957; Blau, 1970; O'Reilly, Main & Crystal, 1988; Ratcliff, 1980); psychology (Adams, 1963; Andrews & Henry, 1963; Lawler & Porter, 1963; Foster, 1980; Miller, 1995); and political science (Steers & Ungson, 1984; Weick, 1979; Westphal & Zajac, 1994). In these studies, the focus shifts to more behavioural-based theories and explanatory variables, such as power and human capital. Nevertheless, there are many aspects of executive compensation, such as its relationship with performance, that continue to baffle researchers. As Gomez-Mejia (1994, p. 201) concluded in a review article, "...it is amazing how little we know about executive pay in spite of the massive volume of empirical work available on this topic." As such, there is still need for additional insights and new perspectives from which the determinants of executive compensation should be analyzed.

Recently, a number of studies, emanating from the strategic management/business policy discipline, have begun to explore the effects of an organization's strategy on executive compensation (see for example, Kerr, 1985; Rajagopalan & Finkelstein, 1992; Veliyath, Ferris & Ramaswamy, 1994). A major underlying preoccupation of many of these studies is the fact that despite broadly similar characteristics (such as size and performance), executives sometimes earn vastly different compensation across organizations. It is argued that these firms employ different strategies, which imply different compensable behaviours such as risk-taking, creativity and innovativeness. Despite a general belief that organizational strategy helps to determine executive compensation, only a relatively small number of studies have empirically examined this relationship (e.g., Balkin & Gomez-Mejia, 1990; Kerr, 1985; Murthy & Salter, 1975), and only a few of these utilize the well-established Miles and Snow

(1978) typology and instrument to classify firms according to their strategy (e.g., Rajagopalan & Finkelstein, 1992; Veliyath, Ferris & Ramaswamy, 1994)<sup>1</sup>. However, studies in this latter group base their analyses on relatively small samples of U.S. firms (none of the studies reviewed in this group exceeded a sample of 50 firms)<sup>2</sup>. Thus, there is a need for studies with larger samples.

There is also a need for research that goes beyond the general effects of strategy on the levels of executive compensation to encompass structural/design issues as well. Much of the extant research addresses the strategic determinants of overall levels of executive compensation but not structural issues. As one recent overview stated, “the authors of much of the recent literature on compensation recognize that firm strategy may influence pay design. However, there has been very little empirical research on how organizational strategy affects CEO pay” (Barkema and Gomez-Mejia, 1998, p.139). In fact, there is a paucity of empirical research on how the generally studied determinants affect CEO compensation structure. That is, the effects of firm size and firm performance on CEO compensation structure (such as salary and

---

<sup>1</sup>The Miles and Snow (1978) instrument used to classify firm strategy has been found to be a valid and reliable measure (see for example, James and Hatten, 1995). Miles and Snow (1978) categorized organizations into four groups based mainly on the rate of change in the organizational and product domains. At one end of the spectrum, Prospectors usually pioneer product and market/spatial development, while Defenders, at the other end, engage in little or no product or market/spatial development. Analysers are an intermediate type and Reactors follow no coherent strategy. While there are other typologies used to classify organizational strategies (e.g., Porter, 1980; Rumelt, 1974), it is generally contended that the Miles and Snow typology is best suited to explain compensation system differences (Caroll, 1987; Gomez-Mejia, 1994). See Appendix 1 for the original instrument.

<sup>2</sup>The variables examined and methodology employed are also different from that used in this thesis.

other short-term versus stock-based/long-term compensation) are rarely studied (a notable exception is Rajagopalan, 1997).

Furthermore, almost all of the studies on executive compensation analyze U.S.-based companies and data. As Barkema and Gomez-Mejia (1998, pp.142-143) note, "previous empirical research has overwhelmingly used U.S. data sources. However, data on other countries represent a rich, virtually untapped, source of increased understanding of what determines executive pay...we believe such international research is a particularly exciting avenue for further research." There are reasons to believe that management practices, including executive compensation, differ across countries. Some scholars suggest that management policies and practices are culture-bound (see for example, Hofstede, 1980; d'Iribarne, 1989) and exhibit values and norms of their societies. This argument can be extended to executive compensation issues. As Pennings (1993, p.264) contends,

"...these issues acquire extra significance when we consider executive reward systems in different societies. Organizations are institutions that exhibit the values and norms of their societies...What others...have called institutionalization is merely a statement about an organization's quest for legitimacy that hinges on its environment's expectations. In this vein, publicized executive compensation systems among US firms are symbolic messages that signify compliance with sound management practices and also communicate the contractual value of 'one gets what one deserves'".

There is evidence which suggest that despite broadly similar economic, legal, social and cultural attributes (such as a largely Anglo-Saxon heritage, language, etc.), management and executive compensation practices differ when Canada is compared with the United States (Misutka, 1992; Pallet and Trepanier, 1992; McGugan, 1995; Magnan, St-Onge & Thorne, 1995). For instance, a recent Towers and Perrin survey found that while US executives were, on average, the highest paid in the world, their Canadian counterparts were ranked eleventh

(Crawford, 1994). As such, studies using firms and data from Canada will help to guide generalizations of results from U.S.-based research. Such studies are practically non-existent<sup>3</sup>. Following from the above, *the main objective of this study is to examine and analyze the effects of firm strategy on the level and structure of executive compensation using data drawn from Canadian firms, taking into account traditionally investigated variables such as firm size and firm performance.*

The thesis is divided into six main sections. Following this introduction, Section II offers relevant background information on executive compensation: its definition, importance, and key characteristics. This lays the foundation for the literature review (Section III) which discusses the theoretical and empirical contributions from the various disciplines to this topic. In Section IV, the strategic management/business policy literature on the organizational strategy-executive compensation relationship is examined in detail. Section V outlines the theoretical framework and hypotheses to be used in the study and Section VI explains the methodology to test these hypotheses. The results are then outlined (Section VII) and discussed, including limitations and recommendations for future research (Section VIII). The thesis concludes with a general summary (Section IX).

---

<sup>3</sup>The study by Magnan, et al. (1995) did compare U.S. and Canadian executive pay; the data for the Canadian firms were drawn from U.S. sources.



## **II Executive Compensation: Definition, Importance and Key Characteristics**

Executive compensation is a complex field of study which has been studied from a number of perspectives and disciplines. Terminologies and methods vary across studies and this can easily confuse those who are not intimately familiar with the field. As such, the provision of general knowledge on what is executive compensation, its importance, and key characteristics, is an essential step towards a better comprehension of the theoretical and empirical studies on this topic.

Definition: Compensation can be defined as "all forms of financial returns and tangible services and benefits employees receive as part of an employment relationship" (Milkovich & Newman, 1996, p.5). This definition includes all compensation received directly in the form of money or indirectly through benefits and services. It should be noted that alternative or intrinsic or non-monetary rewards, such as recognition ceremonies and celebration of achievements, are excluded from this definition even though they may be thought of as part of an organization's total reward system. As Agarwal (1998) notes, these intrinsic rewards are usually not studied for a number of reasons. Among others, such reasons include the fact that compensation rewards form the major portion of a typical organization's total operating costs, intrinsic and extrinsic rewards may be closely tied together, and that intrinsic rewards themselves may not be sufficient to generate and sustain high levels of desired employee behaviours.

Legally, an executive position is defined by the U.S. Fair Labor Standards Act as a job exempt from overtime pay where the job holder supervises at least two full-time subordinates in a position customarily requiring the exercise of independent judgement and discretion

(Ellig, 1982). However, such a definition may include jobs even at a low level supervisory position. In Canada, the Ontario Securities Act (1993) defines an “executive officer” as any person who performs a policy making role in respect of the organization. The determination of who performs a policy making function is made by respective organizations based on their own particular circumstances. As a result of these somewhat vague definitions, many empirical studies usually state explicitly, when operationalizing the variables, which management positions are included in the analyses<sup>4</sup>. In this study, executive compensation is defined as all direct monetary compensation (salaries, bonuses, merit pay and stock options), as well as indirect compensation such as benefits and services (e.g., pensions and other benefits) an organization's top managers receive as part of an employment relationship<sup>5</sup>.

Importance: The study of executive compensation became important with the advent of the large firm. Early researchers, of the days when the owner-entrepreneur was the dominant figure on the industrial scene, did not have to do much theorizing about executive compensation; executive compensation, in these typically small firms, was simply the profits remaining to an owner after workers' wages and other expenses had been deducted from revenues. However, with the separation of ownership from control resulting from the rise of the large firm, executive compensation became increasingly more important in compensation

---

<sup>4</sup>Many empirical studies analyze the data of the top five managers of an organization due mainly to the fact that organizations in the U.S. (and Ontario - if they earn more than \$100,000 per year) are required by law to provide compensation data for these executives.

<sup>5</sup>This broad definition is provided so that the reader will understand its usage in the literature review; however, executive compensation is later in this thesis operationalized in terms of CEO total compensation, and the individual components of the compensation package.

theory and administration.

Executive compensation in contemporary organizations is important for a number of reasons. Firstly, executives are the main strategists of organizations and as a result, their compensation packages may have a direct bearing on the business decisions or strategic choices crucial to an organization's future success (Gomez-Mejia, 1994). Executives may be able to use their privileged positions to design their compensation packages with self-serving motives in mind. For instance, organizational strategies to increase the firm size, or management layers, may be implemented if this leads to lower risk and more prestige and pay for executives (Agarwal, 1974, 1981; Dyl, 1988; Kroll, Simmons & Wright, 1990). Further, defensive tactics such as the "golden parachute", which provides the executive with a substantial lump sum payment in the case of dismissal in a takeover, may reduce the implementation of strategies to fight such takeovers (Singh & Harianto, 1989).

Secondly, executive compensation is considered a critical component of an organization's compensation program since "it directly and indirectly drives both the formal compensation plan for the employees and how they perceive the reward's system link to their own compensation" (Gomez-Mejia & Welbourne, 1989, p.231). That is, executives, acting with their own interests in mind, can enforce their own priorities in managing subordinates. As a result, goals and objectives built into the executive compensation plan permeate the entire system (Gomez-Mejia & Welbourne, 1989; Salter, 1973). Behavioural scientists further argue that an organization's compensation strategy is of critical importance because the reward system signals the type of behaviour essential for organizational and personal success (Foster, 1980; Haire, Ghiselli & Porter, 1963; Lawler, 1990). As Agarwal (1998) states, reward

systems influence both membership (e.g., joining the organization, remaining in the organization, etc.) and performance behaviours (e.g., productivity, innovativeness, etc.); both types of behaviours are essential in an organization's attempt to achieve its objectives and realize its strategies.

Thirdly, executive compensation, especially that of the chief executive, can have a multiplier effect on the compensation structure of the entire organization. That is, higher pay at the top is associated with higher pay at lower levels (Mahoney, 1979; Milkovich & Newman, 1996; Simon, 1957). In fact, Mahoney (1979) found that differences in pay between managerial levels approximate 33 percent. Such a multiplier effect can have implications for the organization's various labour cost ratios<sup>6</sup>.

Finally, executive compensation can be controversial because of the large sums of money usually involved. Such controversy may arise from constant scrutiny by the press, shareholders, government, unions and other stakeholders, and this can have financial implications for an organization. For instance, the United Way saw its contributions fall as much as 10 percent in 1992 after the press reported that its president received an annual compensation package of \$463,000 plus perks such as first-class travel (Gomez-Mejia, 1994). Issues of fairness and equity continue to be of central importance as information is disseminated about the relatively low ratios of executive to worker pay in other countries (approx. 17 to 1 in Japan) and these figures are compared to that of North America, especially

---

<sup>6</sup>This paragraph implies that there is a "pull effect" on executive compensation; that is, higher pay at the top "pulls" pay at the bottom. However, a reverse "push effect" may also exist; that is, higher pay at lower levels (which senior executives can set) can also lead to more pay at higher levels.

the United States, where the ratio is about 100 to 1 (Bok, 1993; Deckop, 1987). Many studies also reveal that executive compensation sometimes increases despite financial losses incurred by their organizations (Crystal, 1992; Bok, 1993). As a result of these and other factors, executive compensation occupies, and will continue to occupy well into the future, a position of vital strategic importance to the organization.

Key Characteristics: Executive compensation displays certain distinctive characteristics that make it a complex phenomenon. These characteristics can be examined under two broad aspects: levels and design (Gomez-Mejia, 1994). The levels of executive compensation include salary, bonuses, equity-based pay, benefits and perquisites. Salaries and bonuses, relatively straightforward to calculate, are particularly amenable to empirical study. In fact, many researchers use the sum of salary and bonuses (cash compensation) as a proxy for total compensation since these two figures (i.e., cash compensation and total compensation) are highly correlated (Agarwal, 1981; Eaton & Rosen, 1983; Lewellen & Huntsman, 1970; Rajagopalan & Prescott, 1990). Equity-based pay consists of income derived from long-term incentive plans. Such plans provide executives with cash awards and equity in the firm. Although these incentives are "long-term", some organizations allow their executives to cash stocks whenever they feel is best for them. As a result, these incentives are difficult, if not impossible, to annualize (Agarwal, 1974; Finkelstein & Hambrick, 1988, 1989; Kerr & Bettis, 1987; Rajagopalan & Prescott, 1990). Benefits and perquisites are also difficult to quantify with a high degree of reliability. As such, empirical studies do not usually annualize this component of the package.

The **design or structure** (proportionate distribution of compensation across the various

components) of the executive compensation package is of crucial strategic importance to the organization. The package can be designed, for instance, to influence risk exposure and reflect status symbols, both of which have implications for organizational culture and strategy. That is, the proportion of total compensation attributed to each of the components can be varied so as to emphasize/influence the organization's strategic direction. The design also includes market considerations which can determine its competitiveness; that is, the package can lead, lag or match an organization's competitors.

In summary, an understanding of the definition, importance and key characteristics of executive compensation lays the groundwork for a better understanding of the theoretical and empirical research. While this section has deliberately simplified the issues, in reality they are much more complex and this has been the case ever since executive compensation became worthy of theoretical attention.

### III A Review of the Literature: Theory and Evidence

Over the years, there has been considerable theoretical and empirical research on executive compensation. To facilitate a "smooth" flow of the vast literature on this topic, this review separates the various theoretical and empirical studies in the field according to contributions from the major disciplines, viz., economics, industrial relations, sociology, psychology, political science, law, accounting, finance, management and strategic management/business policy. *Such a disciplinary-focussed literature review allows for a chronological examination of the issues as the field/area of study evolved, thereby allowing for a better flow and understanding of this complex phenomenon.* It should be noted, however, that while this literature review attempts a neat separation of the issues and theories covered by these disciplines, in reality this is not the case<sup>7</sup>. Many of the issues are highly interrelated and are covered by a number of these disciplines. To make matters even more complex, some of the theories, such as agency theory, are utilized by more than one discipline. As a result of these interrelationships, several recent studies have attempted to integrate a variety of economic, behavioural and political factors in their approaches and analyses (e.g., Finkelstein & Hambrick, 1988, 1989; Fizek, Louie & Mentzer, 1990; Rajagopalan & Prescott, 1990).

It is also important to note that all the disciplines contributing to an understanding of executive compensation are of equal importance. However, this thesis will focus on the economics and management/strategic management perspectives for two reasons. Firstly, the economics discipline contributed most of the pioneering work in the field and as Finkelstein

---

<sup>7</sup>It is important to note as well that the sections are categorized according to the issues covered rather than the home disciplines of the researchers.

and Hambrick (1989, p.123) state, "although organization and strategy theorists have made periodic contributions,...the bulk of the work continues to be generated by economists..."

Economic studies thus laid the foundation and continue to contribute significantly to knowledge of the topic. Secondly, strategic management, though relatively recent, arguably has the greatest promise, partly as a result of its inter-disciplinary nature (Foulkes, 1991).

Further, the literature emanating from this discipline is given more detailed attention because it lays the basis for this thesis.

### **i) Economics and Industrial Relations**

Researchers in the economics discipline made some of the earliest contributions to executive labour market issues and "to date, the study of executive compensation has been largely the province of economists" (Finkelstein & Hambrick, 1988, p.543). Compensation studies in the economics discipline emphasize a market approach; that is, *ceteris paribus*, supply and demand forces determine compensation. These studies try to explain the differences among the prices or levels of compensation for various types of human services. As stated in the preceding section, early theorists did not have to deal with a professional executive class since the dominant figure on the industrial scene was the owner-entrepreneur. However, with the advent of the large firm and a consequent separation of ownership and control, theoretical and empirical studies in the economics discipline began to focus increasingly on executive compensation. These studies attempt to explain executive compensation from a number of theoretical perspectives, viz., marginal revenue product theory, human capital theory, managerialism and agency theory.



## Marginal Revenue Productivity and Human Capital Theory

Using the classical marginal revenue productivity (MRP) theory, early studies utilizing an economic framework contend that the services of the executive should be treated as any other factor or input of production. The price paid for executive services, according to MRP theory, is the intersection of supply and demand in the executive labour market which, in equilibrium, is equal to the marginal revenue product. This basic MRP theory was later extended by neo-classical economists, who argued that pay received by the executive will fall somewhere between the next best financial offer he or she would receive in the labour market and his or her marginal revenue productivity (Roberts, 1959). Closely related to MRP theory is human capital theory which focuses on individual contributions of the executive. Human capital theory posits that individual factors, especially the accumulated knowledge and skills of the executive, may explain compensation levels. That is, the amount of human capital possessed by executives influence their productivity, and consequently their compensation (Agarwal, 1981; Becker, 1964; Mincer, 1970).

Most of the early literature in the economics discipline focused on the effects of firm size and performance on an executive's MRP and consequently his or her compensation. Taussig and Barker (1925), using data from 442 companies between 1904 and 1914, found a positive correlation between executive compensation and company size. Dividing the sample into four groups based on size (sales), the researchers found large differences across the four sub-samples. Similar differences were not found when the companies were divided into groups based on earnings. In another study, Roberts (1959), in an analysis of data from a large number of firms from 1933-1950, found that company size (in terms of sales) accounted

for a significant variation in executive compensation. The wide range of salaries for top executives in different firms of the same size was explained as market imperfections and discontinuities. In a similar study, McGuire, Chin and Ebing (1962) investigated the relationship between executive incomes and sales of 45 large U.S. industrial corporations for the period 1953-1959. The researchers also found that chief executive compensation was positively correlated with size (sales).

The economic studies cited so far sought explanations for the differences in the levels of top executive compensation, and the general conclusion was that such compensation is influenced mainly by company size. On the other hand, Lewellen and Huntsman (1970), in a study of 50 large manufacturing corporations between 1940-1963, concluded that executive compensation is better explained by company profits rather than size. Apart from trying to explain levels of executive pay, this study also looked at changes in the executive compensation package and found that total after-tax compensation of top executives doubled during the period. Other studies by Burgess (1963) and Masson (1971) also analyzed the nature of changes in the executive compensation package across firms. Both studies reported general increases in pre-tax compensation, with the latter study reporting that stock-market performance may be the most important determinant of executive returns.

As stated before, economic theory explains the relationship between company size, performance and executive compensation through the use of marginal revenue productivity theory. That is, an executive's MRP is the excess of a firm's total profit under that person's direction over what it would be under the direction of the best alternative executive, plus the amount that would have to be paid to secure the latter's services. Other researchers have

explained this relationship somewhat differently. Recognizing that at the level of the firm, MRP theory is only a theory of labour demand and that most of the earlier studies did not explain why a company's size was so closely related to executive compensation, some researchers have sought explanations from the labour supply perspective through human capital theory. It is argued that firm size and executive compensation are related because greater size implies a more complex organization, which in turn demands better managerial skills and ability to ensure success, which in turn implies better compensation (Agarwal, 1974, 1981; Mincer, 1970). However, with the exception of firm-specific CEO tenure, empirical results do not generally support the human capital effect, partly as a result of little variation in these variables (Agarwal, 1981; Gerhart & Milkovich, 1990). In a study of 168 insurance companies in the U.S., Agarwal (1981) found that job complexity and an employer's ability to pay account for almost 80 percent of the variance in executive compensation, with firm-specific CEO tenure being significant as well. These results support the notion that company size, closely related to job complexity, firm-specific CEO tenure, and a company's ability to pay, is a major determinant of executive compensation.

While most of these pioneering studies<sup>8</sup> established strong arguments for a positive relationship between organization size and executive compensation, there is considerable controversy regarding the relationship between organizational performance, as measured by profits, and executive compensation. While some studies have reported a positive relationship

---

<sup>8</sup>This section of the literature review focuses on the pioneering/seminal studies. There are numerous more recent studies which report similar size-executive compensation results (e.g., Veliyath, et al., 1994; DiNardo, Hallock & Pischke, 1998); these are discussed later in the thesis.

between executive compensation and performance (Lambert & Larcker, 1985; Coughlan & Smith, 1985; Murphy, 1985; Magnan, et al., 1995), other studies have found no significant relationships between these two variables (Kerr & Bettis, 1987; Eaton and Rosen, 1983; Finkelstein and Hambrick, 1989). A third group of studies report that **both** firm size and performance are important determinants of executive compensation (Ciscell & Carroll, 1980; Hirschey & Pappas, 1981; Lewellen, Loderer & Martin, 1987; Deckop, 1988; Belkaoui, 1992). It is thus apparent that while firm size seems to be generally accepted as a major determinant of executive compensation, there is still considerable controversy as to the role of firm performance.

