

A MATTER OF STRATEGIC MIS-FIT: MANAGEMENT
MYOPIA AND VALUE DESTRUCTION

By

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CHAPTER I

INTRODUCTION

The proposed research focuses on cognitive limitations in managerial choice, and the potential for negative outcomes at the firm level. The research question addresses, “How, why and when do various forms of management myopia destroy value in firms residing in established industries?”

Strategic choice is explored in terms of managerial bias, building upon Levinthal and March’s (1993) discussion of management myopia as three distinct concepts – spatial myopia, temporal myopia and hubris. The three forms of myopia can be expected to impact strategic decision-making in all contexts; however, the impact of those decisions may vary under different industry conditions (Porter, 1980). The thesis of this paper is that lack of fit between management bias and industry characteristics destroys value at the firm level. Environmental context is addressed in terms of industry growth rate, consistent with both life cycle theory (Agarwal, Sarkar, & Echambadi, 2002) and industry task environment literature (Dess & Beard, 1984). Value destruction (Porter, 1980; Schumpeter, 1942/1976) is the expected firm level outcome, represented by below average growth in revenue and profitability.

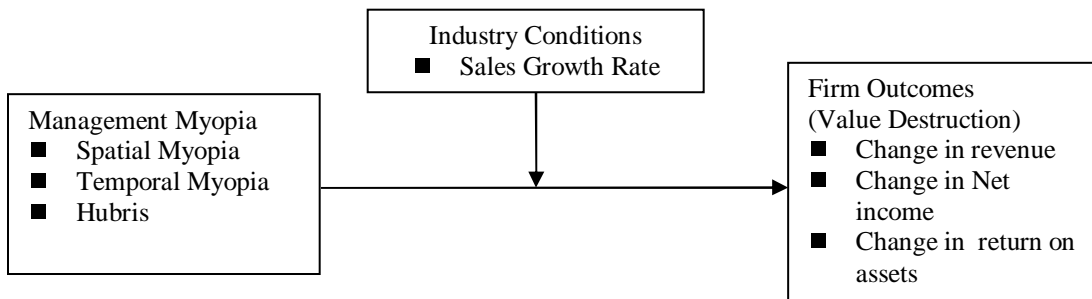
The multi-lens model of strategic change developed by Rajagopalan and Spreitzer (1997) provides an overall framework for linking cognitive factors (management myopia) to firm outcomes, and incorporating the moderating impact of environmental factors. Strategic decisions and outcomes may be viewed from multiple lenses, including

the rational lens, the learning lens and the cognitive lens. Managerial cognitions are critical in determining strategic decisions and managerial action, which, in turn, interact with environmental factors in determining organizational outcomes. The multiple lens view provides the broad model for assessing the impact of management myopia on strategic outcomes.

The focus of the simplified model to be tested in this study is on management myopia (managerial cognitions) as an antecedent of firm level strategic outcomes. Strategic decisions (i.e., strategic content) and managerial actions will be influenced by managerial myopia, which in turn will impact firm outcomes. Although there have been few empirical tests of the linkage between management myopia and organizational outcomes, a negative relationship has been posited in a limited number of conceptual (Levinthal et al., 1993; Miller, 2002), and empirical studies (Capron & Pistre, 2002; Hayward & Hambrick, 1997) that address some form of myopia or enduring bias. Management myopia can be expected to destroy firm value. This relationship is depicted below.

FIGURE 1

Model of Management Myopia and Firm Outcomes (Value Destruction)



The influence of environmental conditions operates at virtually all steps and on all factors in the process of strategic change (Rajagopalan et al., 1997). In the model presented above, industry environment is employed as a moderating factor, where the effects of myopia will differentially impact firm value under different industry conditions. Strategic management content and process literatures increasingly emphasize the importance of incorporating environmental context in empirical research (e.g., Dean, Sharfman, & Ford, 1991; Henderson & Mitchell, 1997).

In the following sections of this chapter, the three forms of management myopia are described in terms of enduring biases that affect the way that managers view the world. Industry growth acts as the environmental moderator. Value destruction is discussed in terms of below average firm performance. This is followed by a discussion of the significance of the study and the organization of the study.

Definitions

Management myopia has received relatively little attention in strategic management research, and only limited conceptual development. This is in contrast to a body of work in the field of strategic management that addresses a large, and varied number of individual biases initially developed in the industrial psychology field, and, more recently adapted to organizational behavior studies (Walsh, 1995). As a form of enduring bias (the hardening of the lenses through which managers view the world), management myopia (Miller, 1993) provides a more concise, and potentially relevant construct for the study of bias in strategic decision making and implementation.

The concept, management myopia, relies on underlying theories associated with bounded rationality (Simon, 1957), and learning dysfunctions (Argyris & Schön, 1978; Levitt & March, 1988). An important conceptual explanation of cognitive limitations and managerial bias is presented as learning problems and deficiencies by Levinthal and March (1993). The limitations of learning are discussed in terms of three forms of management myopia: spatial myopia, temporal myopia and hubris. Management myopia influences strategic decision making by restricting the awareness and consideration of alternatives. These restrictions may encourage greater or lesser levels of exploitation versus exploration, variations in risk taking, and errors of judgment in strategic decision-making processes. The negative effects of these errors can be particularly significant for firms when powerful senior executives are myopic.