Closely related to the economics-based approaches are contributions from the field of **industrial relations**. While industrial relations is a very broad and diverse field of study, its contributions to compensation knowledge are based almost exclusively on related primary disciplines: institutional and labour economics. In the industrial relations-related studies, executive compensation is viewed as resulting from forces operating in the executive labour market. Early studies in this field, while not focusing specifically on executive compensation, suggest that variations in wages and salaries across industries can be explained by forces present in the labour market (Dunlop, 1957; Lester, 1946; Reynolds, 1946). In a more recent, and executive compensation-related study, Deckop (1988) found that chief executive compensation is positively related to profit as a percentage of sales. It was further reported that CEOs recruited from outside of the direct labour market (industry) earned significantly more than internally promoted CEOs and that both of these groups earned more than CEOs who were founders of the firm. While a number of other studies in the field focused

specifically on executive compensation (e.g. Abowd, 1990; Ehrenberg, 1990; Leonard, 1990) the issues covered, and thus the contributions to knowledge, cannot be significantly differentiated from that provided by the economics discipline.

### Managerialism and Agency Theory

Managerialism theory postulates that the separation of ownership and control, prevalent in the modern corporation, gives executives power to use the firm to pursue their own interests (Berle & Means, 1932). Manifestation of this theory is evident, for instance, where executives use the organization to reduce or eliminate risk exposure in their compensation package (Tosi & Gomez-Mejia, 1989) or when they focus on short term performance as a way to justify higher pay, through the use of questionable accounting procedures (Rappaport, 1978, 1981). Agency theory can be considered an extension of managerialism theory and has received considerably more theoretical and empirical attention. It recognizes the control problems that may arise between top executives and owners but the focus is more on the mechanisms that may be used to manage this conflict of interest. Basically, this theory emphasizes how contingent compensation contracts for managers that link pay to performance can align the interests of executives and shareholders (Fama, 1980; Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976). As Gomez-Mejia (1994, p.182) summarizes,

"...[this theory] recognises that any relationship where one party (agent) makes decisions and allocates resources on behalf of another party (principal) control mechanisms in exchange for a fee carries the potential for conflict of interest between the two. Furthermore, this condition, if left unchecked, is almost certain to produce "agency costs" for the principal because the agent is tempted to pursue his or her own objectives at the expense of the principal."

The theory also implies that an agent can "get away" with self-serving interests because he or she has better information about the tasks at hand than the absentee owner. There have

been a number of studies using an agency perspective in the economics literature (Coughlan & Schmidt, 1985; Fama & Jensen, 1983a, 1983b; Garen, 1994; Jensen & Meckling, 1976; Lewellen, Loderer & Rosenfeld, 1985). The basic finding of these studies is that the separation of ownership and control can create conflicts of interest between management and ownership and that such conflicts can be minimized if owners align executive compensation with organizational strategy. Further, a related stream of empirical studies has examined the extent to which greater monitoring of executives reduces the "agency costs" and thus increases the welfare of principals or owners (Gomez-Mejia, Tosi & Hinkin, 1987; Hoskisson, Hitt, Turk & Tyler, 1989; Jensen & Murphy, 1990a, 1990b; Tosi & Gomez-Mejia, 1989, 1994).

However, even from an agency theory perspective, the executive compensation-organizational performance relationship seems difficult to explain. Two of the early proponents of this theory, Jensen and Murphy (1990a, 1990b), in an analysis of performance pay and incentives for over 2000 CEOs spanning over three decades, found that the relation between CEO wealth and shareholder wealth is small (\$1,000 change in shareholder wealth corresponded to a 6.7 cents increase in CEO salary and bonus over two years) and that this has been the trend over the last 50 years. The researchers found this result "puzzling" and hypothesized that other forces "operating in both the political sector and within organizations appear to be important but are difficult to document because they operate in informal and indirect ways" (Jensen & Murphy, 1990a, p.227).

**Summary:** Based on what has been discussed so far, it is apparent that the main contribution of the literature emanating from the economics discipline and to a lesser extent, industrial relations, has been explanations about the major determinants of executive compensation.

That is, executive compensation is addressed as an observable phenomenon to be explained, a dependent variable in a conceptual formulation. However, due to inconsistent findings, such as the performance-executive compensation relationship, as well as the perceived unrealistic assumptions of MRP theory, contributions from other disciplines were warranted. The behavioural sciences were among the first disciplines to offer alternative, sometimes complementary, explanations.

## **ii) The Behavioural Sciences**

Classical and neo-classical economists assume a rational-economic model of man that gives the greatest importance to economic gain as the motivator of human behaviour. However, the famous Hawthorne studies, as well as seminal studies by Whyte (1955) and Maslow (1972), introduced a behavioural, social-man, perspective on human motivation. Such sociological and psychological perspectives view the executive as an individual with needs, drives, and motivations, both as a person with a distinct identity, and as a member of a group(s).

### **a) Sociology**

The sociological perspective views the "worth" of an executive as being socially enacted rather than based on the economic value of his or her contributions to the organization. Researchers in this tradition argue that organizational structures create social expectations concerning executive compensation. Sociological studies approach executive compensation from two main theoretical perspectives: social comparison (structural) theory

and "power" theory.

### Social Comparison or Structural Theory

Social comparison/structural theory has its roots firmly in the sociological discipline. In his seminal work, Simon (1957) stated that there is a widely shared belief that appropriate pay differentials by rank should be maintained. That is, social stratification norms demand that pay differentials be proportionate to rank. He suggested that there is an approximate 30 percent pay differential in successive management ranks, thus implying that taller organizations with more managerial levels pay their top executives more than their colleagues in flatter organizations. Along similar lines, Blau (1970) argues that the expanding size of organizations gives rise to increasing subdivision of responsibilities, widens the span of control of managers, and simultaneously creates structural differentiation and problems of coordination that require supervisory attention. From these arguments, it may be imputed that managers in more complex organizations would have to be paid better for undertaking greater responsibilities.

Mahoney (1979) reported some empirical evidence that supports these theoretical perspectives. He found that people in pyramidal organizations expect pay to increase by about 33 percent from one rank to the next. This implies that executive compensation in large organizations may be natural outcomes of a "hierarchical pecking order" (Gomez-Mejia, 1994). Agarwal (1974, 1981) also found that differences in executive compensation vary according to levels of management or the complexity of the job. Milkovich and Newman (1993) review further empirical evidence which suggest that managers who are in the second level of a company earn about two-thirds of a CEO's salary, and those in the next level down



earn slightly more than half of a chief executive's salary. They further point out that these ratios have been stable for more than a decade.

Drawing from cognitive dissonance theory, social comparison theory also focuses on decision processes of external parties responsible for executive compensation decisions (O'Reilly, Main & Crystal, 1988). Proponents of this theory argue that board members use their executive colleagues as referent points in determining their own compensation and to "underpay" an executive produces cognitive dissonance which other executives on the board will try to "correct". O'Reilly et al. (1988) further argue that boards and compensation committees continuously engage in social comparisons and consequently, the compensation of an executive will reflect, independent of other forces, the compensation levels of other members of the board.

Class hegemony theory, similar to social comparison theory, further posits that executives share a commonality of interest in the protection of the status quo. That is, many organizations have interlocking directorates and boards composed of a common class. Boards are thus used to legitimize high executive compensation levels, reflecting a shared commitment to protect the wealth of the managerial class (Ratcliff, 1980).

### "Power" Theory

From another sociological perspective, Allen (1981) analyzes executive compensation in terms of privilege and power relationships within organizations. As he states,

"in recent years, sociologists have come to recognize the importance of power, as distinct from the related but narrower concept of formal authority, as a key concept in the study of organizations...this distinction has led to the realization that organizational power is

often employed to augment and protect the privileges enjoyed by those who wield such power...organizational elites sometimes use their power to reward themselves disproportionately for their contributions to an organization" (p. 112).

In a study of 218 industrial corporations, and measuring power as control over blocks of stocks, Allen (1981) found that remuneration received by a chief executive is directly related to his or her power within the corporation in relation to the power of other executives. While this power-executive compensation relationship has not attracted considerable attention in the sociological discipline, it is the focus of studies based in political science (discussed later in this thesis).

#### b) Psychology

Many early studies using the behavioural sciences approach viewed all individuals as being alike. However, there is a growing body of literature that attempts to classify individual needs and motives. Some of the issues explored in this literature include the role of money or pay in motivating various kinds of behaviour, the relationship between satisfaction with pay and performance, and the role of perceived equity on the level of satisfaction and performance. The theoretical basis of the studies that explore these issues rest with various motivational theories: equity theory, expectancy theory and tournament theory.

#### Equity and Expectancy Theories

Equity theory, as it relates to executive compensation, emphasizes the importance of a feeling of fairness in reward allocation for executives within and across organizations. Adams' (1963) work introduced many issues related to pay inequities and these laid the foundations for later work on equity theory in executive compensation. Randall (1968,

p.130), a management theorist and practitioner, adding an ethical perspective to executive compensation as well, suggests that top management compensation is related to both internal and external equity:

"the number-one man confronts a very special moral equation, for example, when it comes to fixing salaries for himself and the other executives...there are two guidelines by which his honest-mindedness can be determined. The first is comparison with competitors. If the company is fourth in size in the industry, but he is first in compensation, something is wrong with his conscience. The second is comparison within his own organization. For example, if he pays himself twice as much as his second in command, he has a serious ethical blind spot."

In an early empirical study, Andrews and Henry (1963) found that equitable pay comparison between oneself and one's subordinate was of critical importance to satisfaction with pay. In their study of 219 managers in San Francisco firms, they further reported that outside pay comparisons played an important role in the process of individual pay evaluation. In another early study, Lawler and Porter (1963), in an examination of 1913 managers from the American Management Association, found that when management level was held constant, higher-paid managers gave less importance to pay than lower-paid managers. They also found that young and well-educated managers preferred pay to security and other benefits, while older and less-educated managers preferred security and other benefits to pay. More recently, Foster (1980), Zajac (1990) and Miller (1995) all found evidence that suggest equity issues and satisfaction with rewards are intricately linked to the executive compensation-organizational performance relationship.

Expectancy theory, another motivational theory, suggests that if executives believe that the effort they expend will lead to the achievement of organization and performance goals, and this achievement, in turn, will lead to the receipt of desired rewards, they will become

motivated to expend the required effort (Gerhart & Milkovich, 1990; Lawler, 1981, 1990; Vroom, 1964). The psychological aspects of executive compensation thus offer new insights on the theory of compensation. As Haire, Ghiselli and Porter (1963, p.3) stated, "pay, in one form or another, is certainly one of the mainsprings of motivation in our society...as a motivator, it becomes part of general psychological problems."

### Tournament Theory

Although tournament theory originated in economics (Gomez-Mejia, Paulin & Grabke, 1995), its arguments are based more on human motivation theory rather than "rational-man" economics. The basic tenets of the theory are summarized as,

"...tournament theory proposes that the amount of compensation received by executives of an organization is analogous to tournament winnings. Tournament participants are members of the organization who could eventually reach the pinnacle of the CEO position, the largest prize of all. The prospect of this prize sends powerful signals throughout the organization that by working harder and making the best possible use of one's personal talents one may, in the end, win the trophy of the number one spot. The emphasis is not on whether an executive deserves his or her amount of compensation; rather, the focus is on the motivational properties that executive compensation levels bring to those lower in the organization" (Gomez-Mejia, Paulin & Grabke, 1995, p.553).

In tournament theory, introduced by Lazear and Rosen (1981), it is argued that rather than rewarding an executive for economic performance, a firm's executive compensation package offers a very attractive financial trophy at the top to increase the aspirational level of all managers. Empirical studies on such "tournament effects" have reported mixed results. While some found evidence that supports the tournament model (Bull, Scholter & Weiget, 1987; Ehrenberg & Boganno, 1990; Leonard, 1990), one study did not (O'Reilly, Main & Crystal, 1988). As such, it is too early to assess the explanatory power of tournament theory since considerably more research needs to be done.

**In summary**, the literature in the behavioural sciences generally treats executive compensation as an independent or manipulable variable in the explanation of executive behaviour. That is, executive compensation is treated by the behavioural scientist as a cause of relevant phenomena rather than as something to be explained. While economics and behavioural sciences complement each other in explaining the antecedents and consequences of executive compensation, these disciplines fall short in adequately explaining other important aspects of top management compensation, including the all pervasive role of power.

### **iii) Political Science and Law**

"The country is in a bind, but I'm cheerful and I'm chipper,  
As I slash employee wages like a fiscal Jack the Ripper,  
And I take away their health care and never mind their hollers,  
And I pay myself a bonus of a couple of million dollars."

Mark Russell, quoted in Milkovich and Newman (1993, p.v).

As early behavioural scientists point out, the economic model implies that there is a money-motivated mass which must be managed by a more broadly motivated moral elite (McGregor, 1960; Schein, 1970). This suggests that most people work solely for pay, with the executive, as part of the elite group, further motivated by power. This power perspective was later explicitly developed by researchers in political science, and to a lesser extent sociology, who argued that apart from money, executives are also motivated by the need for power and status, and that this in turn explains in part some of the inconsistent findings in the economic studies. Political science explicitly addresses these issues from two main theoretical perspectives. The first views the executive as a political figurehead whose compensation should reflect his or her ability to manage symbolic activity and the second deals with aspects of the power relationship and their effects on executive compensation.

### Political Figurehead/Strategist Theory

The first perspective views the executive as a political figurehead and strategist who is expected to develop and implement organizational strategies through personal charisma, bargaining and consensus building. He or she is also expected to serve as a boundary spanner to other stakeholders (Steers & Ungson, 1987; Ungson & Steers, 1984). This political model is grounded in organizational theory. Mintzberg (1973) suggests that as legal authorities of their organizations, managers act as symbols and are obliged to perform symbolic activities, such as attending ceremonial events and receiving important visitors. They also act as boundary spanners in listening to the concerns of stakeholders and relaying the organization's position to them. From this perspective, the executive can be viewed more as an evangelist than an accountant (Weick, 1979). As Steers and Ungson (1984) note, in terms of compensation, these political and symbolic activities are difficult to evaluate. As such, they argue for a decoupling of rewards and organization performance and suggest that executive compensation should also be reflective of how the individual manages the political functions of the organization. However, this theory has not attracted much, if any, empirical attention.

### Agency Theory

The second perspective deals with the power relationships within an organization and views agency theory from a political standpoint. As Finkelstein and Hambrick (1988, p.549) state, "the political model stands at the heart of recent agency theory." From this perspective of agency theory, the separation of ownership and control that resulted mainly from the rapid growth of firms in this century, has left owners lacking absolute power and control over the organization (Fama, 1980). Recognizing that managers (agents) can use power for their self-

interests, one recourse by owners is to establish compensation systems that will encourage executives to pursue owners' interests (Eisenhardt, 1989; Hoskisson, Hill, Turk & Tyler, 1989). It is proposed that such compensation systems should include, among others, a substantial portion of the pay package to be "at risk" and an incentive system that emphasizes long-term performance, so that the executive's fortune is tied to the welfare of stockholders (Gomez-Mejia, 1994).

However, there is some evidence which suggest that these "control mechanisms" break down as the tenure of top executives increases. Hill and Phan (1991) found that the relationship between chief executive pay and stock returns weakens with tenure. They rationalized that the longer the tenure of chief executives, the more entrenched they were likely to become and the more powerful to pursue their own interests rather than those of stockholders. That is, given time, top executives may be able to dominate the board of directors and consequently demand compensation packages that reflect their preferences more closely than those of stockholders.

In an earlier study, Finkelstein and Hambrick (1989) found that an inverted U-shaped relationship existed between CEO tenure and executive pay with total pay starting to decline after 18 years of tenure. They suggested 2 main reasons for this finding: the first is that power accrues for a while then diminishes due to the CEO's reduced mobility in the managerial labour market, or due to his or her evolution into a figurehead; secondly, it may not be that CEOs are paid less but that the pay mix shifts from cash to stock earnings over time, suggesting that personal circumstances and power influence pay.

In a further explanation of the role of power in determining executive compensation,

Westphal and Zajac (1994) suggest that there is a decoupling of long term incentive plan (LTIP) adoption and use, which is particularly prevalent in firms with powerful chief executives. They argue that executives adopt LTIPs as a symbolic gesture in aligning executive and shareholders wealth but consequently use their power to minimize the use of such plans since LTIPs increase overall compensation risk.

Recently, a stream of related research has been focussing on various governance mechanisms, including the role of power as measured by the CEO's influence on the board making the executive compensation decisions (board of directors and/or compensation committee). However, the results are mixed. Some studies report a positive relationship. For instance, Sridharan (1996), in a study of 167 firms, found that CEO pay is positively related to measures of CEO influence over the board, as well as firm size.

Other studies report limited or no effect between the board control/monitoring-executive compensation relationship. Conyon and Peck (1998), in a study of large, publicly traded U.K. firms, found that board monitoring, measured in terms of the proportion of non-executive directors on a board and the presence of remuneration committees and CEO duality, has only a limited effect on the level of top management pay. Daily, Johnson, Ellstrand and Dalton (1998) in a study of 125 large U.S. corporations from 1992-94, found no evidence of a systematic relationship between compensation committee interdependence and CEO compensation. Carr (1997), in a study of executive compensation in small publicly traded firms, also found no significant support for the hypothesis that the stronger the role of insiders on the board, the weaker will be the link between organizational outcomes/performance and executive compensation. Further, Harris and Helfat (1997) found that tenure of the CEO on



the board of directors lacked any statistical significance in the relationship with executive pay.

While both political perspectives of executive compensation deal with executive power and status *within the organization*, the *legal* aspect reflects a wider political context. As a result of pressures from labour, the press and the general public, governments are increasingly trying to tackle "excessive" executive compensation through legislation. The U.S. Federal and Ontario provincial laws require detailed reporting of executive compensation in publicly listed companies. In 1992, the U.S Securities and Exchange Commission (SEC) stipulated fundamental changes in the determination and reporting of executive compensation... "the SEC now permits stockholders to propose and vote to limit executive compensation. This and other proposed rule changes signal renewed interest in, and closer scrutiny of, all components of executive compensation" (Milkovich & Newman, 1993, p.552).

The U.S. Congress has also reacted harshly to seemingly excessive "golden parachutes" payments by imposing increased tax liability on executives and limiting employer's ability to utilize tax deductions through the Tax Reform Act of 1986 (Crystal, 1988; Gomez-Mejia & Welbourne, 1989). Lawler (1990) further advocates the implementation of progressive taxation for executive compensation. As he argues, "these tax brackets would impact relatively few individuals, but they would be at least a partially effective way of dealing with what is perceived as a social inequity" (p.282). The legal imposition of taxation should not be overlooked in the study of executive pay determination since, as Finkelstein and Hambrick (1988) note, an historic preference for stock options is largely due to the availability of tax deductions.

There is some empirical evidence that government regulation affects executive

compensation. Braunstein (1993) in a study of three groups of firms under varying degrees of regulatory intervention, found that the form and degree of government regulation facing an industry does influence the determinants of executive compensation, and by implication, the behaviour of top managers in terms of the goals and objectives that they pursue. In a previous study that utilized the Miles and Snow (1978) typology, Snow and Hrebiniak (1980) found "an unusually" high number of reactor-type companies in the semi-conductor and air transportation industries. They contended that this was due mainly to government regulation. While this study did not focus on executive compensation, it is indirectly related since other researchers report variations across these strategic archetypes (Veliyath, Ferris & Ramaswamy, 1994).

**In summary**, the literature in the political science and law disciplines offer additional explanations on the determinants and consequences of executive compensation. The role of CEO power in an organization, which can be captured by firm-specific tenure, seems promising; studies on his/her power over the board, though results are mixed, offer insights on other factors affecting executive compensation. While these insights are useful, they nevertheless fall short of offering comprehensive, holistic analyses of some issues such as the executive compensation-performance relationship. Such analyses are attempted by the management/strategic management discipline but before these are examined, a note on measurement issues and the contribution from the accounting and finance disciplines is pertinent.

#### **iv) Accounting and Finance**

The main contribution from the accounting and finance disciplines lies in the

*measurement* of executive compensation and the role of various performance indices in determining executive compensation. Financial statements containing accounting numbers facilitate contracting with related parties, including executives. It is well established that executive compensation contracts are explicitly or implicitly tied to accounting figures, as well as market measures (Antle & Smith, 1985; Bushman & Indjejikian, 1993; Jensen & Murphy, 1990a). However, there seems to be an apparent popularity of accounting earnings in top executive compensation contracts since such earnings reflect factors that are largely under executives' control (Sloan, 1993). In a survey of top management officers of Forbes 500 firms, Gibbons and Murphy (1990) found that more than half of the survey participants stated that accounting measures are advantageous because stock prices are influenced by market factors outside of management's control.

However, there is considerable controversy as to the validity of the accounting procedures and information used by some organizations. Legitimate accounting procedures adopted by organizations may vary significantly and this can lead to differences in reported earnings, to which executive bonuses and incentives are usually tied. For instance, the use of first-in, first-out (FIFO) inventory system and straight line depreciation tend to increase reported earnings in the short run, while the opposite is true for last-in, first-out (LIFO) and accelerated depreciation (Dyl, 1989). As such, the profits or other accounting figures reported by an organization may not be true reflections of organizational performance since these figures are only estimates derived from accounting procedures chosen by management. Such an inherent executive discretionary power leaves room for manipulation by executives in favour of their personal interests. For instance, if executives are rewarded for annual

profitability with lucrative bonuses, they are more likely to adopt accounting procedures that increase short-term earnings (Gomez-Mejia, 1994; Rappaport, 1986, 1990).

As such, many researchers and organizations have opted for the use of stock prices in calculating a firm's value. In fact, many organizations offer incentives based on stock prices in an effort to make the manager "think like an owner" (Leach, 1995). However, as Lambert (1993, p.101) argues, "stock price is affected by many factors that unquestionably are relevant for purposes of assessing the value of the firm, but have nothing to do with the manager's contribution to the value of the firm."

Further, some researchers are beginning to evaluate the effect of various performance measures in determining executive compensation. Ittner, Larcker and Rajan (1997), in a study of 317 firms, found that non-financial measures in annual bonus contracts increase with, among other factors, the level of regulation and the extent to which a firm follows an innovation-oriented strategy. The *time-effect* has also been considered. Noting that most empirical studies investigate the short-term executive pay-performance sensitivity, Boschen and Smith (1995), examined the effects of performance over a multiple-year period. They found that cumulative response (over a long period) is roughly 10 times that of the contemporaneous response. That is, a multi-year period is a better predictor of the pay-performance relationship, rather than current (1 year) performance.

In view of the inherent strengths and weaknesses of both accounting and market measures, one solution to the problem of measuring firm performance lies in the use of both accounting and market data/measures (Tosi & Gomez-Mejia, 1994), over a period of a few years.

#### IV. A Focus on Strategic Management/Business Policy

"Around the year 60 B.C., a young Roman general set out to build the first truly professional army. He had what we would call today a vision and a strategy. Over several years this military genius, Julius Caesar, ...developed compensation programs to reinforce his strategy...for the past two thousand years, kings, generals, and others in power have used pay to encourage the accomplishment of an end result" (McLaughlin, 1991, p.5).

From a management perspective, the executive compensation system is an integral part of the formulation and implementation of organizational purpose (Murthy, 1977). The compensation system is thus viewed as supporting the overall strategy of the organization. The strategic management perspective was introduced into the literature about thirty years ago, at about the same time North American business discovered "strategy" (McLaughlin, 1991). The strategic management or business policy discipline has an attractive conceptual appeal when applied to executive compensation. Implicit in this approach are assumptions about the individual, as a person and as a member of a group(s), which is part of the psychological and sociological disciplines. The manager also takes into consideration various market constraints which are at the centre of the economics discipline. He or she is also seen as a power broker and boundary spanner, the heart of the political perspective. As such, strategic management can be viewed as a synthesizing discipline which utilizes a comprehensive analytical framework.

The strategic management discipline sees the executive as an active participant in the management process, with the capability of designing control systems, including compensation, that bridge the gap between the organization's internal and external

environments<sup>9</sup>. The focus from a management/strategic management perspective, in relation to executive compensation, is thus on the appropriateness of the compensation system for a given organization and its relationship with other aspects of management (Murthy, 1977).

Early theoretical formulations in this field were influenced by management theorists who were also practitioners. Barnard (1968), in one of the earliest contributions, regarded objective incentives, such as material inducements, and subjective incentives, such as persuasion and inculcation of motives, as of central importance to formal organizations. He also contended that there may be a need to create appropriate psychological conditions, including the atmosphere to achieve organizational goals and perspectives, for these incentives to work effectively. Greenewalt (1959) and Sloan (1965), former top executives at DuPont and General Motors respectively, both viewed the executive bonus plan and incentive programs as integral to management's philosophy and spirit of the organization. As noted earlier, Randall (1968), another executive, also presented a case for internal and external equity in the determination of executive compensation.

Overall, these practitioners point out the usefulness and limitations of executive financial and non-financial incentives, and the need for a compensation system that supports organizational strategy. That is, strategy was seen as an important variable in determining compensation. As interest with such strategic issues grew, academics conducted a number of empirical and theoretical studies on the relationship between executive compensation and

---

<sup>9</sup>While this position is largely similar to that postulated by agency theorists, the strategic management literature goes further to imply that this drive for congruency is influenced by managerial (internal) and other stakeholder interests (largely external), whereas agency theory emphasizes the latter (that is, the paramountcy of external controls).

organizational strategy, more specifically, on how organizational strategy drives executive compensation or vice versa<sup>10</sup>. These studies can be examined under various "proxies" used in classifying strategy: degree of diversification; stage of life cycle; industry type; and degree of environmental adaptation (Miles and Snow's 1978 classification).

### Diversification and executive compensation

One set of empirical studies focuses on diversification strategies implemented by organizations and the effects of these on executive compensation. The underlying premise of these studies is that the degree of firm diversification influences compensation as a result of different degrees of autonomy and other organizational characteristics. That is, conglomerates tend to be more concerned than large diversified firms (ends of the diversification continuum) with maintaining an entrepreneurial atmosphere; they demonstrate clear incentives for independent action on the part of division managers in research and development, marketing and production. These concerns are usually expressed through the specification criteria and the administration of a highly variable bonus component (Kerr, 1985).

Berg (1969) in a study of conglomerates and diversified majors<sup>11</sup>, found that conglomerates, using stock option plans and incentive compensation schemes, tend to reward

---

<sup>10</sup>While this study recognizes that executive compensation may drive organizational strategy, as suggested by Galbraith and Merrill (1991) and Holthausen, Larcker and Sloan (1995), this is not the focus of this research. Rather, this study focuses on executive compensation as being supportive of/determined by organizational strategy.

<sup>11</sup>Berg (1969) defines conglomerates as those companies that became highly diversified quickly as a result of acquisitions and mergers in more-or-less unrelated areas. Diversified majors, on the other hand, are large companies that become diversified over a long period of time through internal expansion into related areas.

their managers better for the achievement of performance goals than diversified managers. Further, they seem less constrained by corporate policies in the amounts and types of incentive compensation they can offer.

In another study, Lorsch and Allen (1973), in an examination of two conglomerates and one vertically integrated firm, found that the conglomerates used more formalized procedures with predetermined indices based on division results. That is, managers' pay increases were tied to objective formulas based on financial end results. On the other hand, the integrated firm used a less formal system based on corporate results which were not linked to pay increases by a formula.

Salter (1973) in a review of the literature, presented a prescriptive listing of important characteristics of reward systems. He identified corporate-division and interdivision relations as the aspects of organizational structure that bear on reward system design. He further argued that the compensation system must remain congruent with the firm's structural configuration if the system is to contribute effectively to strategic objectives.

Pitts (1974) further found that the bonus systems for managers in companies that grew principally by external acquisitions (vs. those that grew by internal expansion) were more quantitative, were closely linked with returns on investment, and had a wider range between the highest and lowest paid manager.

Murthy and Salter (1975) and Murthy (1977), in different versions of a study of 53 large manufacturing firms, found a low correlation between chief executive pay and financial performance in companies with one dominant product but this link was found to be much stronger in companies pursuing a variety of unrelated products. Kerr (1985) also found a link



between firm diversification and managerial reward systems in his study of 20 large industrial firms. He concluded, however, that compensation strategy was influenced more by the process of diversification than by the extent of diversification. That is, managers' bonuses were larger when formal performance criteria were established than when the process was informal.

Balkin and Gomez-Mejia (1990), in a survey of 192 executives in business units of large firms, found that corporate strategy was a significant predictor of pay package design, pay level relative to the market, and pay administration policies, while business unit strategy predicted pay package design and pay level relative to the market.

In a more recent study, Rose and Shepard (1997) investigated the relationship between CEO compensation (n=473) and firm diversification over a five-year period (1985-90); they found that a CEO in a diversified firm averaged 13% more in salary and bonus than a CEO in a similar-sized but undiversified firm, other things being equal.

#### Organizational/product life cycles and executive compensation

While the studies cited above use firm diversification as a proxy for corporate strategy, another group of studies focuses on the effects of organizational and product life cycles on executive compensation. As Thurston (1968) argued, firms at different stages of their life cycles require different pay structures:

"a fast-growing high-risk company in a dynamic, challenging environment needs a system of high reward to compensate members of the top team that produces such spectacular growth and profits. On the other hand, a relatively low-risk business does not need to set its salary structure at anywhere the same level. Nor does it need the sort of annual cash bonuses that range, in some instances, from 20 to 50 percent of salary" (pp.84-85).

There is some empirical evidence that support these theoretical arguments. Balkin and Gomez-Mejia (1987), in a study of 33 high-tech and 72 non high-tech firms, found that the life cycle was related to compensation strategies. More specifically, they reported that small firms at the growth stage of the life cycle, with a high proportion of R & D expenditures, tend to rely on incentive rewards and that this compensation strategy makes a greater contribution to effectiveness for firms sharing those characteristics.

### Industry-type and executive compensation

Another related group of studies highlight the role of "industry-type"<sup>12</sup>, which has a relationship to strategy, in determining or moderating the determinants of executive compensation. A central argument in these studies is that compensation strategies vary considerably across industries as a reflection of different degrees of profitability, rates of growth and barriers to entry (Deckop, 1988; Eaton & Rosen, 1983; Raviv, 1985; Rajagopalan & Prescott, 1990; Scherer, 1980). These arguments are consistent with studies done by institutional economists in the 1940s and 1950s who suggested that there was no single going rate of pay across organizations for most occupations and that job differences could not entirely explain organizational differences (Dunlop, 1957; Lester, 1946; Reynolds, 1946). Mahoney (1979) explained such effects as a consequence of the fact that organizations in a

---

<sup>12</sup>Of course, "industry-type", per se, is not a strategy variable; it is included in this section to illustrate the relationship between industry-type and strategy. Note, however, that even though general strategies may be broadly similar within an industry, there are distinctive differences across firms in a particular industry. As such, it is important that research on the effects of strategy should control for industry-type. One such way is to focus on a specific industry.

particular industry encounter similar constraints of technology, raw materials, product demand and pricing that provide a constraint on ability to pay.

Along similar lines, Gerhart and Milkovich (1990), using data on about 14,000 managers in 200 organizations, found that industry membership was a significant factor in explaining compensation. They also suggested that theories focusing only on individual, job and environmental factors are not sufficient in explaining organizational differences in compensation practices. Rajagopalan and Prescott (1990), in an examination of economic, behavioural and strategic constructs across three diverse industry groups, also found that industry structure has significant effects on the relationship between antecedent variables and top management compensation. More specifically, Balkin and Gomez-Mejia (1987) found that high technology firms have significantly greater incentive components in their executive compensation package than non-high technology firms.

From a managerial discretion perspective, Magnan and St-Onge (1997) found that executive compensation was more related to firm (bank) performance in firms that allowed for high managerial discretion (mainly non-regulated environments) versus those that operated in a context of low managerial discretion. Managerial discretion was captured by two industry-specific attributes: a bank's strategic domain, and its regulatory environment.

#### Miles and Snow's strategic archetypes and executive compensation

Apart from strategies associated with firm diversification, life cycles, and industry-type, other studies have used Miles and Snow's (1978) strategic archetypes and concepts in the study of executive compensation. The underlying premise of these studies is that firms employ

different strategies to adapt to their different environments. These adaptations (or according to Miles and Snow, responses to the firm's entrepreneurial, engineering and administrative problems) imply different strategies and behaviours, such as risk-taking, innovativeness and creativity<sup>13</sup>.

Rajagopalan and Finkelstein (1992) investigated the effects of strategic orientation (and environmental change) on senior management reward systems in 50 U.S. electric utility firms, with controls for firm size, firm profitability, CEO age, tenure in position, and shareholdings. Firms were classified into Miles and Snow's (1978) strategic archetypes using cluster analysis. Using MANCOVA, they found that firms with more discretionary strategic orientations (Prospectors) generally paid their managers more (salary, bonus, and total cash compensation) than Defenders and attributed this to the increased risk faced by managers in Prospector firms; this finding supports an earlier theoretical contention made by Carroll (1987).

Veliyath, Ferris and Ramaswamy (1994), in a study of 46 publicly traded U.S. drug and pharmaceutical firms, with controls for managers' employment risk, firm performance, and firm size, also found that Prospector firms generally paid their CEOs better than their counterparts in Defender and Analyzer firms. Firms were classified into the Miles and Snow

---

<sup>13</sup>The Miles and Snow (1978) typology proposes four strategic archetypes: prospectors, defenders, analyzers, and reactors. Miles and Snow suggest that effective strategic adaptation occurs when an organization's responses to three inter-related problems (entrepreneurial, engineering and administrative) are mutually consistent. The administrative problem deals with executive appraisal, reward, and compensation mechanisms. Prospectors continually search for new-product opportunities and focus heavily on research and product development. In contrast, defenders are firms that entrench themselves within a narrowly defined, stable product-market domain, and they grow primarily through market penetration. Analyzers are midway between these two groups, and reactors have no clear-cut strategy.

(1978) strategic types using cluster analysis and the data were analyzed using ANOVAs and within-and-between analysis (WABA). Veliyath et al. (1994) contend that this finding may be a reflection of greater employment risks faced by these managers.

Further, Rajagopalan (1997) examined the performance implications of the fit between strategic orientations and incentive plan characteristics. The results suggest that annual bonus plans that use cash incentives and accounting measures of performance lead to better performance in Defender-type firms, whereas stock-based incentive plans and market-based performance measures lead to better performance in Prospectors.

While Gaver and Gaver (1995) did not explicitly use the Miles and Snow (1978) typology, their classifications were somewhat similar: growth (prospector-like) versus non-growth companies. In their study of 321 Fortune 1000 firms in 1993, they found that executives in growth firms received a larger portion of their compensation from long-term incentives (mainly stock options), while those of non-growth firms received a larger portion of their pay from fixed salary.

**Summary:** As the above review reveals, research on how organizational/firm strategy affects executive compensation is beginning to show some promise. In particular, the use of the Miles and Snow (1978) typology in classifying strategic archetypes for analyses seems to be well-suited for compensation research (Carroll, 1987; Gomez-Mejia, 1994). The studies which have so far used this approach are good "starting points" for research using larger samples and in countries other than the United States.

*Overall Summary of the Literature: As the literature review illustrates, firm strategy is being increasingly recognized as an important determinant of executive compensation. However, this variable needs to be incorporated into a model that includes other variables found significant in previous research, while at the same time maintaining parsimony.*

*From the economics and industrial relations literature, it is evident that firm size (and to a lesser extent associated human capital variables), and performance are the main variables. There is some support in the political science/power literature for firm-specific CEO tenure of the executives as a determinant of executive compensation. As a whole, the sociological and psychological disciplines focus more on the consequences of executive compensation, and as such, no clear determinant can be derived from this literature; the probable exception is "levels of management" (from social comparison theory). However, organizational size can be used as a proxy.*

While the above factors have all been found to be significant determinants of executive compensation, there has been a limited attempt to combine these variables in a systematic manner, especially for Canadian firms. It is this lacuna in the literature, as well as the strategic importance of executive compensation issues, that necessitates additional research in the field. A theoretical framework is essential in conducting such research.

## V. Theoretical Framework and Hypotheses

### Theoretical Background and Framework

At least since the seminal work of Chandler (1962) students of business policy, organizational behaviour and human resources management have argued that an organization's strategy, its structure and its managerial processes have to be congruent with one another (Andrews, 1971; Hofer, 1975; Peters & Waterman, 1982; Stonich, 1982). The concept of congruency or fit, a central notion of *contingency theory*, is based on the notion that an organization's strategy can be decomposed into its elements (such as technology, marketing, compensation, etc.) that are important in their individual roles, as well as their roles in overall strategic plans (Balkin & Gomez-Mejia, 1990; Venkatraman & Camillus, 1984). Since strategic synergy among the elements is an implied objective of an organization, then an important normative test for a firm's strategy is internal consistency (Porter, 1980; Galbraith & Schendel, 1983). That is, if functional strategies, such as employee and executive compensation, are not integrated or congruent with the overall strategy, then the organization may have an unclear strategic direction leading to suboptimal or even dysfunctional outcomes (Balkin & Gomez-Mejia, 1990).

Following such reasoning, many researchers have argued for highly inter-related links between generic human resources management policies and organizational strategies (Foulkes, 1975; Milkovich, Dyer & Mahoney, 1983; Milkovich & Newman, 1996; Mills, 1979). This strategic human resource management perspective views people as an important source of strategic opportunities and constraints that should be factored into organizational strategies (Dyer, 1983). Compensation is considered one of the most important components of the

strategic thrust of human resource management (Balkin & Gomez-Mejia, 1990; Beer, Spector, Lawrence, Mills & Walton, 1985), and of late, there has been an increasing advocacy for closer links between compensation and organizational strategies (Balkin & Gomez-Mejia, 1987; Carroll, 1987; Galbraith & Merrill, 1990; Lawler, 1984, 1990; Henderson & Richer, 1987; Milkovich, 1988; Milkovich & Newman, 1996; Steers & Ungson, 1987). Executive compensation, as a distinct component of compensation decisions, arguably has the greatest strategic implications for an organization's success and by logical extension of the above reasoning, should be congruent with, or supportive of, organizational strategy. Thus, from a *contingency theory* perspective, it is implied that executive compensation strategies are more likely to be effective if they are contingent on the overall strategy followed by the organization, other things being equal (Milkovich, 1988). That is, executive compensation is dependent on organizational strategy.<sup>1</sup>

Behavioural theory also suggests that executive compensation may be influenced by firm strategy. As outlined earlier in the thesis, many behavioural theorists contend that it is crucial for executives to be motivated by an appropriate reward package so as to further company goals (Freedman & Montanari, 1983; Lawler, 1990; Salter, 1973). In general, it is contended that for an organization to be successful, the reward system must be aligned with organizational goals and strategies (Galbraith & Nathanson, 1978; Lawler, 1981, 1990).

---

<sup>1</sup>On the other hand, it can also be argued that an organization's strategy is more likely to be effective if it is contingent on executive compensation. That is, organizational strategy is dependent on executive compensation. The argument rests on the premise that successful implementation of business strategies depends, to a large extent, on executives. This relationship can be explained by the control-oriented theories: managerialism, class hegemony and agency (explained earlier in the literature review). In general these theories imply that managerial interests are likely to be aligned with, or drive organizational strategy. However, this relationship (executive compensation as a determinant of organizational strategy) is not the focus of this study.



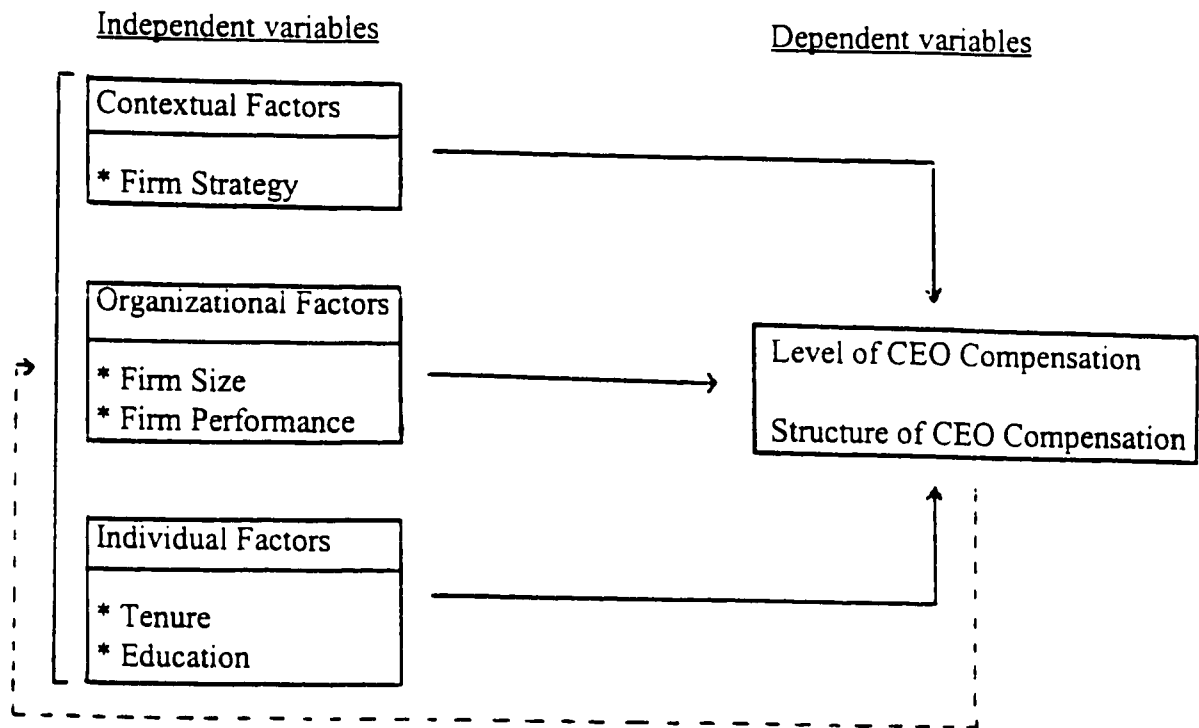
More specifically, *expectancy theory* (Vroom, 1964) suggests that if executives believe that the effort they expend will lead to the achievement of organizational strategies and performance goals, and this achievement, in turn, will lead to the receipt of desired rewards, they will become motivated to expend the required effort (Gerhart and Milkovich, 1990; Lawler, 1990). Thus, the executive compensation package should be directly influenced by firm strategy.

Apart from firm strategy, and as evident from the literature review, other variables have been investigated, and some found to be significant predictors of chief executive compensation. Thus, this study will extend previous work done in relation to the effects of some of these predictors, especially firm size and firm performance, and to a lesser extent, human capital variables, viz., CEO education and firm-specific CEO tenure (since there is limited support in previous research for these variables). Industry has also been found to be an influential factor in explaining executive compensation (e.g., Deckop, 1988; Rajagopalan & Prescott, 1990) but in this single-industry study, this factor is controlled by design.

In keeping with the multidisciplinary focus of this thesis, it is important to discuss the various theories used to explain previous work on these variables, including human capital theory, the profit-maximization hypothesis, and power theory. These were introduced earlier in the literature review, and will be discussed in a more specific manner in the hypotheses development section later in this chapter.

Figure 1 below shows the hypothetical relationships among the variables specifically examined in this study.

Figure 1: A Theoretical Framework



—————→ relationships investigated in this study  
 - - - - -→ relationships probably exist but not investigated in this study

The Strategic Archetypes

As noted earlier, this study utilizes the Miles and Snow (1978) framework in classifying firms into strategic archetypes. One of the major premises of the Miles and Snow (1978) typology is that there are identifiable strategic orientations that exist within an industry. Using this framework, a firm can be classified as a Prospector, a Defender, an Analyzer, or a Reactor. These strategic orientations reflect conscious decisions by management in adapting to the challenges/problems in the organization’s entrepreneurial, engineering, and administrative

domains (Miles, Snow, Meyer & Coleman, 1977). That is, firms may choose one of the four strategic orientations in its quest to adapt to environmental changes.

The key dimension underlying the Miles and Snow typology is the rate at which an organization changes its products or markets/geographic areas of operation (Hambrick, 1983). **Prospectors** usually pioneer product and market/geographic/spatial development and tend to actively explore opportunities, or "prospect," the most intensive. They compete primarily by stimulating and meeting new opportunities. **Defenders** are at the other end of the spectrum. They engage in little or no new product or market/geographic development and often control relatively secure niches within their industries. Such organizations compete primarily on the basis of price, quality or service. **Analyzers** are an intermediate type. They make fewer and slower market or product changes than do prospectors, and are less committed to stability and efficiency than are defenders. Finally, **Reactors** do not seem to follow a conscious strategy and are viewed as a dysfunctional organizational type (Hambrick, 1983; Miles & Snow, 1978; Miles, Snow, Meyer & Coleman, 1978; Snow & Hrebiniak, 1980; Zahra & Pearce, 1990).

In a recent review of the research evidence on this typology, Zahra and Pearce (1990) found that there was strong support for the existence of the strategic types. However, two factors suggest that reactors will be outnumbered and/or outperformed by the other three types. First, as Conant, Mokwa and Varadarajan (1990) note, many managers are naturally reluctant to self type themselves as reactors. Second, since reactors do not follow a conscious strategy, they are viewed as a dysfunctional organizational type with low organizational performance (Miles & Snow, 1978). Such organizational types may have great difficulties surviving the rapidly changing contemporary business environment. These factors may have

accounted for Zahra and Pearce's (1990) finding that Reactors were ignored in eight of the seventeen (47.1%) studies they reviewed. Subsequent research also indicates that while the four strategic groups exist, reactors are generally not analyzed, which can be a result of the above two factors (e.g., Floyd & Wooldridge, 1992; Rajagopalan and Finkelstein, 1992; Veliyath, Ferris & Ramaswamy, 1994; Veliyath & Shortnell, 1995). In fact, most studies (e.g., Rajagopalan and Finkelstein, 1992; Rajagopalan, 1996; Thomas, Litschert and Ramaswamy, 1991) focus on the two strategic types at the ends of the spectrum, viz., prospectors and defenders. This is done as a result of the fact that there may be just these two clearly identifiable strategic types present in a particular industry (e.g., Rajagopalan, 1996) or that the researchers aim to increase the statistical robustness of their results (e.g., Thomas, Litschert and Ramaswamy, 1991; Rajagopalan and Finkelstein, 1992).

### **Hypotheses**

#### **(a) The Organizational Strategy-Executive Compensation Relationship**

As noted earlier in this chapter, the organizational strategy-executive compensation relationship may be explained from two main theoretical perspectives, viz., contingency theory and expectancy theory. From a *contingency theory* perspective, it is suggested that executive compensation is contingent upon firm strategy since the compensation package may be designed to foster and promote behaviours required to achieve firm strategy; that is, firm strategy drives executive compensation. *Expectancy theory* suggests a similar relationship. That is, executives are motivated to work towards the achievement of the firm's goals and strategies since it is expected that such effort will be appropriately rewarded. Again, firm

strategy precedes the executive compensation package.

A number of empirical studies have examined how organizational strategy acts as a determinant of executive compensation. Balkin and Gomez-Mejia (1990), Berg (1969), Kerr (1985), Lorsch and Allen (1973), Murthy (1977), Murthy and Salter (1973), Pitts (1974), and Rose and Shepard (1997) all found that a firm's strategy, judged by the extent and types of diversification activities, influenced executive compensation. Other studies found that organizational and product life cycles (Balkin & Gomez-Mejia, 1987), and "industry type" (Deckop, 1988; Eaton & Rosen, 1983; Raviv, 1985; Rajagopalan & Prescott, 1990; Scherer, 1980), both closely related to organizational strategy, influenced executive compensation.

In the executive compensation-related studies which used the Miles and Snow (1978) typology (Rajagopalan & Finkelstein, 1992; Veliyath, Ferris & Ramaswamy, 1994)<sup>2</sup>, it was found that Prospector (innovative) firms generally paid their executives better (absolute amounts) than others, a finding that supports an earlier contention made by Carroll (1987). The authors in these studies posited that this may be a reflection of greater employment risks faced by these managers.

Further, in one study that examined structural aspects of executive compensation (Rajagopalan, 1997), it was found that long-term/stock incentives have a stronger positive performance effect among Prospectors than among Defenders. Thus, it is logical to expect that stock options would be used more heavily by Prospectors; this would be consequently reflected in higher stock-based pay for CEOs in Prospector firms. Gaver and Gaver (1995)

---

<sup>2</sup>These studies were examined in detail in the literature review.

also found that executives of growth firms (similar to Prospectors) received a larger portion of their compensation from long-term incentives (mainly stock-based compensation), while those of non-growth firms received a larger portion of their pay from fixed salary.

Based on the above, it is suggested that:

*H1a: Chief Executive Officers in Prospector firms will earn more than their counterparts in the other strategic types, in terms of total compensation and individual compensation components.*

*H1b: Chief Executive Officers in Prospectors will earn proportionately more in stock-based/long-term compensation than their counterparts in other strategic types.*

#### **(b) The Firm Size-Executive Compensation Relationship**

Firm size and firm performance have been central to the study of executive compensation, probably ever since the issue came under the empirical microscope, and it is imperative that they be included in any related research. Over time, many researchers have investigated the “*size maximization hypothesis*” which posits that executives consciously increase the size of their firms since larger firms are deemed to be more prestigious and more financially rewarding. From another perspective, other researchers using *human capital theory* argue that increasing firm size requires higher levels of human capital, such as education and experience, for organizational success (Agarwal, 1981; Gerhart and Milkovich, 1990). Thus, executives in large firms are paid at higher levels than their counterparts in smaller firms.

One of the few consistent findings in the literature is that firm size is positively related

to executive compensation (Agarwal, 1981; Barkema & Gomez-Mejia, 1998; McGuire, Chiu & Ebing, 1962; Roberts, 1959; Taussig & Barker, 1925; Veliyath, et al, 1994). Various explanations have been offered for this relationship, including the contention that with increasing organizational size is an associated greater responsibility and tasks requiring better management skills and education. Size may also be a proxy for job complexity and levels of management.

Based on the above, it is hypothesized that:

*H2: CEOs in larger firms will earn more than their counterparts in smaller firms, in terms of total compensation and individual compensation components.*

### **(c) The Organizational Performance-Executive Compensation Relationship**

The firm performance-executive compensation relationship has also been widely researched, mainly under the “*profit maximization hypothesis*” - that is, executives are rewarded for maximizing firm performance. Evidence on this relationship has been mixed. However, much of this research utilizes “flawed” accounting measures such as annual firm profits, which can be contaminated by accounting procedures and which may display a collinearity problem with firm size. Of recent, many researchers have begun using more promising cumulative (over a few years) measures, such as average stock price/return on stock investments and average earnings per share (e.g., Rajagopalan, 1997; DiNardo, Hallock, and Pischke, 1998).

Nevertheless, there is still considerable controversy as to the influence of firm performance on executive compensation. While some studies have reported a positive

relationship between the two variables (e.g., Lambert & Larcker, 1985; Coughlan & Smith, 1985), others have found that the relationship is not significant (Kerr & Bettis, 1987; Eaton & Rosen, 1983; Finkelstein & Hambrick, 1989). However, recently many organizations have been criticized by various stakeholders (employees, shareholders, the general public, the press, etc.) for displaying double-standards in laying off workers and cutting wages in times of financial difficulties but at the same time increasing executive compensation. Such pressures, in part, have led to the enactment of legislation (such as the amendment of the *Ontario Securities Act, 1993*) requiring public companies to disclose relevant information on executive compensation. Such legislation seems to be achieving the desired effect, viz., bringing executive compensation in line with organizational performance (see for example, Mayers, 1996).

However, as some scholars suggest, accounting and market-based performance measures may have different impacts on the structural components of executive compensation (e.g., Barkema and Gomez-Mejia, 1998; Rajagopalan, 1996). That is, accounting performance measures emphasize short-term, usually annual, performance, whereas market-based measures emphasize long-term objectives. Thus, these different performance measures should reflect such considerations in the compensation package. As Rajagopalan (1997) argues, bonus plans and short-term compensation:

“...tend to emphasize short-term performance because, in general, they use annual indicators of financial performance to evaluate managers...accounting measures of performance such as return on equity, return on investment, and earnings per share have the advantages of allowing the firm to target specific objectives and focus management on asset management and efficiency” (p.768).

On the other hand,



“...long-term plans impose less risk upon a firm’s managers than short-term plans because managers are less likely to be penalized for short-term fluctuations in performance over which they may have little control...[w]here the scope of managerial actions is such that it would be difficult to deconstruct performances into discrete actions or objectives, market-based performance measures (such as market return to shareholders/stock price growth) provide a more holistic evaluation of a firm’s performance than accounting measures” (p.769).

Based on the above, it is expected that:

*H3a: Short-term CEO compensation will be better predicted by accounting-based performance measures than by market-based performance measures.*

*H3b: Long-term/stock-based CEO compensation will be better predicted by market-based performance measures than by accounting-based performance measures.*

#### **d) The Executive Tenure-, and Education-Executive Compensation Relationships**

Studies emanating from sociology (power theory) and political science (agency theory) suggest that an executive's power in an organization, measured largely in terms of tenure, is positively related to his/her compensation (Allen, 1981; Hill & Phan, 1991; Finkelstein & Hambrick, 1989; Westphal & Zajac, 1994). It is posited that executives use their organizational power to serve their self interests through their control over compensation-setting boards of directors, as well as their own authority in setting compensation levels and design. From a human capital perspective, a CEO with longer tenure may reflect better ability and success on his/her part, and thus the need for higher compensation. As previous research suggests, the main component of tenure is service as CEO in the “current” firm (e.g., Agarwal, 1981); that is, firm-specific CEO tenure. Using human capital theory, it is also suggested that education may have a positive impact on executive compensation, since firms

may pay more for additional skills and knowledge (Agarwal, 1981).

Based on the above, it is suggested that:

*H4a: Chief executive officer compensation (total and individual components) will be positively related to firm-specific CEO tenure.*

*H4b: Chief executive officer compensation (total and individual components) will be positively related to CEO education.*

### **(e) The Overall Relationship**

From the theoretical framework established in this section and a review of the empirical studies (e.g., Balkin & Gomez-Mejia, 1990; Kerr, 1985; Rajagopalan & Finkelstein, 1992; Veliyath. et al., 1994), it is evident that firm strategy influences executive compensation. Using *contingency theory*, it is posited that CEO compensation has to be aligned or congruent with firm strategy for optimal performance. That is, firm strategy influences executive compensation.

As noted before, motivation theory can also be used to explain why firm strategy may be driving executive compensation. Using *expectancy theory* (Vroom, 1964), many behavioural scientists contend that executives are motivated by an appropriate reward package so as to further the company's goals and strategies (Freedman & Montanari, 1983; Lawler, 1990; Salter, 1973). Thus, a firm's strategy precedes or drives the executive compensation package. Thus, it is hypothesized that:

*H5: Firm strategy will add incrementally to the effects of size, performance, tenure, and education in explaining the level of CEO compensation, in terms of total compensation and individual compensation components.*

## VI. Methodology

### Population and Samples

The population consisted of an enumeration of all CEOs (N = 102) of firms in the Ontario-based metal mining industry listed on the Toronto Stock Exchange; company presidents were used when there were no named CEOs<sup>1</sup>. As in previous studies of a similar nature, subsidiaries of other companies and foreign-based firms were excluded (see for example, Thomas, Litschert and Ramaswamy, 1991; Veliyath, et al., 1994). Subsidiaries were excluded since it was unclear whether or not they were in control of strategic decisions. Data for most companies also only exist at the company/corporate level. Foreign-based firms were excluded because they may be operating in different legal, social, political, and economic environments quite different from Canada. Further, the focus of the study is on Canadian-based firms.

Ontario-based firms were used since chief executive compensation data are available as a result of changes in the *Ontario Securities Act* in 1993. This legislation requires all firms that trade in Ontario to submit annual reports on all components of compensation for their CEOs/Presidents/Chairs and four other top earning executives, if their compensation is over \$100,000 each for the year. Reports for CEOs have to be filed regardless of the amounts they earn. Ontario-based firms on the Toronto Stock Exchange were targeted because of the relative ease of obtaining supplemental information from these companies (geographical proximity, etc.), as well as the public nature of performance data for listed firms.

---

<sup>1</sup>"CEOs" used throughout the thesis instead of "CEOs/Presidents." "Chairmen" were not included unless they were also the CEOs of the firm.

It was important to select firms characterized by a primary business activity or one main organizational strategy; that is, where business efforts are concentrated on a single product or a related group of products since highly diversified firms may have different strategies for different products/services. Thus, metal mining firms (Standard Industrial Classification system, Group 10) were selected. This industry is also the most heavily represented on the TSE, thus offering the best opportunity for robust statistical analyses. Further, examining a particular industry will control for any industry effects/external factors on executive compensation strategy (Raviv, 1985; Magnan and St-Onge, 1997). This is essential since compensation systems may vary across industries as a reflection of varying degrees of profitability and barriers to entry (Deckop, 1988; Eaton & Rosen, 1983; Rajagopalan & Prescott, 1990). As Antle and Smith (1988) note, firms within the same industry face the same economic conditions and similar business risks, and as Agarwal (1981) and Eaton and Rosen (1983) found, controlling for the effects of industry significantly improves the degree to which the composition of top compensation is explained by organizational and individual factors. As a result of these factors, most scholars have focused on one industry when classifying firms into the Miles and Snow strategic archetypes (e.g., Rajagopalan, 1997; Rajagopalan and Prescott, 1990; Veliyath, et al., 1994).

### *The Metal Mining Industry*

The Canadian metal mining industry (SIC Code 10), which includes producers of gold, copper, diamonds, nickel, zinc, and silver, among others, is dependent on a host of factors for its viability. Since all the firms in this study were on the TSE, several other factors other than

those inherently management-oriented affected a firm's profitability. These include: domestic demand (thus the state of the local economy); economic performance of major export markets, especially the United States (accounts for approx. 80% of all metal exports); supply (for example, "dumping" of gold by former Soviet Republics led to an over supply problem in 1994-5 and consequent price decreases); exchange rates; and, inventories.

Mainly as a result of fluctuations of the above, world market prices of metals have experienced considerable volatility (Natural Resources Canada, various annual reports, 1990-1996). Prices for some of these products are shown in Table 1.

*Table 1: Metal Price Record (yearly averages)*

	Zinc (US\$/lb)	Lead (US\$/lb)	Silver (US\$/oz)	Gold (US\$/oz)
1982	.3840	.2470	7.87	374.92
1983	.3742	.1946	11.61	426.69
1984	.4520	.2003	8.13	360.27
1985	.3794	.1766	6.14	317.27
1986	.3604	.1835	5.46	367.92
1987	.3720	.2695	7.00	446.46
1988	.5364	.2958	6.54	436.72
1989	.7770	.3059	5.50	381.24
1990	.6896	.3691	4.84	383.78
1991	.5061	.2357	3.86	353.50
1992	.5624	.2459	3.95	344.18
1993	.4364	.1842	4.30	359.77
1994	.4540	.2518	5.30	384.65
1995	.4678	.2862	5.19	384.16
1996	.4652	.3513	5.20	387.71

Source: Natural Resources Canada, Annual Reports, various years.

Thus, the "risk" factor is relatively high in this industry. As one firm in the sample reported:

"the exploration and development of mining properties involves high risks and significant

competition. The mining industry is highly speculative in nature, involving many risks which even a combination of scientific knowledge, technical skills, and industry experience cannot always overcome, often resulting in unproductive efforts. There can be no assurance that the exploration, development and production activities of the Company will be viable in the future.”

Thus, the performance of a company may be at the “mercy” of the market and other factors external to the company.

### Data Sources

Executive compensation data for 1996 were drawn from Form 40 submissions by the firms filed with the Ontario Securities Commission (OSC); these reports are available from the Laser-D CD-ROM database (Micromedia). Data missing from this database were acquired, when available, directly from Micromedia, a firm contracted by the OSC to tabulate the data and to which it has exclusive rights. The data for the cluster analytic procedures used in classifying firm strategy were taken from company annual reports, the Compact-D CD-ROM database (Micromedia), and other financial documents (e.g., Financial Post data cards, etc.). The same sources were used for data on firm financial performance and size for the 1994-96 period. Missing data were acquired directly from the firms in question. A comparison of company-originated data and data on the electronic databases revealed complete accuracy of the latter data.

A survey of firm strategies using the basic paragraph method (see Procedures and Appendix 1) was used to validate the strategic groups derived from cluster analysis. Data on tenure and CEO education were collected from this survey, as well as from recent editions of the publication “Who’s Who in Canadian Business.”

### Research Variables and Instrumentation

Organizational Strategy: The Miles and Snow (1978) framework, as described earlier, was used to classify firms into strategic types. Even though there are a number of useful typologies in the strategic management and organizational behaviour literature (e.g. Porter, 1980; Rumelt, 1974), "the Miles and Snow typology seems to have the clearest implications for compensation system differences" (Caroll, 1987, p.350). That is, it is relatively easy to match compensation systems with the Miles and Snow strategic archetypes. Many researchers have successfully utilized this typology in recent studies to relate overall organizational strategies and various organizational elements (Conant, Mokwa & Varadarajan, 1990; McDaniel & Kolari, 1987; Raghuram & Arvey, 1994; Veliyath, Ferris & Ramaswamy, 1994). As Balkin and Gomez-Mejia (1992, pp.77-78) state, "the Miles and Snow typology has proven to be very robust and adaptable as evidenced by its successful application to the study of a wide variety of strategic issues...empirical results also provide strong support for its reliability and validity." Along similar lines, in an evaluation of the reliability and validity of the Miles and Snow (1978) instrument (paragraph method and variations), Shortnell and Zajac (1990) state that "overall, the results provide strong support for the measurement of Miles and Snow's (1978) strategic types...researchers can use the typology with increased confidence in future work in organizations and their strategies" (p.830).

In measuring strategy, both "intended" and "realized" initiatives are important but the correspondence between the two is not necessarily high (Mintzberg, 1978, 1987; Snow & Hambrick, 1980). Actions, not intentions or plans, are likely to have a greater impact on costs and behaviours related to executive compensation. As such, the study focuses on realized

strategies; that is, current strategies which have been consistent or stable over time (Miles & Snow, 1978; Mintzberg, 1978). This approach is consistent with several studies in the field (e.g., Chrisman, Hofer & Boulton, 1988; Gerhart & Milkovich, 1990; Hofer & Schendel, 1978).

Recently, a number of studies have been using cluster analysis to “cluster” or classify firms into the Miles and Snow’s strategic archetypes (e.g., Conant, Mokwa & Wood, 1987; Veliyath, et al., 1994). This procedure may be considered as more reliable and valid, especially when triangulated with the paragraph method self-classifications, than the paragraph method only. As such, company data were “clustered” based on five-year averages of relevant indices (see section on procedures); five-year averages should result in strategic archetypes that are relatively stable.

Executive compensation, comprises several components and it is important to measure each. Consistent with proxy forms submitted to the Ontario Securities Commission, and as stipulated by the Ontario Securities Act, this study will focus on seven components: salary, annual bonus, “other” annual compensation, total short-term compensation, stock-based compensation, “other” long term incentives (LTIs), and total compensation for 1996. For purposes of this study, these components may be grouped under two main categories: short-term and long-term (mainly stock-based) compensation.

While, the sum of annual salary and bonus has been frequently used as a proxy for the level of executive compensation in previous research [the summation of these two figures represents approximately 64-80% of total executive compensation (Agarwal, 1981; Kerr & Bettis, 1987; Rajagopalan, 1997; Rajagopalan & Prescott, 1990; Veliyath, et al., 1994)], the



other components, especially stock-based compensation, are increasingly being used by company executives. Thus, it is logical that these should be separately measured since the determinants may differ across components.

*Short-term compensation* is a combination of salary, annual bonus, and other annual compensation. *Salary* is measured as the amount reported, plus any consulting fees paid by the organization for his<sup>2</sup> services. *Annual bonus* is also measured as reported; this includes all annual cash compensation paid to chief executives as a result of agreed upon criteria such as performance. *Other annual cash compensation* (this is how it is reported by the firms) includes perks and benefits; this figure is most likely an underestimation for firms with relatively low salaries and bonus since the legislation stipulates that firms may choose only to report figures that exceed \$50,000 or 10% of the CEOs aggregate salary and bonus whichever is larger. Nevertheless, many firms submitted these figures despite the fact that they were below that stipulated. Since this is a relatively small component, it is combined with salary in this study to reflect *total fixed annual compensation*. Thus, *total short-term cash compensation* includes total fixed annual compensation plus annual bonus.

*Stock-based/long-term compensation* is measured in terms of exercised stocks in 1996; that is, the amount of cash a CEO receives as a result of “cashing in” on held stock options. This variable has been similarly measured by many scholars (see for example, Griner, 1995; Rose and Shepard, 1997) and is generally accepted as an indicator of stock-based compensation by the Securities and Exchange Commission (SEC), OSC, and accompanying

---

<sup>2</sup>The sample/population was exclusively male.

legislation (Griner, 1995). However, exercised options, as a measure, suffers from two weaknesses. First, it understates current compensation in years that CEOs receive substantial option grants - the *ex ante* value of options is not recorded as compensation. Second, it overstates current compensation in years that options are exercised, when the entire *ex post* gain is attributed to current compensation (Rose and Shepard, 1997). As Rajagopalan (1997, p.763) notes. "...executives can often choose when to receive stock bonuses or realize stock options, and it is almost impossible, therefore, to specify the year or years when the income generated by such plans should be credited to the executive's compensation package."

While it would be ideal to incorporate the "future-oriented" or "uncashed" stock option component into the total compensation figure, this could not have been done in this study for a number of reasons. First, a majority of firms did not provide enough information to facilitate such computations. For instance, to use the Black-Scholes Option Pricing formula, information is required, among others, on the amount of stocks issued (including stock appreciation rights, restricted stocks, phantom stocks, etc.), period to maturity, exercise price, dividends per share, future interest rates, and share prices for the past four or five years. Many companies do not report some of these vital figures. This problem is compounded by the fact that executive compensation data reports (Form 40) have only been filed since 1994; figures for stocks granted prior to 1993, but still held, are thus unknown. Other researchers have faced similar problems and as Berton (1990) concluded, "most companies don't give enough specifics to make the calculation" (p.226).

Second, as many researchers have noted, the complex mathematical methods that have been developed to value the various forms of stock-based compensation require guesses on

some indices (e.g., interest rates and opportunity costs), leading to widely divergent estimates as to the cash value of such compensation (Gomez-Mejia, 1994; Rajagopalan, 1996).

*Other Long Term Incentives (LTIs)* are fixed incentives such as paid insurance premiums and imputed interest on reduced rate loans. *Long-term compensation* comprises both stock-based compensation and other LTIs. However, this latter figure is typically small; thus, stock-based compensation is generally reflective of, and comprises the major portion of long-term compensation. *Total Annual Compensation (1996)* is a combination of all the components.

Organizational performance can be measured by both accounting and market-based indices (see section on accounting and finance in the literature review). It is recognized that because of varying accounting procedures, some of these figures, such as reported profits or earnings per share, may be questionable (Dyl, 1989; Gomez-Mejia, 1994; Rappaport, 1981, 1986). Further, market measures, such as share price, can reflect the impact of market idiosyncrasies rather than an organization's efficiency (Gibbons & Murphy, 1990; Lambert, 1993; Sloan, 1993). As such, organizational performance was separately measured in the model in terms of each of these indices, namely, earnings per share and return on market/share price. Each was averaged for a three-year period (1994-96) and assessed separately.

A three-year (1994, 1995, 1996) period reflects the fact that firms usually take the immediate past and current performance into consideration when making compensation decisions. This practice is evident in many firms in the sample. Further, the current year is taken into consideration because many firms offered "new" or "renewed" compensation

packages during 1996, which suggests that the current year (1996) [and immediate past fiscal years] may have been taken into consideration by compensation committees.

Organizational size: As in previous research, the book value of a firm's total assets was used to operationalize this variable (Eaton and Rosen, 1983; Veliyath, et al., 1994). Like the performance variable, this was averaged for a three-year period; that is, an average 1994-96 figure was used to ensure stability of the size factor, as well as considerations made explicit under "organizational performance" above. That is, both immediate past and current figures are taken into account when compensation committees make their decisions.

Executive tenure: Previous research suggest that firm-specific experience as a CEO may be a significant determinant (e.g., Agarwal, 1981); thus, this variable was operationalized as the total number of years the CEO has worked in that position in the firm under study.

Education is measured in terms of highest education achieved, and was coded in the following manner: 1. High School; 2. College/Technical; 3. Bachelors degree; 4. Masters degree; 5. PhD.

### Procedures

The selected sample of firms was first categorized into Miles and Snow's (1978) strategic archetypes using cluster analysis. Cluster analysis is a technique commonly used to classify firms into strategic groups (Ketchen & Shook, 1996). Previous studies that have used cluster analysis to classify firms according to the Miles and Snow (1978) framework include Veliyath, et al (1994), Smith, Guthrie & Chen (1989), and Conant, Mokwa & Wood (1987); the Veliyath et al. (1994) study used archival data. The use of cluster analytic techniques may

be viewed as a psychometric advance over the self- and managerial-typing methods some researchers use to classify firms into Miles and Snow's strategic groups.

The firms were clustered on the following four variables/ratios: total revenues to assets; exploration expenditures to total revenues; general administrative expenses to total revenues; and, total operating expenses to revenues<sup>3</sup>. The variables, derived from archival data, were averaged over a five-year period (1992-96) so as to allow relatively stable firm strategies to be derived (Veliyath, et al., 1994). The selected classificatory variables represent integral aspects of the Miles and Snow (1978) typology and have theoretical support in the literature (see Thomas, Litschert & Ramaswamy, 1991; Veliyath, et al., 1994). That is, the variables are related to distinctive characteristics evident in Miles and Snow's archetypes.

Two critical dimensions of firm strategy in the Miles and Snow (1978) model are "administrative and operational efficiency" and "the search for new or more products", as evident in expenditures on exploration. The variables/data used in the cluster analysis reflect these considerations.

*Revenues per unit of Assets:* This ratio measures the efficiency of asset utilization. Defenders are characterized by stability and high degrees of operational efficiency and are thus expected to score the highest, followed by analyzers (who are between defenders and prospectors in terms of efficiency) and prospectors.

---

<sup>3</sup>Total revenues include sales and other income from investments; assets are indicated by the stated book values; exploration expenses are expenses incurred in exploring new sites; general administrative expenses include salaries, rent, office supplies, and other general administrative expenses (excluding advertising and promotion); and total operating expenses include all other expenses (such as advertising and promotion, mining at current sites, etc) plus exploration and general administrative.

*Exploration Expenditures to Total Revenues:* Previous research emphasizes the use of research/exploration expenditures to differentiate strategic types (e.g., Snow & Hrebiniak, 1980; Thomas, et al., 1991). Hence, a ratio of exploration expenditures to total revenues was used as a standardized indicator of a firm's propensity to search for new/more products. A similar variable (R & D expenditures to total sales) has been used in a number of studies that investigated the Miles and Snow typology (e.g., Thomas, et al., 1991; Veliyath, et al., 1994; Hambrick, 1983; McDaniel & Kolari, 1987). Since prospectors engage in more innovative activity, they are expected to rank higher on this variable.

*General Administration Expenses per dollar of Revenue:* This is a measure of relative lack of administrative efficiency (Veliyath, et al., 1994). As prospectors seldom attain high levels of efficiency, they were expected to score the highest on this ratio, followed by analyzers and defenders.

*Total Operating Expenses to Revenues:* This is also a measure of lack of efficiency. It combines general administrative and exploration, as well as mining and other expenses. This is useful as it strengthens the relationships established by the separate expenses, as well as adding another dimension, viz., development and other expenditures such as promotion and advertising. Prospectors are expected to score the highest on this ratio.

An analysis of the icicle plots, agglomeration coefficients and the dendogram derived from the agglomerative hierarchical cluster analysis, using the variables identified above, revealed three identifiable clusters: Cluster 1 was the largest group with 68 firms, with Cluster 2 having 30. Cluster 3 had only 3 firms. One firm could not be classified because of missing data (a total of 101 firms were thus classified). Based on the statistics of the classificatory

variables, Cluster 1 was identified as Prospectors and Cluster 2 as Defenders (see Table 2). Cluster 3, though it revealed some reactor-type indicators, was too small for any substantive deductions. Thus only these two groups (Clusters 1 and 2) were analyzed. While it was somewhat surprising that there were no firms identified as Analyzers, this is not unusual in the literature (see for example, Rajagopalan, 1997; Hambrick, 1981a,b; Hambrick, 1983; Baret and Windham, 1984; Slocum, Cron, Hansen, and Rawlings, 1985; Simon, 1987). The absence of Analyzers could be attributed to the fact that in order for a firm to be classified as an Analyzer, it would have to be more efficient than a Prospector and more innovative than a Defender. In the metal mining industry, constrained by fluctuating profitability and other factors (Natural Resources Canada, various years), firms may be unable to deploy the resources for both internal efficiency and aggressive innovation, the hallmarks of an Analyzer strategy (Rajagopalan, 1996; Ramaswamy, Thomas, and Litschert, 1994).

As Table 2 below shows, firms in Cluster 1 had significantly lower values on total revenues/assets, with Cluster 2 showing significant increases. This is to be expected since Defenders are characterized in the Miles and Snow (1978) typology as the most stable and efficient, thus realizing the greatest asset utilization efficiency values. As expected, Cluster 1 averaged significantly higher on the exploration expenses to revenue ratio, which implies that Prospectors in the sample display the greatest propensity to search for new and/or more products. For the 'inefficiency' measure, general administrative expenses per dollar of revenue, Cluster 1 averaged significantly higher than Cluster 2, suggesting that prospector-like firms use a comparatively greater proportion of their revenues to manage the organization. A similar result is obtained for the ratio of total operational expenses to revenues. Thus, both

Clusters 1 and 2 displayed characteristics evident in Prospector and Defender firms, respectively.

*Table 2: Strategic Archetypes Derived from Cluster Analysis*

Cluster Variables	Cluster 1 (Prospectors)	Cluster 2 (Defenders)	F-Ratio	P-values
Revenues to Assets	.04 (p)	.54 (d)	113.63	.0000
Expl Exp to Revenues	2.30 (p)	.17 (d)	3.12	.0805
Gen Adm Exp to Revenues	4.00 (p)	.21 (d)	6.51	.0123
Total operational exp to revenues	9.11 (p)	1.20 (d)	4.48	.0369

Notes: Cluster algorithm - Wards. Each variable averaged for the firm over the five years 1992-96. The figures reported are the actual means of the variables. The letters within parentheses indicate which clusters were the most prospector-like (p) or defender-like (d) on each row variable. Four cases were deleted (one for missing data and three "Reactors") thus reducing the sample to 98(68 Prospectors and 30 Defenders). Statistical significance tested using a one-way ANOVA.

### Validation of Strategic Types

A multiple approach to validation was employed. First, the reliability of the clusters was examined. Reliability is a necessary but not sufficient condition of validity (Kerlinger, 1986). One of the primary methods of ensuring reliability is to split a sample and analyze the two halves separately. Consistency across the two halves indicates reliability provided that the two halves are not significantly different on relevant criteria. Thus, the sample was split into halves with the first 51 cases (data arranged largely in alphabetical order - by firm names) grouped into the first sub-sample. An examination of the classificatory variables revealed no



major differences that may affect subsequent statistical interpretations (see Table 3 below).

*Table 3: A Comparison of the Classificatory Variables: A Split-Half Reliability Test*

Variables	1st half		2nd half		Significance	
	Mean	SD	Mean	SD	F-ratio	P-value
Exp Exp to Revenues	13.17	62.56	12.49	69.90	.0031	.9560
Oper Exp to Revenues	32.97	149.45	27.51	125.83	.0393	.8432
Revenues to Assets	.16	.19	.22	.39	.9583	.3300
Gen Adm Exp to Assets	18.97	89.64	11.42	53.29	.2636	.6008

Notes: Significance tested using a one-way ANOVA.

Cluster analysis on the two halves, using the same procedures employed with the full sample, revealed 96% consistency; that is, 97 firms out of the 101 were classified exactly as in the full sample. This suggests high reliability of the original clusters.

Second, the stability of the strategic groups/clusters was examined. While it is acknowledged that strategies may change over time, it is logical to assume that most companies would not change radically from a Prospector to a Defender, or vice versa. This was confirmed through an examination of the surveys/questionnaires received from respondents. Thus, the strategic orientation of the firms was re-analyzed for the 1993-96, 1994-96, and the 1995-96 periods, using relevant average data from these years. That is, the four ratios were re-calculated for a four-year, a three-year, and a two-year period respectively, and cluster analysis performed in each case. For the 1993-96 period, there were 6 deviations from the 5-year results for a 'consistency' rate of approx. 94%; for 1994-96, there were two

deviations (98% consistency), and for the 1995-96 period, 4 deviations (96% consistency). This not only suggests strategic stability but reliability of the clusters as well (test-retest analysis).

Theory can also be used to deduce validity of the clusters (Ketchen and Shook, 1996). The Miles and Snow (1978) theoretical framework suggests that firms can be clustered based on their search for new/more products or innovativeness, as well as administrative and operational efficiency. Thus, strategic groups derived from cluster analysis should be generally indicative of the theory-based predictions. In this study, four variables/ratios were used to classify firms in line with the Miles and Snow (1978) framework. In all four instances (revenues to assets ratio; general administrative expenses to revenues ratio; exploration expenses to revenue ratio; and, total operational expenses to revenue ratio), the differences in the two clusters were significant and in the direction suggested by theory. For example, Prospectors displayed a significantly higher propensity to search for new and more products (as measured by the exploration expenses to revenues ratio). In previous research, Veliyath et al. (1994) reported theoretical conformity in four of their seven variables used for clustering, and Rajagopalan (1997) reported conformity in three out of four.

Finally, through questionnaire surveys, researchers also use incumbents (CEOs and other senior staff) to classify firms into Miles and Snow's strategic types. In these surveys, some researchers use the basic paragraph method (for example, James and Hatten, 1995; McDaniel and Kolari, 1987; Snow and Hrebiniak, 1980), whilst others use variations of the paragraph method (see for example, Thomas, Litschert, and Ramaswamy, 1991; Conant, Mokwa and Wood, 1987; Raghuram and Arvey, 1994). Since the paragraph method is easy to

administer (see Appendix 1) and found to be reliable and valid (James and Hatten, 1995), a survey incorporating this instrument was sent to the CEOs/Presidents of all firms in the sample. These were first mailed, and after a telephone follow-up to non-respondents, copies were also faxed. Responses were received from nineteen (19) firms, corresponding to a response rate of approximately 19%. While this response rate is somewhat low, it is not surprising taking into account the busy schedules of company executives. These firm-based classifications revealed a hit rate of approximately 84%; that is, 16 out of the 19 classifications by CEOs/company executives corresponded with that derived from the cluster analysis. An examination of the company data (exploration expenses, revenues, etc.) suggests that the three “deviant” cases may have been incorrectly classified by the executives (two of whom were not the CEOs). Nevertheless, a hit rate of 84% suggests high validity of the original clusters.

### Data Analysis

Hypotheses 1a proposed that executives in Prospector firms will earn more than their counterparts in other strategic types. To test this hypothesis (that CEOs in Prospectors will earn more cash compensation than their counterparts in Defender firms), one-way analyses of variance (ANOVA) was conducted to assess the significance of mean differences across the two strategic groups derived from cluster analysis. Hypothesis 1b suggested that CEOs in prospector firms will earn proportionately more long term/stock-based compensation than their counterparts in Defenders. Descriptive statistics and ANOVA were used to test this hypothesis.

Hypotheses 2, 3a and 3b, 4a and 4b, and 5 proposed that firm size, firm performance, firm specific CEO tenure, CEO education, and firm strategy will be positively related to and/or will explain some of the observed variance in the dependent variables (various components of chief executive compensation). To test these hypotheses, descriptive statistics and correlation analyses were first conducted to assess the size and direction of relationships, to assess probable inter-correlations, and to test Hypotheses H4a and H4b. Then, linear regression analyses were conducted with total CEO compensation for 1996, as well as the various components of the compensation package, as the dependent variables. The independent variables firm size and firm performance were averaged over the 1994-96 period, since firms tend to use immediate past and current figures as indicators to base compensation (Finkelstein & Hambrick, 1989). These data (1994-96) are considered long enough to limit the influence of short term irregularities but short enough to provide a reliable estimate of the organization's recent performance (McEachern, 1975; Tosi and Gomez-Mejia, 1989). A dummy variable (0 = Prospector; 1 = Defender) was used to represent strategy. Executive tenure and education were measured as continuous variables.

Thus, in general, the regression model was:

$$Y = a + bED + b FS + b FP + bET + bFS + e$$

where,

Y = chief executive compensation (or President where there is no CEO)

ED = CEO education

FS = firm size

FP = firm performance

ET = tenure as CEO of current firm, and,

FS = firm strategy

## VII. Results

### General

#### *Descriptive Statistics*

Table 4 below shows the descriptive statistics of the relevant variables in the full and sub-samples (Prospectors vs. Defenders).

*Table 4: Descriptive Statistics*

Variables	Total Sample			Prospectors			Defenders		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Salary	95	134.70	124.10	63	96.79	67.95	28	237.52	162.41
Fixed Annual Comp	95	138.97	127.35	63	100.23	69.90	28	243.45	167.90
Bonus	95	36.37	134.10	63	9.70	37.68	28	101.51	230.33
Total Short-term Comp	95	175.34	231.40	63	109.93	86.32	28	344.97	354.64
Exercised Options	95	96.67	290.70	63	98.16	258.59	28	106.45	373.21
LTIs	95	1.95	8.11	63	.83	4.71	28	4.74	12.89
Total Comp	95	274.00	400.60	63	208.92	282.50	28	456.16	567.20
Size (log assets)	101	9.84	1.86	68	9.40	1.24	29	10.96	2.56
EPS	99	.06	.61	66	.01	.52	30	.17	.78
Market Return	83	1.32	3.49	53	1.58	3.73	28	.88	3.13
Tenure	23	6.43	3.81	11	7.09	2.91	12	5.83	4.53
Education	38	3.71	.80	18	3.83	.79	20	3.60	.82
Strategy	98	.31	.46	68	0.00	0.00	30	1.00	.00

Notes: All monetary figures are in thousands of Canadian dollars (except log assets); US dollars were converted using the appropriate rates for the various years.

As Table 4 above shows, many of the variables vary considerably across strategic archetypes (the significance of these differences are shown in Table 5). While CEOs in Defenders earned more than their counterparts in Prospector firms, including all the components of the total compensation package, it is important to note that the proportion of stock-based pay (cash/exercised options) to total compensation is higher for Prospectors (approximately 47%) when compared to Defenders (23%). Table 4 also shows that Prospector firms are smaller, having lower earnings per share (an accounting performance measure) but higher returns on stock investments to shareholders (a market-based performance measure). CEOs in Prospector firms have also been in their current positions longer and are, in general, slightly more educated.

### **Hypothesis 1**

Hypothesis 1a suggested that CEOs in prospector firms will earn more in total compensation, including all its components, mainly as a result of prospector-like behaviours such as innovativeness and risk-taking. However, as Table 5 shows, this hypothesis is not supported. In fact, CEOs in Defender firms earn significantly more than their counterparts in Prospector firms, except for stock-based compensation where the difference in compensation is not significant (Hypothesis 1b).

*Table 5: Differences in Research Variables Across Strategic Archetypes*

Variables	Prospectors (mean)	Defenders (mean)	F-Ratio	P-Values
Salary	96,789	237,517	34.2198	.0000
Fixed Annual Compensation	100,230	243,555	33.2611	.0000
Bonus	9,698	101,514	9.5655	.0026
Annual Cash Compensation	109,928	344,969	24.7064	.0000
Cashed Options	98,161	106,448	.0150	.9028
LTIs	829	4738	4.4945	.0368
Total Annual Compensation	208,919	456,155	7.7346	.0066
Size (log assets)	9.40	10.96	16.5208	.0001
EPS	.01	.17	1.3746	.2440
Market Return	1.58	.88	.7339	.3942
Tenure	7.09	5.83	.6137	.4421
Education	3.83	3.60	.7969	.3779

Notes: Mean differences tested using a one-way ANOVA; N shown in Table 2; with the exception of assets, figures represent actual means; all monetary figures are in Canadian dollars.

These apparent inconsistent results necessitated further analysis. Firm life-cycle theory suggests that “younger” firms will have a lower ability to pay, when compared to “older,” more-established firms (Daft, 1995). Thus, younger firms may focus on long-term rather than short-term compensation. A post-hoc examination of firms within the two strategic groups revealed that Prospectors are younger than Defenders in terms of their life cycles. Using the year of incorporation as the indicator of firm age, Prospectors were found to be approximately



18 years old, compared to approximately 27 years for Defenders. In fact, this difference is statistically significant (using ANOVA, F-ratio= 3.1732; p-value= .0780). Further, as Table 6 below shows, almost 50% of the Prospectors were below 10 years old, compared to 37% for Defenders. On the other hand, almost 25% of the Defenders were over 50 years old, compared to 12% for Prospectors.

*Table 6: Age Distribution of Prospectors and Defenders*

Age (yrs)	Prospectors	Cumulative %	Defenders	Cumulative %	Total Sample	Cumulative %
1-10	32	47%	11	37%	45	44%
11-20	14	68	8	63	23	67
21-30	3	72	1	67	5	72
31-40	7	82	2	73	9	80
41-50	4	88	1	77	5	85
51-60	6	97	2	83	8	93
>60	2	100	5	100	7	100
Total	68		30		102	

Notes: The total sample includes firms classified neither as Prospectors nor Defenders.

These results suggest that firm strategy may be related to the stage of the firm in the life cycle (examined in more detail later in the “discussion” section).

## Hypothesis 2

Hypothesis 2a suggested that firm size would be positively related to CEO compensation and that CEOs in larger firms will earn more than their counterparts in smaller firms. Descriptive statistics, the correlation coefficients (Table 7), and the results of the regression analyses (Tables 8-14) suggest strong support for this hypothesis. As Table 7 shows, firm size is positively related to salary, fixed annual compensation, annual bonus, total short-term compensation, long term fixed incentives, and total compensation for 1996 (at  $p <$

.001), as well as cashed/exercised options (at  $p < .05$ ).

*Table 7: Pearson's Zero-Order Correlation Coefficients (one-tailed)*

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.00												
2	.9915***	1.00											
3	.5865***	.5669***	1.00										
4	.8855***	.8788***	.8913***	1.00									
5	.2495***	.2326**	.0467	.1551*	1.00								
6	.4205***	.4129***	.3108***	.4073***	-.0061	1.00							
7	.7010***	.6847***	.5550***	.6894***	.8151***	.2511**	1.00						
8	.7809***	.7838***	.5985***	.7781***	.1736**	.4695***	.5851***	1.00					
9	.2352**	.2284**	.4448***	.3898***	.1319	.1777**	.3212***	.3354***	1.00				
10	-.0765	-.0809	-.0344	-.0636	.3278***	-.0580	.2023**	-.2351**	-.0153	1.00			
11	.0526	.1911	.0282	.1490	-.0706	-.0632	-.0056	.1371	.0518	-.3155*	1.00		
12	.0772	.0521	.1282	.1045	.0901	.2549*	.1284	.0107	.1222	.4295***	-.2223	1.00	
13	.5270***	.5216***	.3115***	.4661***	.0130	.2193**	.2828***	.3849***	.1201	-.0959	-.1685	-.1472	1.00

Notes: \*\*\*  $p < .01$ ; \*\*  $p < .05$ ; \*  $p < .10$

1. Salary; 2. Fixed Annual Compensation; 3. Bonus; 4. Annual Short-term Compensation; 5. Cashed Options/Long-term compensation; 6. Long term Incentives; 7. Total Compensation; For the above, N=95.  
 8. Size (log assets); N=101; 9. Earnings per share; N=99; 10. Market Return; N=83; 11. Tenure; N=23;  
 12. Education; N=38; 13. Strategy; N=98.

Table 7 also suggests that larger firms enjoy higher accounting performance and their CEOs have been working longer in their current positions. They are also more defender-like and experience lower market performance.

Since there are fairly high levels of inter-correlations among the independent variables, a stepwise regression analysis was required to assess the unique effects of size on the dependent variables. Tables 8-14 show that size remains a significant predictor for salary ( $p$

< .001), salary and other annual fixed compensation ( $p < .001$ ), bonus ( $p < .001$ ), total short-term compensation ( $p < .001$ ), exercised options ( $p < .05$ ), fixed LTIs ( $p < .05$ ), and total 1996 compensation ( $p < .001$ ). These relationships are evident in both the full- and reduced models.

In the full-model (Model 1), the four main predictors are used (firm size, accounting performance, market-based performance, and strategy); listwise deletions of missing variables resulted in  $N=73$  for the stepwise regressions. In Model 2 (the reduced model in terms of degrees of freedom), firm-specific CEO tenure and education are added. The models are separate because of limited data for tenure and education ( $N=23$  and  $38$ , respectively); listwise deletion of missing variables resulted in  $N=17$  for the stepwise regressions. While Model 2 is not crucial to this study (that is, CEO education and tenure are not central to the study and do not have considerable support in the literature), it is included, in part, to demonstrate the relative stability of the relationships (strength and direction) among the significant main variables (i.e., executive compensation, size, performance, and firm strategy).

In all the models/regressions, firm size had to be transformed (natural log assets). An examination of the residuals revealed no violations of the assumptions necessary for regression analyses (e.g., normal distribution of errors, etc).

Table 8: Regression results: Salary as Dependent variable

Variables	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<i>In Equation</i>						
Firm size	.76	10.655	.0000	.64	3.900	.0016
Strategy	.18	2.486	.0153	.32	1.955	.0708
F-value	97.04		.0000	19.08		.0001
R-sq.	.73			.73		
R-sq. (Adj.)	.73			.69		
<i>Not in Equation</i>						
EPS	.06	.870	.3873	-.14	-.954	.3576
Market Return	.07	1.185	.2402	-.13	-.832	.4204
Tenure				.02	.124	.9030
Education				.18	1.215	.2458

Notes: In Model 1, R-sq. increased from .71 (size) to .73 (strategy) from Step 1 to Step 2; that is, strategy added .02. In Model 2, the corresponding figure was .04; In Model 1, N=73 (listwise deletions); Model 2, N=17.

As Table 8 shows, both firm size and firm strategy (Defender) are significant predictors of CEO salary for both models 1 and 2. The other independent variables (EPS and market return in Model 1 and EPS, market return, tenure, and education in Model 2) are not included in the equation. In both models, the explained variance (73%) is relatively high.

*Table 9: Regression results: Fixed Annual Compensation as Dependent variable*

	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<b>Variables</b>						
<i>In Equation</i>						
Firm size	.75	10.548	.0000	.61	3.426	.0041
Strategy	.18	2.517	.0141	.32	1.767	.0990
F-value	95.68		.0000	14.98		.003
R-sq.	.73			.68		
R-sq. (Adj.)	.72			.64		
<i>Not in Equation</i>						
EPS	.06	.978	.3316	-.15	-.941	.3640
Market Return	.07	1.116	.2682	-.17	-.985	.3426
Tenure				.18	1.172	.2620
Education				.11	.663	.5190

Notes: In Model 1, R-sq. increased from .70 in Step 1 to .73 at Step 2; that is, strategy added .03. In Model 2, the corresponding figure was .04

As in the case of CEO salary, firm size and strategy are significant predictors of fixed annual compensation (salary plus benefits and perks). As Table 9 shows, R-squared remains relatively high (.73 and .68 for models 1 and 2, respectively).

*Table 10: Regression results: Annual Bonus as Dependent variable*

	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<b>Variables</b>						
<i>In Equation</i>						
Firm size	.56	6.175	.0000	.79	5.322	.0001
EPS	.25	2.787	.0068	.26	1.791	.0966
Market Return				.34	2.259	.0417
F-value	32.51		.0000	13.79		.0002
R-sq.	.48			.76		
R-sq. (Adj.)	.47			.71		
<i>Not in Equation</i>						
Market Return	.06	.679	.4993			
Strategy	.02	.186	.8526	-.01	-.073	.9431
Tenure				-.06	-.459	.6546
Education				.12	.691	.5030

Notes: In Model 1, R-squared increased from .42 (size) to .48 (EPS) from Step 1 to Step 2; that is, EPS added .06. In Model 2, R-squared increased from .54 (Step 1 - size) to .70 (Step 2 - market return) to .76 (Step 3 - EPS).

For annual bonus, accounting performance (EPS) is added to firm size as a significant predictor in Model 1. While R-squared is reduced in this Model (.48), it is still relatively high. Market return is also significant in Model 2 and R-squared becomes considerably higher (.76). However, in Model 2, it is evident that Prospectors receive higher bonuses (negative coefficient), though not at statistically significant levels.

Table 11: Regression results: Total Short-term Compensation as Dependent variable

	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<b>Variables</b>						
<i>In Equation</i>						
Firm size	.83	12.713	.0000	.88	8.493	.0000
Strategy				.19	1.778	.0988
Education				.21	2.293	.0391
F-value	161.61		.0000	39.93		.0000
R-sq.	.69			.90		
R-sq. (Adj.)	.69			.88		
<i>Not in Equation</i>						
EPS	.11	1.615	.1108	.05	.500	.6264
Market Return	.07	.991	.3250	-.02	-.156	.8786
Strategy	.10	1.322	.1905			
Tenure				.14	1.600	.1356

Notes: In Model 2, R-squared increases from .85 (Step 1 -size) to .88 (Step 2 - education) to .90 (Step 3 - strategy)

As Table 11 illustrates, only firm size is a significant predictor of total short-term compensation in Model 1. A defender-like strategy loses its significant impact as a result of the bonus component. In Model 2, however, strategy and education are significant, with R-squared rising to 90%.

Table 12: Regression results: Exercised Options as Dependent variable

	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<b>Variables</b>						
<i>In Equation</i>						
Firm size	.24	2.159	.0343	.42	1.813	.0898
Market Return	.36	3.279	.0016			
F-value	6.73		.0021	3.29		.0898
R-sq.	.16			.18		
R-sq. (Adj.)	.14			.13		
<i>Not in Equation</i>						
EPS	.05	.457	.6494	.17	.714	.4871
Strategy	-.06	-.456	.6501	-.001	-.005	.9960
Market Return				.08	.307	.7635
Tenure				-.13	-.535	.6011
Education				.26	1.070	.3025

Notes: In Model 1, R-squared increases from .10 (Step 1 - market return) to .16 (Step 2 - size).

As Table 12 shows, market return and firm size are significant predictors of exercised options in Model 1, with only firm size retaining its significance in Model 2. While the sign of the strategy coefficient changes, which indicates that stock-based pay is greater for Prospectors, the effect is not statistically significant. R-squared is relatively low (.16 and .18).



Table 13: Regression results: Fixed LTIs as Dependent variable

	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<b>Variables</b>						
<i>In Equation</i>						
Firm size	.41	3.381	.0003	.61	2.963	.0097
F-value	14.68		.0003	8.79		.0097
R-sq.	.17			.37		
R-sq. (Adj.)	.16			.33		
<i>Not in Equation</i>						
EPS	.02	.206	.8375	.20	.967	.3499
Market Return	.01	.063	.9502	-.03	-.115	.9098
Strategy	.08	.616	.5397	-.11	-.423	.6735
Tenure				-.20	-.943	.3616
Education				.19	.912	.3773

For fixed long-term incentives, firm size is the only significant predictor (Table 13).

Further, R-squared is relatively low (.17 and .37). The strategy coefficient is also negative in the reduced model (LTIs more used by Prospectors).

Table 14: Regression results: Total Compensation as Dependent variable

	Model 1			Model 2		
	Beta	T-Ratio	p-value	Beta	T-ratio	p-value
<b>Variables</b>						
<i>In Equation</i>						
Firm size	.67	7.669	.0000	.68	3.203	.0059
Market Return	.31	3.494	.0008			
F-value	31.99		.0000	10.26		.0059
R-sq.	.48			.41		
R-sq. (Adj.)	.46			.37		
<i>Not in Equation</i>						
EPS	.10	1.118	.2676	.15	.736	.4739
Strategy	.02	.231	.8181	.04	.168	.8692
Market Return				.07	.343	.7365
Tenure				-.08	-.412	.6864
Education				.26	1.280	.2214

Notes: For Model 1, R-squared increases from .39 (Step 1 - size) to .48 (Step 2 - market return).

For total 1996 compensation, firm size and market return are significant predictors, with R-squared being .48. In Model 2, only firm size retains its significance (R-squared = .41).

### Hypothesis 3

Hypothesis 3 proposed that firm performance would be positively related to CEO compensation. More specifically, it was proposed that accounting performance would have a

greater impact on components of short-term/annual compensation and total short-term compensation (Hypothesis 3a) and that market-based performance would be a better predictor of long-term compensation/stock-based pay (Hypothesis 3b). As Tables 7 (correlation analysis) and 8-14 (regression analyses) show, there is support for both hypotheses. That is, for short-term compensation, earnings per share (EPS) is positively correlated with salary (.24), fixed annual compensation (.23), bonus (.44), and total short-term compensation (.39), all at significant levels (support for H3a). However, for stock-based/long-term compensation, EPS loses its significance; instead, market return is positively correlated (support for H3b), at a statistically significant level (.33). It is important to note that the market for metals, especially gold, has experienced tremendous uncertainty over the past few years (see previous section on the metal-mining industry); otherwise, this relationship might have been even stronger. In the regression analysis (Tables 8-14), EPS is kept in the equation for annual bonus (.25,  $p < .01$  - Table 10), and while not in the equation, has a strong positive relationship with total short-term compensation (.11,  $p = .11$ ; Table 11). For exercised options, as predicted, market return is kept in the equation (.36,  $p < .01$ ; Table 12).

#### **Hypothesis 4**

Hypothesis 4a proposed that a CEO's tenure in his current position would be positively related to his compensation. As Tables 7 and 8-14 show, there is no support for this hypothesis. More specifically, firm-specific tenure is not significant in any of the relevant relationships in Table 7, and is not kept in the equations in Tables 8-14. Of interest, the results suggest that for exercised stocks, fixed LTIs, and total compensation, the relationship is

negative. That is, CEOs with less firm-specific tenure receive more in terms of these compensation variables. However, this result must be interpreted with caution since there is a small number of valid observations for this variable ( $N=23$  or about 20% of the sample). Further, these relationships are not statistically significant. With regards to the CEO education-executive compensation relationship (H4b), with the exception of a significant, but weak positive relationship with long-term incentives (Table 7), there is no support for this hypothesis. For the regression analysis, education is kept in the equation for total short-term compensation only ( $.21, p < .05$ ; Table 11). Again, this result must be interpreted with caution.

### **Hypothesis 5**

Hypothesis 5 suggested that firm strategy would be a significant predictor of CEO compensation, controlling for other important variables. That is, it would add explanatory power to the “standard” predictor variables, viz., firm size and firm performance. As Tables 8-14 show, while the direction of the effect is not in line with the proposition (more compensation for Prospectors), the size is significant for some aspects of compensation. That is, CEOs in Defender firms earn significantly more in short-term compensation than their counterparts in Prospector firms when all relevant variables are in the equation (Tables 8-14; since Defenders were coded as 1, a positive coefficient signifies more compensation for Defenders). This effect does not apply for stock-based compensation (Table 12), which in turn affects total compensation (Table 14), since the direction changes for these structural aspects of compensation. That is, for stock-based compensation, the direction of the

relationship is in line with that proposed in the hypothesis. In other words, CEOs in Prospector firms earn more than their counterparts in stock-based compensation; however, the effect is not statistically significant.

### **General**

As Tables 8-14 show, the coefficient of determination (R-square) declines considerably from short-term (salary, fixed annual compensation, bonus, total short-term compensation) to total compensation. This is clearly a result of the effects of the long-term components. That is, the variables in the study explain short-term better than long-term compensation. Nevertheless, a significant amount of the variance is explained in all the components, as well as the overall package.

## VIII. Discussion

### *Firm Strategy and Executive Compensation*

It was hypothesized that chief executives in Prospector firms will receive more compensation - salary, annual fixed compensation, bonus, short-term cash, stock-based, fixed LTIs, and total compensation - than their counterparts in defender firms. These hypotheses were based on previous research which suggested that the CEOs would be appropriately compensated for behaviours generally found in Prospector-like firms, viz., innovation, creative thinking, and risk-taking (Rajagopalan and Finkelstein, 1992; Veliyath, et al., 1994)<sup>1</sup>. However, with the exception of stock-based compensation, CEOs in Prospectors received significantly lower compensation, controlling for firm size and other variables. These findings can be explained using theory and research on firm life cycles, and an examination of the structure of compensation packages across the strategic types.

Firm life cycle theory and research suggest that firms go through several stages in their development: birth, growth, maturity, decline, and death. Some firms may be able to stave off

---

<sup>1</sup>It is important to note that this study is not a total replication of any previous work. The Veliyath et al. (1994) and Rajagopalan and Finkelstein (1992) studies are the most similar of previous research. While the method of classifying firms into strategic types (cluster analysis) and focus (executive compensation) are similar to the two studies, this thesis utilizes different statistical analysis and different samples (industry and country). In comparing the two studies with this thesis, it should be noted that Veliyath et al. (1994) and Rajagopalan and Finkelstein (1992) did not attempt to measure the dollar value of the stock-option component. Thus, comparisons hold only for the salary and bonus components. Further, it is also important to note that the sample sizes in the two previous studies were 50 and 39. In both studies the size of each cell (by 3 strategic types) was less than 20; in fact, in the Veliyath et al. (1994) study, there were only six (6) Defenders. Thus there are questions on the statistical robustness of these results. Also, the industry in question is different in each study. Thus, all the studies may be accurate if different industries reward executives in the strategic types differently - only future research can address this issue.

death if during the period of decline they are able to reinvigorate themselves through strategies usually employed at the growth stage.

Firms at the entrepreneurial and growth stages of their cycles tend to be relatively small and “prospector-like” (Daft, 1995), with research and exploration being emphasized. Such firms usually have limited financial resources and their ability to pay is consequently limited. Thus, they tend to emphasize performance-based and variable long term incentive rewards, such as stock-based compensation. As noted earlier, Prospectors are significantly younger than Defenders in this study.

Firms trying to re-invigorate themselves at the decline stage would also display prospector-like characteristics. That is, as a result of limited financial resources and ability to pay, compensation committees would most likely emphasize long-term incentives, such as stock-based pay. This seems evident in this study. Many of the Prospector firms are relatively “old and small” which suggests that they may be on the decline (12 Prospector firms are actually above 40 years old - Table 6). Thus, in this period of re-invigoration, CEOs in Prospector firms receive relatively low short-term compensation.

In an earlier empirical study, Balkin and Gomez-Mejia (1987) found that firms at the growth stage of their product life cycles, where the proportion of research and development expenditures was relatively high, relied on incentive rewards. The reasoning applied to stage of the *product* life cycle can be applied to general firm life cycle. As Balkin and Gomez-Mejia (1987, p.171) noted,

“the stage in the life cycle is likely to be a key determinant of compensation strategies and their effectiveness in achieving organizational goals. One would expect those firms at the growth stage to pay employees more in the form of an incentive basis and less in the form of salary and

benefits. Such a policy would allow a growing business to shift some of its compensation costs from a fixed expense to a variable expense. The advantage of this strategy is that the firm receives float from employees and pays a portion of its compensation costs when it is in the best financial position to do so... as a result, the growing firm can secure greater flexibility to invest heavily in research and development, new technology, expansion of capacity, marketing and advertising (instead of additional compensation) to fuel the growth.”

The findings in this study suggest that Prospector firms are emphasizing long-term incentives (stock-based pay). This has allowed them to invest proportionately more in research, exploration and development, as well as marketing and advertising (included in total operating costs). Defender firms are more mature and stable, and risk is consequently reduced. Thus, as firms become more defender-like, they are more likely to emphasize fixed pay (salary and benefits) and pay proportionately less in variable long-term incentives. This is in line with arguments made by Thurnston (1968), viz., a fast-growing high-risk company needs to emphasize performance based pay versus fixed-pay for low-risk businesses (see quote on pg. 38).

Rajagopalan (1997) also reported similar findings in her study; that is, Prospector firms emphasize long-term incentives/stock options in their executive compensation strategies. As she contended,

“innovative, growth strategies are more likely to yield positive results in the long term than in the short term and often, there is a greater chance of failure associated with these strategies than less innovative strategies...from the viewpoint of the firm’s owners, incentive plans which promote risk-seeking behaviours and longer time horizons and control self-serving managerial behaviours are desirable for Prospector firms” (p.766).

The findings by Balkin and Gomez-Mejia (1987) and Rajagopalan (1997) are consistent with that reported in this study. First, as Table 4 shows, there is a greater proportion of risk-based pay in the compensation package for CEOs in Prospector firms. The stock-based



component accounted for 47% of the total compensation package of CEOs in Prospectors, compared to 23% for Defenders. In the regression analyses, these changing proportions are reflected in the comparative size and direction of the strategy coefficients when the dependent variables change from salary to bonus to cash compensation to stock-based compensation to total compensation. Further, among the 98 firms analyzed in this study, 10 reported no annual cash compensation for their CEOs; that is, chief executives in these firms relied totally on the firm's market performance (stock-based pay) thus putting their entire compensation package at risk. Of these firms, 90% (nine out of the ten) were Prospectors.

The bottom line of the foregoing discussion is that compensation for CEOs in Prospector firms may be lower than that of their counterparts in Defenders since Prospector firms are in the entrepreneurial/growth or decline/re-invigoration stage of their life cycles and are thus placing emphasis on stock-based pay, some of which (viz., future options) could not have been calculated in this study.

#### *The firm size-executive compensation relationship*

This study confirms previous research, including a meta-analysis (Tosi, Katz & Gomez-Mejia, 1998, as reported by Barkema & Gomez-Mejia, 1998), that reported a significant positive relationship between firm size and executive compensation (see for example, Agarwal, 1981; Roberts, 1959; Veliyath, et al., 1994; Rose and Shepard, 1997). In this study, not only is firm size positively related to overall compensation but with **every** component of the compensation package as well. There are two related explanations for this finding. As explained in previous research, executives in larger firms may be receiving more compensation since these firms are

generally more prestigious and thus, more financially rewarding. Larger firms are also more likely to have better financial resources and their ability to pay is consequently enhanced. These contentions are in line with the *size maximization hypothesis*.

From another perspective, an executive working in large firms is expected to have the necessary skills, knowledge, and ability to be successful. These qualities require higher levels of human capital (education, experience, etc.). Such human capital may or may not be reflected in institutional-granted recognition (degrees, etc.). For instance, technical expertise (e.g., surveying) and negotiating ability (to get access to Third World sites, for example) may be elements of natural ability, not reflected in formal degrees and other forms of such recognition. Nevertheless, the possession of such human capital justifies better compensation. That is, CEOs in larger firms are expected to have greater responsibility and tasks requiring qualitatively better human capital and are thus expected to be paid at higher levels than their counterparts in smaller firms. This explanation is in line with *human capital theory*.

#### *The firm performance-executive compensation relationship*

Firm performance has probably received the most empirical attention in the executive compensation literature (Gomez-Mejia and Wiseman, 1997). Despite seven decades of research, its relationship with executive compensation has remained elusive. As a recent review concluded researchers are going into a “blind alley,” and the call was for research that examined the effects of various performance measures on executive compensation design (Barkema and Gomez-Mejia, 1998). In line with this call, this study investigated the effects of an accounting and a market measure of performance on the various components on CEO compensation. The results

suggest that while earnings per share (the accounting measure) is a significant predictor of short-term compensation (bonus and total short-term compensation in the full model), it loses its significance for long-term/stock-based compensation. In fact, share price growth<sup>2</sup> and return on stocks are better predictors of such compensation.

This finding is in line with that reported in Rajagopalan (1997); that is, accounting measures are better predictors of short-term compensation, and market measures better predict variable long-term incentives/stock-options. Thus, this research supports the view that while performance measures may not be demonstrating a significant impact on executive compensation in the literature, it is evident that an analysis of the impact of different performance measures does yield insights on the design of total compensation packages.

#### *The executive tenure-executive compensation and education-executive compensation relationships*

Previous research evidence on the impact of executive tenure and education has been mixed. With the exception of the education-short term compensation effect, these variables do not have a significant impact on CEO compensation in this study. However, these overall results should be interpreted with caution given the small number of valid data points (23 for tenure and 38 for education). These generally non-significant results can be explained by the fact that there is little variation in both variables; that is, the CEOs have similar tenures (fairly long periods) and education (most have university education).

---

<sup>2</sup>Tested but not included in study - highly correlated with stock returns.

## *General*

As in U.S.-based research, firm size, and to a lesser impact, firm performance, impact the most on executive compensation in this study. There are a few reasons why CEO compensation in Canada may be reflecting these dynamics evident in the United States. First, recent disclosure rules may be having a pull-effect as Canadian CEOs compare their relatively low compensation with their U.S counterparts, some of whom work in U.S-based subsidiaries of Canadian firms. That is, CEO compensation in Canada may be playing catch-up with, and be reflective of, CEO pay in the United States. Second, with the dismantling of trade barriers, Canadian CEOs are increasingly taking up world-wide positions, where they are probably making constant compensation comparisons with their counterparts.

It is important to note, however, the contradictory results with regards to the effects of firm strategy on CEO compensation. In the previous U.S.-based studies, it was found that Prospectors earn more than their counterparts in other strategic groups; however, in this study, Defenders were found to be earning the most. Do Canadian firms place a different value on prospector-like strategies? Are the effects of firm strategy somehow bound by cultural factors? Are there industry effects? Since all the studies that have used Miles and Snow (1978) typology to examine the firm strategy-executive compensation relationship can be described as exploratory, answers to such questions can only be addressed in future research.

## *Contributions to Theory and Practice*

This thesis makes a significant contribution to the literature. First, this study uses a multidisciplinary framework to study the determinants of executive compensation; such a

framework is generally lacking in the literature. Theory and research from several disciplines are utilized to foster a better understanding of this complex issue. Second, this study adds strategy as a determinant of executive compensation. There is relative paucity of research that utilizes insights from the strategic management/business policy discipline, and only a few studies utilize the established Miles and Snow (1978) framework to investigate the effects of firm strategy on executive compensation. Using such insights conforms with recent suggestions in review articles (see, for example, Gomez-Mejia, 1994; Barkema and Gomez-Mejia, 1998) for new perspectives to study this issue. Further, this is the *first* study that examines the effects of firm strategy on executive compensation in Canadian firms. Previous studies have been dominated by U.S.-based data. Third, this study is methodologically more rigorous (results statistically more robust) than previous similar studies, especially in terms of sample sizes and procedures used in classifying firms into strategic types. Such rigour is especially important in light of previous studies that report opposite results in relation to the effects of firm strategy on executive compensation. Hopefully, this study will generate new debates on the issue. Fourth, this thesis goes beyond the study of levels of executive compensation, the focus of much of extant research, to examine structural aspects of executive compensation as well. Such a focus is generally lacking in the literature (Barkema and Gomez-Mejia, 1998). Fifth, it is suggested in this thesis that one of the shortcomings of previous research on the effects of firm performance on executive compensation may be found in the *measurement* of such performance. Using a market-based and an accounting-based measure, each averaged over a three year period, this thesis suggests that the impact of each measure may be different on the various components of executive compensation; this issue has been sparsely studied in the literature (Barkema and Gomez-Mejia, 1998). Finally,

in replicating previous research on the effects of traditionally investigated variables, such as firm size and firm performance, this study extends our knowledge of executive compensation.

From a practical perspective, Canadian firms and business leaders can use this study for informed decision-making on executive compensation. For firms and business leaders, this thesis also allows for a deeper insight and the development of general knowledge on factors that affect CEO compensation, a politically sensitive issue in society.

### *Limitations and Future Research*

This study was confined to publicly traded firms in a single industry. While this is a necessary condition for testing hypotheses using Miles and Snow's (1978) framework, it limits the scope and generalizability of the study<sup>3</sup>. Nevertheless, as advocated in Miles and Snow's (1978) seminal study, research may be replicated in other industries, on an industry by industry basis, provided that appropriate data are available. Further, no other industry on the TSE had a large enough sample to facilitate comparative analysis. Thus, future research should expand on this work to probably include firms on U.S. stock exchanges. While future studies on non-public firms would be ideal, and laudable if it could be successfully done, there is the inherent problem of lack of data. Financial data for such firms are very difficult to obtain and access to CEO compensation data may be even more daunting.

Second, this study employed a cross-sectional research design. One of the main problems

---

<sup>3</sup>Some authors view this as a strength since the focus is on strategic variation within a single industry (see Rajagopalan, 1998, for example). They argue, and justifiably so, that one cannot assess strategic typologies across industries since, for example, a Prospector strategy in the auto parts industry may be deemed as a Defender in the software industry.

of such designs is that changes to relevant variables cannot be traced through time. Thus, as more data become available in the future, research should be expanded to take into consideration the effects of changes in variables such as firm size, performance and strategy on executive compensation over time.

Third, as a result of missing data, the value of future options could not be calculated. While there is controversy on the method of calculations and impact of this form of compensation, it would be useful to incorporate into the analysis since it seems as if Prospector firms place much emphasis on this factor. In this study, the total compensation of Prospector CEOs may have been underestimated because of a lack of incorporation of such stock grants; thus, both in-the-pocket<sup>4</sup> and future compensation were ignored. Future studies should address this issue since data reliability emanating from firms, with guidance by the OSC, can only get better.

Fourth, this study examined executive compensation as a phenomenon that results from firm strategy; that is, firm strategy causes or influences CEO compensation. However, the reverse could also be true - as a result of the influential nature of the chief executive position, compensation strategies can be used to influence firm strategy. Future research should thus investigate the role of executive compensation, along with other independent variables, in influencing firm strategy. Further, future studies should use causal modelling techniques such as path analysis and structural equation modelling to examine other aspects of this relationship.

---

<sup>4</sup>In-the-pocket stock compensation refers to the situation where executives have options that can be profitably exercised (current share price above exercise/granted price) but they instead choose not to do so.

Finally, in the spirit of parsimony, this study restricted itself to just a few independent variables. However, it is obvious that a few more variables may be “at work.” This is especially the case when the explained variances were relatively low (LTIs, annual bonus, and stock-based pay). One promising explanatory variable is CEO power as perhaps measured on his/her influence on the compensation committees (see for example, Barkema and Gomez-Mejia, 1998; Daily, et al., 1998). Future research should most certainly take such variables into consideration. Further, for two of the independent variables - executive tenure and education - the sample sizes were relatively small due to a lack of data. However, these factors are not central to the study (due to the fact that there is little support in previous research). While it would be ideal to incorporate more data on education and tenure in future research, there is the inherent problem of lack of such data from public sources in Canada, and acquiring information through surveys is a daunting task.

A final area for future research is the relationship between firm strategy, in terms of Miles and Snow’s (1978) framework and firm life cycle. Firm strategy seems to be related to the stage of the product/firm life cycle. However, to the best of our knowledge, there is no research on the relationship between the Miles and Snow’s (1978) strategic types and a firm’s life cycle relationship. Do firms get more Defender-like as they mature? If so, how does this impact on functional strategies, such as compensation? This could be an exciting area of research.



## **IX. Conclusions**

In summary, the main objective of this study was to examine and analyze the effects of firm strategy on the level and structure of executive compensation using data drawn from Canadian firms, taking into consideration traditionally investigated factors such as firm size and performance. It was found, as expected, that firm size and performance affect both the level and structure of CEO compensation. However, the result with regard to firm strategy was somewhat opposite to the relationship hypothesized. This was explained as a probable result of the stage of the firm's life cycle, as well as the structure of CEO compensation across strategic archetypes.

This thesis makes a theoretical, as well as practical contribution to our knowledge. Theoretically, it uses a multidisciplinary framework to assess the relative impact of different predictors - both traditional and "new" - on executive compensation. Thus, it adds to the literature through extensions of previous studies as well as through new insights. This study may also be used by business leaders and firms to educate themselves on this issue.

In the opening quote of this thesis, it is mentioned that salaries constitute "comedy", and "exaggeration carried to the point of the ridiculous." Many writers, especially in the popular press, frequently advocate such a state of affairs on this issue. However, as this research suggests, and if suggested areas of future research are expedited, the future looks less uncertain. Perhaps, there may be some method in the "on-the -surface" madness, after all.

## APPENDIX 1

### Miles and Snow's Paragraph Method: Measure of Strategy Type

1. Which one of the following descriptions most closely fits your organization compared to other firms in the industry? (Please consider your division or company as a whole and note that none of the types listed below is inherently "good" or "bad.")

—Type 1 This type of organization attempts to locate and maintain a secure niche in a relatively stable product or service area. The organization tends to offer a more limited range of products or services than its competitors, and it tries to protect its domain by offering higher quality, superior service, lower prices, and so forth. Often this type of organization is not at the forefront of developments in the industry - it tends to ignore industry changes that have no direct influence on current areas of operation and concentrates instead on doing the best job possible in a limited area.

—Type 2 This type of organization typically operates within a broad product-market domain that undergoes periodic redefinition. The organization values being "first in" in new product-market areas even if not all of these efforts prove to be highly profitable. The organization responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. However, this type of organization may not maintain market strength in all of the areas it enters.

—Type 3 This type of organization attempts to maintain a stable, limited line of products or services, while at the same time moving out quickly to follow a carefully selected set of the more promising new developments in the industry. The organization is seldom "first in" with new products or services. However, by carefully monitoring the actions of major competitors in areas compatible with its stable product-market base, the organization can frequently be "second in" with a more cost-efficient product or service.

—Type 4 This type of organization does not appear to have a consistent product-market orientation. The organization is usually not as aggressive in maintaining established products and markets as some of its competitors. Rather, the organization responds in those areas where it is forced to by environmental pressures.

APPENDIX 2

Name of Company: .....  
 Name of Respondent .....  
 Title of Respondent .....

1. Which one of the following descriptions most closely fits your organization compared to others in your industry during the 1996 fiscal year? (Please consider your firm as a whole and note that none of the types listed below is inherently "good" or "bad").

**Type 1 [ ]:** This type of organization attempts to locate and maintain a secure niche in a relatively stable product or geographic area. The organization tends to offer a more limited range of products and services than its competitors, and it tries to protect its domain by offering higher quality, superior service, and so forth. Often this type of organization is not at the forefront of developments in the industry - it tends to ignore industry changes that have no direct influence on current areas of operation and concentrates instead on doing the best job possible in a limited area.

**Type 2 [ ]:** This type of organization typically operates within a broad product-market or geographic domain that undergoes periodic redefinition. This organization values being "first in" in new product-market or geographic areas even if not all of these efforts prove to be highly profitable. The organization responds rapidly to early signals concerning areas of opportunity, and these responses often lead to a new round of competitive actions. However, this type of organization may not maintain market strength in all of the areas it enters.

**Type 3 [ ]:** This type of organization attempts to maintain a stable, limited line of products or services, while at the same time moving out quickly to follow a carefully selected set of the more promising new developments in the industry. The organization is seldom "first in" with new products or services or in new geographic areas. However, by carefully monitoring the actions of major competitors in areas compatible with its stable product-market base, the organization can frequently be "second in" with a more cost efficient product or service.

**Type 4 [ ]:** This type of organization does not appear to have a consistent product-market orientation. The organization is usually not as aggressive in maintaining established products and markets as some of its competitors. Rather, the organization responds in those areas where it is forced to by environmental pressures.

2. How would you have classified your organization in:

(a) 1992?	Type 1 [ ]	Type 2 [ ]	Type 3 [ ]	Type 4 [ ]
(b) 1993?	Type 1 [ ]	Type 2 [ ]	Type 3 [ ]	Type 4 [ ]
(c) 1994?	Type 1 [ ]	Type 2 [ ]	Type 3 [ ]	Type 4 [ ]
(d) 1995?	Type 1 [ ]	Type 2 [ ]	Type 3 [ ]	Type 4 [ ]
(e) 1997	Type 1 [ ]	Type 2 [ ]	Type 3 [ ]	Type 4 [ ]

3. The following question relates specifically to the Chief Executive Officer/President of the company. Please provide the most appropriate response.

*I. Tenure/Experience:*

- (a) Years working in this organization in current position .....
- (b) Years working in this organization (all positions) .....
- (c) Years working in positions similar to current job in other organizations .....
- (d) Years employed in the workforce (all positions, all organizations) .....

*II. Education: Please indicate the highest level of education completed and major:*

<u>Education</u>		<u>Major</u>
(a) University:		
Ph.D.	[ ]	.....
Graduate	[ ]	.....
Undergraduate	[ ]	.....
Other (specify)	[ ]	.....
(b) College Diploma/Certificate	[ ]	.....
(c) High School Diploma	[ ]	.....
(d) Other (please specify)	[ ]	.....

4. How many persons were employed in your organization (i.e., on your payroll) in the following years?

	Regular full-time	Regular part-time	Contractual (with firm)
(a) 1992	.....	.....	.....
(b) 1993	.....	.....	.....
(c) 1994	.....	.....	.....
(d) 1995	.....	.....	.....
(e) 1996	.....	.....	.....
(f) 1997	.....	.....	.....

5. Did you sub-contract any part of your operations to other companies/contractors? .....  
 If so, please specify .....

THANK YOU.

## References

- Abowd, J.M. (1990). Does performance-based management compensation affect corporate performance. Industrial and Labor Relations Review, 43, 52-73.
- Adams, J.S. (1963). Toward an understanding of inequity. Journal of Abnormal and Social Psychology, 67, 422-436.
- Agarwal, N.C. (1974). Executive compensation. Unpublished Ph.D. thesis, University of Minnesota.
- Agarwal, N.C. (1981). Determinants of executive compensation. Industrial Relations, 20, 36-46.
- Agarwal, N.C. (1998). Reward systems: Emerging trends and issues. Canadian Psychology, 39(1-2), Feb.-May, 60-70.
- Allen, M.P. (1981). Power and privilege in the large corporation: Corporate control and managerial compensation. American Journal of Sociology, 86, 1112-1123.
- Andrews, K.R. (1971). The concept of corporate strategy. Homewood, IL.: Irwin.
- Andrews, I.R., & Henry, M.M. (1963). Management attitudes toward pay. Industrial Relations, 3(1), 29-40
- Antle, R., & Smith, A. (1986). An empirical investigation of the relative performance evaluation of corporate executives. Journal of Accounting Research, 24(1), 1-39.
- Balkin, D.B., & Gomez-Mejia, L.R. (1987). Toward a contingency theory of compensation strategy. Strategic Management Journal, 8, 169-182.
- Balkin, D.B., & Gomez-Mejia, L.R. (1990). Matching compensation and organization strategies. Strategic Management Journal, 11, 153-169.
- Barkema, H., & Gomez-Mejia, L. (1998). Managerial compensation and firm performance: A general research framework. Academy of Management Journal, 41 (2), 135-146.
- Barnard, C.I. (1968). The functions of the executive. Cambridge, Mass.: Harvard University Press.
- Becker, G. (1964). Human Capital. New York: Columbia University Press.

- Beer, M., Spector, B., Lawrence, P., Mills, D., & Walton, R. (1985). Human Resource Management. New York: Free Press.
- Belkaoui, A. (1992). Executive compensation, organizational effectiveness, social performance and firm performance: An empirical investigation. Journal of Business Finance and Accounting, 19, 25-38.
- Berg, N.A. (1969). What is different about conglomerate management. Harvard Business Review. Nov.-Dec.
- Berle, A., & Means, G.C. (1932). The modern corporation and private property. New York: Macmillan.
- Berton, L. (1990, April 18). Calculating compensation. Wall Street Journal Reports, 226.
- Blau, P.M. (1970). A formal theory of differentiation in organizations. American Sociological Review, 35, 201-218.
- Boschen, J., & Smith, K. (1995). You can pay me now and you can pay me later: The dynamic response of executive compensation to firm performance. Journal of Business, 68, 577-608.
- Bok, D. (1993). The cost of talent. New York: The Free Press.
- Braunstein, A.W. (1993). Testing for parameter stability in executive remunerative functions. Studies in Economic Analysis, 14.(2), 54-73.
- Bull, C., Scholter, A., & Weiget, K. (1987). Tournaments and piece rates: An empirical study. Journal of Political Economy, 95, 1-33.
- Burgess, L.R. (1963). Top executive pay package. Glencole, Ill.: The Free Press.
- Bushman, R.M., & Indjejikian, R.J. (1993). Accounting income, stock price and managerial compensation. Journal of Accounting and Economics, 16, 3-23.
- Carr, L. (1997). Strategic determinants of executive compensation in small publicly traded firms. Journal of Small Business Management, April, 1-13.
- Carroll, S.J. (1987). Business strategies and compensation strategies. In D.B. Balkin & Gomez-Mejia, L.R. (Eds.), New Perspectives on Compensation. New Jersey: Prentice-Hall Inc.
- Chandler, A.D. (1962). Strategy and structure. Cambridge, MASS.: M.I.T. Press.

- Chrisman, J.J., Hofer, C.W., & Boulton, W.R. (1988). Toward a system of classifying business strategies. Academy of Management Review, 13, 413-428.
- Ciscel, D.H. & Carroll, T.M. (1980). The determination of executive salaries: An econometric survey. Review of Economics and Statistics, 62, 7-13
- Conant, J.S., Mokwa, M.P., & Varadarajan, P.R. (1990). Strategic types, distinctive marketing competencies and organizational performance. Strategic Management Journal, 11, 365-383.
- Conyon, M., & Peck, S. (1998). Board control, remuneration committees, and top management compensation. Academy of Management Journal, 41(2), 146-158.
- Coughlan, A.T., & Schmidt, R.M. (1985). Executive compensation, management turnover and firm performance - an empirical investigation. Journal of Accounting and Economics, 7, 43-66.
- Crawford, M. (1994). Peanuts for elephants. Canadian Business, 67(7), 16-20.
- Crystal, G.S. (1988, June 6). The wacky, wacky world of CEO pay. Fortune, 68078.
- Crystal, G.S. (1991). In search of excess. New York: Norton and Co.
- Crystal, G.S. (1992, September 28). Executive compensation. U.S.A. Today, p.3B.
- Daft, R. (1995). Organization Theory and Design. New York: West Publishing.
- Daily, C., Johnson, J., Ellstrand, A., & Dalton, D. (1998). Compensation committee composition as a determinant of CEO compensation. Academy of Management Journal, 41(2), 209-221.
- Deckop, J.R. (1987). Top executive compensation and the pay-for-performance issue. In D.B. Balkin and L.R. Gomez-Mejia (Eds.). New perspectives on compensation. New Jersey: Prentice-Hall Inc.
- Deckop, J.R. (1988). Determinants of chief executive officer compensation. Industrial and Labor Relations Review, 41, 215-226.
- DiNardo, J., Hallock, K., & Pischke, J. (1998). Unions and managerial pay. NBER Working Paper, February.

- Doty, D.H., Glick, W.H., & Huber, G.P. (1993). Fit, equifinality, and organizational effectiveness: A test of two configurational theories. Academy of Management Journal, 36, 1196-1250.
- Dunlop, J.T (1957). Suggestions toward a reformulation of wage theory. In T.A. Mahoney (Ed.), Compensation and reward perspectives. Homewood, Il.: Richard D. Irwin Inc.
- Dyer, L. (1983). Bringing human resources into the strategy formulation process. Human Resources Management, 22, 257-271.
- Dyl, E.A. (1988). Corporate control and management compensation: Evidence on the agency problem. Managerial and Decision Economics, 9 (1), 21-25.
- Eaton, J., & Rosen, H. (1983). Agency, delayed compensation, and the structure of executive remuneration. The Journal of Finance, 23, 1489-1505.
- Eisenhardt, K.M. (1989). Agency theory: An assessment and review. Academy of Management Review, 14, 57-74.
- Ehrenberg, R.G. (1990). Do compensation policies matter. Industrial and Labor Relations Review, 43, 4-12.
- Ehrenberg, R.G., & Boganno, M.C. (1990). The incentive effects of tournaments revisited: Evidence from the European PGA tour. Industrial and Labor Relations Review, 43, 74-88.
- Ellig, B.R. (1982). Executive compensation: A total pay perspective. New York: McGraw-Hill.
- Fama, E.F. (1980). Agency problems and the theory of the firm. Journal of Political Economy, 88, 288-307.
- Fama, E.F., & Jensen, M.C. (1983a). Separation of ownership and control. Journal of Law and Economics, 26, 301-324.
- Fama, E.F., & Jensen, M.C. (1983b). Agency problems and residual claims. Journal of Law and Economics, 26, 327-349.
- Finkelstein, S., & Hambrick, D.C. (1988). Chief executive compensation: A synthesis and reconciliation. Strategic Management Journal, 9, 43-88.



- Finkelstein, S., & Hambrick, D.C. (1989). Chief executive compensation: A study of the intersection of markets and political processes. Strategic Management Journal, 10 (1), 121-134.
- Fizel, J., Louie, K., & Mentzer, S. (1990). An economic, organizational and behavioural model of the determinants of CEO tenure. Journal of Economic Behaviour and Organization, 14, 363-379.
- Floyd, S.W., & Wooldridge, B. (1992). Middle management involvement in strategy and its association with strategic type: A research note. Strategic Management Journal, 13, 153-167.
- Foster, K.E. (1980). A different perspective of executive compensation. Compensation Review, Third Quarter, 47-54.
- Foulkes, F.K. (1975). The expanding role of the personnel function. Harvard Business Review, 53, 71-84.
- Foulkes, F.K. (Ed). (1991). Executive compensation: A strategic guide for the 1990s. Boston, Mass.: Harvard Business School Press.
- Freedman, S.M., & Montanari, J.R. (1983). An integrative model of managerial reward allocation. In R.M. Steers and L.W. Porter (Eds.), Motivation and work behaviour. New York: McGraw-Hill.
- Galbraith, J.R., & Merrill, G.B. (1990). The effect of compensation program and structure of SBU competitive strategy: A study of technology-intensive firms. Strategic Management Journal, 12, 353-370.
- Galbraith, J.R., & Nathanson, D.A. (1978). Strategy implementation: The role of structure and process. New York: West.
- Galbraith, J.R., & Nathanson, D.A. (1979). The role of organizational structure and process in strategy implementation. In D. Schendel & C.W. Hifer (Eds.), Strategic management: A new view of business policy and planning. Boston: Little Brown.
- Galbraith, J.R., & Schendel, D. (1983). An empirical analysis of strategic types. Strategic Management Journal, 4, 153-173.
- Garen, J.E. (1994). Executive compensation and principal agent theory. Journal of Political Economy, 102, 1175-1199.

- Gaver, J., & Gaver, G. (1995). Compensation policy and investment opportunity set. Financial Management, 24(1), 19-32.
- Gerhart, B., & Milkovich, G.T. (1990). Organizational differences in managerial compensation and financial performance. Academy of Management Journal, 33, 663-691.
- Gomez-Mejia, L.R. (1995). Executive compensation: Personal correspondence. Internet Services. December.
- Gomez-Mejia, L.R. (1994). Executive compensation: A reassessment and future agenda. Research in Personnel and Human Resources Management, 12, 161-222.
- Gomez-Mejia, L.R., & Balkin, D.B. (1992). Compensation, organizational strategy and firm performance. Cincinnati, Oh: South-Western Publishing company.
- Gomez-Mejia, L.R., Paulin, G., & Grabke, A. (1995). Executive compensation: Research and practical implications. In G.R. Ferris, S.D. Rosen & D.T. Barnum (Eds.), Handbook of Human Resource Management. Cambridge, Mass.: Blackwell Business.
- Gomez-Mejia, L.R., Tosi, H., & Hinkin, T. (1987). Managerial control, performance and executive compensation. Academy of Management Journal, 30, 51-70.
- Gomez-Mejia, L.R., & Welbourne, T.M. (1989). Executive compensation. In L.R. Gomez-Mejia (Ed.), Compensation and Benefits. Washington, D.C.: Bureau of National Affairs.
- Gomez-Mejia, L.R., & Wiseman, R. (1997). Reframing executive compensation: An assessment and outlook. Journal of Management, 23(3), 291-374.
- Greenewalt, C.H. (1959). The uncommon man. New York: McGraw-Hill.
- Griner, E.H. (1995). Corporate performance, stock option compensation and measurement error in CEO pay. Journal of Applied Business Research, 12(1), 1-11.
- Haire, M., Ghiselli, E., & Porter, L. (1963). Psychological research on pay: An overview. Industrial Relations, 3,(1), 3-8.
- Hambrick, D.C. (1981a). Environments, strategy and power within top management. Administrative Science Quarterly, 26, 253-276.
- Hambrick, D.C. (1981b). Strategic awareness within top management teams. Strategic Management Journal, 2, 251-262.

- Hambrick, D.C. (1983). Some tests of the effectiveness and functional attributes of Miles and Snow's strategic types. Academy of Management Journal, 26, 5-26.
- Hamilton, R.T., & Shergill, G.S. (1992). The relationship between strategy-structure fit and financial performance in New Zealand: Evidence of generality and validity with enhanced controls. Journal of Management Studies, 29, 95-113.
- Harris, D., & Helfat, C. (1997). Specificity of human capital and compensation. Strategic Management Journal, 18, 895-920.
- Henderson, I., & Risher, H. (1987). Influencing organizational strategy through compensation leadership. In D.M. Balkin & L.R. Gomez-Mejia (Eds.), New perspectives on compensation. New Jersey: Prentice hall Inc.
- Hill, C.W. & Phan, P. (1991). CEO tenure as a determinant of CEO pay. Academy of Management Journal, 34, 712-717.
- Hirschey, M., & Pappas, J.L. (1981). Regulatory life cycle influences on managerial incentives. Southern Economic Journal, 48, 327-334.
- Hofer, C.W. (1975). Toward a contingency theory of business strategy. Academy of Management Journal, 18, 784-810.
- Hofer, C.W., & Schendel, D. (1978). Strategy formulation: Analytical concepts. St. Paul, MN.: West.
- Hofstede, G. (1980). Cultures consequences. New York: Sage Publications.
- Holthausen, R.W., Larcker, D.F., & Sloan, R.G. (1995). Business unit innovation and the structure of executive compensation. Journal of Accounting and Economics, 19, 279-313.
- Hoskisson, R.E., Hitt, M.A., Turk, T.A., & Tyler, B.B. (1989). Balancing corporate strategy and executive compensation: Agency theory and corporate governance. In G.R. Ferris & K.M. Rowland (Eds.), Research in Personnel and Human Resources Management, 7, 25-57.
- Ittner, C., Larcker, D., & Rajan, M. (1997). The choice of performance measures in annual bonus contracts. The Accounting Review, 72(2), 231-255.
- James, W.L., & Hatten, K.J. (1995). Further evidence on the validity of the self-typing paragraph approach: Miles and Snow archetypes in banking. Strategic Management Journal, 16, 161-168.

- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: managerial behaviour, agency costs and ownership structure. Journal of Financial Economics, 3, 305-360.
- Jensen, M.C., & Murphy, K.J. (1990a). Performance and top management incentives. Journal of Political Economy, 98(2), 225-264.
- Jensen, M.C., & Murphy, K.J. (1990b). CEO incentives - It's not how much you pay but how. Harvard Business Review, 68(3), 138-149.
- Kerr, J. (1985). Diversification strategies and managerial rewards: An empirical study. Academy of Management Journal, 28, 155-179.
- Kerr, J., & Bettis, R.A. (1987). Boards of directors, top management compensation and shareholder returns. Academy of Management Journal, 30, 745-764.
- Ketchen, D., & Shook, C. (1996). The application of cluster analysis in strategic management research: An analysis and critique. Strategic Management Journal, 17, 441-458.
- Kerlinger, F. (1986). Foundations of behavioural research. Fort Worth, Texas: Holt, Rinehart and Winston.
- Kroll, M., Simmons, S.A. & Wright, P. (1990). Determinants of chief executive officer compensation following major acquisitions. Journal of Business Research, 20, 349-366.
- Lambert, R.L. (1993). The use of accounting and security price measures of performance in managerial compensation contracts. Journal of Accounting and Economics, 16, 101-123.
- Lambert, R.L., & Larcker, D.F. (1985). Golden parachutes, executive decision making and shareholder wealth. Journal of Accounting and Economics, 7, 179-203.
- Lawler, E.E. (1971). Managers' attitudes toward how their pay is and should be determined. Journal of Applied Psychology, 50, 273-279.
- Lawler, E.E. (1981). Pay and organization development. Reading, MA.: Addison-Wesley.
- Lawler, E.E. (1984). The strategic design of reward systems. In C.J. Fombrum, N.M. Tichy & M.A. Devana (Eds.), Strategic Human Resources Management. New York: Wiley.
- Lawler, E.E. (1990). Strategic pay: Aligning organizational strategies and pay systems. San Francisco: Jossey-Bass Publishers.
- Lawler, E.E., & Porter, L.W. (1963). Perceptions regarding management compensation. Industrial Relations, 3(1), 41-49.

- Lazear, E.D., & Rosen, S. (1981). Rank order tournaments as optimum labor contracts. Journal of Political Economy, 89, 841-864.
- Leach, D. (1995). Encouraging executives to think like owners through stock ownership plans. Compensation and Benefits Management, 11, 10-15.
- Leonard, J.S. (1990). Executive pay and firm performance. Industrial and Labor Relations Review, 43, 13-24.
- Lester, R.A. (1946). Wage diversity and its theoretical consequences. Review of Economics and Statistics, 28, 251-279.
- Lewellen, W.G., & Huntsman, B. (1970). Managerial pay and corporate performance. American Economic Review, 60, 710-720.
- Lewellen, W.G., Loderer, C., & Martin, K. (1987). Executive compensation and incentive problems: An empirical analysis. Journal of Accounting and Economics, 9, 287-310.
- Lewellen, W., Loderer, C., & Rosenfeld, A. (1985). Merger decisions and executive stock ownership in acquiring firms. Journal of Accounting and Economics, 7, 209-231.
- Lorsh, J.W., & Allen, S.A. (1974). Managing diversity and interdependence: An organizational study of multidimensional firms. Boston: Harvard University Press.
- Maddocks, M. (1979). Morris and other fat cats. In T.T. Mahoney (Ed.), Compensation and reward perspectives. Homewood, Il.: Richard D. Irwin.
- Magnan, M., & St-Onge, S. (1997). Bank performance and executive compensation: A managerial discretion perspective. Strategic Management Journal, 18(7), 573-581.
- Magnan, M., St-Onge, S., & Thorne, L. (1995). A comparative analysis of the determinants of executive compensation between Canadian and U.S. firms. Relations Industrielles, 50(2), 297-317.
- Mahoney, T.A. (1979). Organizational strategy and position worth. Academy of Management Journal, 22, 726-737.
- Maslow, A.H. (1972). A theory of human motivation. In H.L. Tosi, R.J. House and M.D. Dunette (Eds.). Managerial motivation and compensation. East Lansing, Mich.: Michigan State University.
- Masson, R.T. (1971). Executive motivations, earnings, and consequent equity performance. Journal of Political Economy, 79, 1278-1294.

- Mayers, A. (1996). Top Canadian bosses cleaned up in '95. Toronto Star, July 20, p. E1-E4.
- McDaniel, S.W., & Kolari, J.W. (1987). Marketing strategy implications of the Miles and Snow strategic typology. Journal of Marketing, 51, 19-30.
- McGregor, D.M. (1960). The Human Side of Enterprise. New York: McGraw Hill Book Co.
- McGugan, I. (1995). A crapshoot called compensation. Canadian Business, 68(6), July, 67-70.
- McGuire, J.W., Chiu, J., & Elbing, A. (1962). Executive income, sales, and profits. American Economic Review, 52, 753-761.
- McLaughlin, D.J. (1991). The rise of a strategic approach to executive compensation. In F.K. Foulkes (Ed.), Executive compensation: A strategic guide for the 1990s. Boston, Mass.: Harvard Business School Press.
- Miles, R.E., & Snow, C.C. (1978). Organizational strategy, structure, and process. New York: McGraw-Hill.
- Miles, R.E., Snow, C.C., Meyer, A.D., & Coleman, H.J. (1978). Organizational strategy, structure, and process. Academy of Management Review, 3, 546-562.
- Milkovich, G.T. (1988). A strategic perspective on compensation management. Research in Personnel and Human Resources Management, 12, 263-288.
- Milkovich, G.T., Dyer, L., & Mahoney, T.A. (1983). HRM Planning. In S.J. Carroll & R.S. Schuler (Eds.), Human Resources Management in the 1980s. Washington, D.C.: Bureau of National Affairs.
- Milkovich, G.T., & Newman, J.M. (1996). Compensation. Homewood, IL.: Irwin.
- Milkovich, G.T., & Newman, J.M. (1996). Compensation. Homewood, IL.: Irwin.
- Miller, D.J. (1995). CEO salary increases may be rational after all: Referents and contracts in CEO pay. Academy of Management Journal, 38, 1361-1385.
- Mills, Q.D. (1979). Human Resources in the 1980s. Harvard Business Review, 57, 154-162.
- Mincer, J. (1970). The distribution of labour incomes: A survey with special reference to the human capital approach. Journal of Economic Literature, 8, 1-26.
- Mintzberg, H. (1973). A new look at the chief executive officer's job. Organizational Dynamics, 1(3), 20-30.

- Mintzberg, H. (1978). Patterns in strategy formation. Management Science, 24, 934-948.
- Mintzberg, H. (1987). Crafting strategy. Harvard Business Review, July-August, 66-75.
- Misutka, F. (1992). Executive compensation: The biggest headache money can buy. Canadian Business, 65(7), July, 50-54.
- Murphy, K.J. (1985). Corporate performance and managerial compensation. Journal of Accounting and statistics, 7, 11-42.
- Murthy, K.R.S. (1977). Corporate strategy and top executive compensation. Cambridge, MASS.: Harvard University Press.
- Murthy, K.R.S., & Salter, M.S. (1975). Should CEO pay be linked to results. Harvard Business Review, 53, 66-73.
- Norusis, M.J. (1993). SPSS for Windows, Chicago: SPSS Inc.
- O'Reilly, C.A., Main, B.G., & Crystal, G.S. (1988). CEO compensation as tournament and social comparison: A tale of two theories. Administrative Science Quarterly, 33, 257-274.
- Pallet, M., & Trepanier, Y. (1992). Strategic compensation in Canada - Not just how much, but how? Benefits and Compensation International, 22(2), 6-12.
- Pennings, J.M. (1993). Executive reward systems: A cross-national comparison. Journal of Management Studies, 30(2), 261-280.
- Peters, T.J., & Waterman, R.H. (1982). In search of excellence: Lessons from America's best run companies. New York: Harper and Row.
- Pitts, R.A. (1974). Incentive compensation and organizational design. Personnel Journal, 53, 338-348.
- Porter, M.E. (1980). Competitive strategy. New York: Free Press.
- Raghuram, S., & Arvey, R.D. (1994). Business strategy links with staffing and training practices. Human Resource Planning, 17, 55-73.
- Rajagopalan, N. (1997). Strategic orientation, incentive plan adoption and firm performance: Evidence from electric utility firms. Strategic Management Journal, 18, 761-785.

- Rajagopalan, N., & Finkelstein, S. (1992). Effects of strategic orientation and environmental change on senior management reward systems. Strategic Management Journal, 13, 127-142.
- Rajagopalan, N., & Prescott, J. (1990). Determinants of top management compensation: Explaining the impact of economic, behavioural, and strategic constructs and the moderating effects of industry. Journal of Management, 16, 515-538.
- Randall, C.B. (1968). The executive in transition. New York: McGraw-Hill.
- Rappaport, A. (1978). Executive incentives vs. corporate growth. Harvard Business Review, 56(4), 81-88.
- Rappaport, A. (1981). Selecting strategies that create shareholder value. Harvard Business Review, 60(3), 139-149.
- Rappaport, A. (1986). Creating shareholder value. New York: Free Press.
- Ratcliff, R.E. (1980). Banks and corporate lending: An analysis of the impact of internal structure of the capitalist class on the lending behaviour of banks. American Sociological Review, 45, 553-570.
- Raviv, A. (1985). Management compensation and managerial labor market - An overview. Journal of Accounting and Economics, 17, 239-245.
- Reynolds, L.G. (1946). Wage differences in local labor markets. American Economic Review, 36, 366-375.
- Roberts, D.R. (1959). A general theory of executive compensation based on statistically tested propositions. Quarterly Journal of Economics, 70, 270-294.
- Rose, N., & Shepard, A. (1997). Firm diversification and CEO compensation: Managerial ability or executive entrenchment. Rand Journal of Economics, 28(1), 489-514.
- Rumelt, R.P. (1974). Sstrategy, structure and economic performance. Boston, MASS.: Division of Research, Harvard Business School.
- Salter, M.A. (1973). Tailor incentive compensation to strategy. Harvard Business Review, 51, 94-102.
- Schein, E.H. (1970). Organizational Psychology. New Jersey: Prentice-Hall.



- Scherer, F.M. (1980). Industrial market structures and economic performance. Chicago: Rand McNally.
- Shortnell, S.M., & Zajac, E.J. (1990). Perceptual and archival measures of Miles and Snow's strategic types: A comprehensive assessment of reliability and validity. Academy of Management Journal, *33*, 817-832.
- Singh, H., & Harianto, F. (1989). Top management tenure, corporate ownership structure and the magnitude of golden parachutes. Strategic Management Journal, *10*, 143-156.
- Simon, H.A. (1957). The compensation of executives. Sociometry, 32-35.
- Sloan, A.P. (1965). My years with General Motors. New York: McFadden Bantel Corporation.
- Sloan, R.G. (1993). Accounting earnings and top executive compensation. Journal of Accounting and Economics, *16*, 55-100.
- Simon, R. (1987). Accounting control systems and business strategy. Accounting, organizations and Society, *12*, 357-374.
- Slocum, J., Cron, W., Hansen, R., & Rawlings, S. (1985). Business strategy and the management of plateaued employees. Academy of Management Journal, *28*, 133-154.
- Smith, K.G., Guthrie, J.P., & Chen, M. (1989). Strategy, size and performance. Organization Studies, *10*, 63-81.
- Snow, C.C., & Hambrick, D.C. (1980). Measuring organizational strategies: Some theoretical and methodological problems. Academy of Management Review, *5*, 527-538.
- Snow, C.C., & Hrebiniak, L.G. (1980). Strategy, structure, and organizational performance. Administrative Science Quarterly, *25*, 317-336.
- Sriharan, U. (1996). CEO influence and executive compensation. The Financial Review, *31(1)*, 51-66.
- Standard Industrial Classification (SIC) of Establishments. 1987.
- Steers, R.M., & Ungson, G.R. (1987). Strategic issues in executive compensation decisions. In D.B. Balkin & L.R. Gomez-Mejia (Eds.), New perspectives on compensation. New Jersey: Prentice Hall Inc.
- Stonich, P.J. (1982). Implementing strategy: Making strategy happen. Cambridge, MASS.: Ballinger.

- Taussig, F.W. & Barker, W.S. (1925). American corporations and their executives: A statistical inquiry. Quarterly Journal of Economics, 3, 1-51.
- Thomas, A.S., Litschert, R.J., & Ramaswamy, K. (1991). The performance impact of strategy-manager coalignment: An empirical examination. Strategic Management Journal, 12, 509-522.
- Thurnston, B. (1968). Relating executive compensation to managerial performance. In R. Moore (Ed.), Compensating executive worth, New York: American management Association, Inc.
- Tosi, H.L., & Gomez-Mejia, L.R. (1989). The decoupling of CEO pay and performance: An agency theory perspective. Administrative Science Quarterly, 34, 169-190.
- Tosi, H.L., & Gomez-Mejia, L.R. (1994). CEO compensation and firm performance. Academy of Management Journal, 37, 560-576.
- Ungson, G.R., & Steers, R.M. (1984). Motivation and politics in executive compensation. Academy of Management Review, 9, 313-323.
- Veliyath, R., Ferris, S., & Ramaswamy, K. (1994). Business strategy and top management compensation: The mediating effects of employment risk, firm performance and size. Journal of Business Research, 30, 149-159.
- Veliyath, R., & Shortnell, S. (1995). Strategic orientation, strategic planning system characteristics and performance. Journal of Management Studies, Jan., 351-381.
- Venkatraman, N., & Camillus, J.C. (1984). Exploring the concept of "fit" in strategic management. Academy of Management Review, 9, 513-525.
- Vroom, V.H. (1964). Work and Motivation. New York: Wiley.
- Weick, K. (1979). Cognitive processes in organizations. In B.M. Staw (Ed.), Research in Organizational Behaviour, v.1), Greenwich, Conn.: JAI Press.
- Westphal, J.D. & Zajac, E.J. (1994). Substance and symbolism in CEO's long term incentive plans. Administrative Science Quarterly, 39, 367-390.
- Whyte, W.F. (1955). Money and motivation. New York: Harper and Brothers.
- Zahra, S.A. (1987). Corporate strategic types, environmental perceptions, managerial philosophies, and goals: An empirical study. Akron Business and Economic Review, 18, 64-77.

Zahra, S.A., & Pearce, J.A. (1990). Research evidence on the Miles-Snow typology. Journal of Management, 16, 751-768.

Zajac, E.J. (1990). CEO selection, succession, compensation and firm performance: A theoretical integration and empirical analysis. Strategic Management Journal, 11, 217-230.