Recent works addressing “short-termism” (Lavery, 1996), temporal and spatial myopia (Miller, 2002) and hubris (Hayward et al., 1997) extend Levinthal and March’s concepts (Levinthal et al., 1993), and provide important input to the definition and operationalization. Spatial and temporal myopia reflect a bias favoring the near time and the near technology or regime (status quo) – often associated with risk aversion and errors of omission. Temporal myopia may also be expected to encourage short-term financial, control and accounting solutions that contribute to long-term value destruction regardless of the environmental context. Hubris reflects unjustified over-confidence, and is associated with recklessness and errors of judgment. This typology acts as the theoretical base for this research.

Management Myopia

Management myopia reflects a limited or narrow view of organizational capabilities, environmental forces, and strategies that may lead to major errors in judgment by senior executives (Levinthal et al., 1993; Levitt, 1960; Miller, 1993; Miller, 2002; Richard, Womack, & Allaway, 1993). Levinthal and March (1993) identified three forms of myopia that arise from simplifying experience and specializing adaptation.

Spatial Myopia is the lack of awareness of other technologies, processes and routines available within or outside the organization (Miller, 2002). Learning favors technologies and routines near to the learner (Levinthal et al., 1993). Spatial myopia limits the set of alternatives considered for implementation. Spatial myopia is consistent with a focus on dominant technologies, core competencies, and the exploitation and development of existing firm capabilities.

Temporal Myopia is the lack of awareness of, or interest in opportunities and investments beyond the near term (Levinthal et al., 1993; Miller, 2002). It involves sacrificing the long run for the short term (Laverty, 1996). Temporal myopia will often be reflected in a preference for low risk, near term, relatively certain ventures and projects. Moreover, an excessive interest in the short-term is often associated with a financial approach to strategic decisions. Temporal myopia may contribute to spatial myopia through a focus on the more certain near technologies and opportunities. Temporal myopia, however, will likely discourage long-term investments in the current business, an outcome consistent with decisions made under spatial myopia.

Hubris is unjustified overconfidence in an individual's or an organization's capabilities. Webster's Dictionary definition of hubris is "exaggerated pride or self-

confidence, often resulting in retribution" (Hayward et al., 1997). Hubris encourages senior executives to over-estimate their ability to manage uncertainty and risk, to reinterpret historical results in a more favorable light, and to attribute success to abilities and failure to luck or external factors (Hayward et al., 1997; Kahneman & Lovallo, 1993).

Industry Growth

Industry growth rate is employed in this study as the primary measure of industry for two reasons. The first is that stable growth rates are logically consistent with the hardening of perspectives associated with management myopia. It fits with the logic of myopia, whereas other industry characteristics, such as dynamism, may decrease managers' inclination to act myopically. The second is a general agreement about the importance of industry growth as an indicator of industry attractiveness.

The likelihood that managerial biases will harden and evolve into myopia is expected to be greater in firms that reside in relatively stable industries. A consistent pattern of growth reduces the level of environmental uncertainty, increasing the visibility and effect of firm level actions, which are a function of both internal capabilities and managerial cognitions. Industry growth rate represents a relatively unambiguous and easily understood measure of industry attractiveness, profitability and competitive pressures (McDougall, Covin, Robinson, & Herro, 1994; Miller & Camp, 1985; Porter, 1980; Sandberg, 1986).

Industry growth has been considered a major indicator of environmental conditions in a broad spectrum of organizational, financial and strategic management literature (Agarwal et al., 2002; Aldrich, 1979; Dess et al., 1984; Hofer, 1975; Porter,

1980). It has also been employed as a primary indicator of favorable conditions in practitioner-oriented and academic frameworks, including the Boston Consulting Group's product-portfolio matrix, as munificence in the industry task environment (Aldrich, 1979; Dess et al., 1984) and as the central focus of life cycle theory (Beal & Lockamy, 1999; Hambrick, MacMillan, & Day, 1982; Polli & Cook, 1969).

This study draws on both task environment and industry life cycle literatures in structuring the moderating variable. The definition of munificence from task environment literature (Dess et al., 1984) provides the primary measure for industry growth. Industry conditions are focused on high and low growth rates.

High growth industries are defined as industries that are above the mean of all industries in the population, but have clearly moved past the early, rapid growth period. Typically, these industries have experienced a shake-out of less successful enterprises. These stable, but high growth industries are associated with Porter's (1980) description of industries in transition from growth to maturity, still realizing some benefits and following some of the patterns of the rapid growth stage. These industries are also associated with a "second growth period" (the "mature-growth" stage) identified by other life cycle theorists (Agarwal et al., 2002; Gort & Wall, 1986; Nelson & Winter, 1982), which follows a convergence of technologies. Conceptually, this stage shows a shift of technological emphasis from that of product and service innovation in the earlier stage to that of refinement in the late growth stage. In the refinement stage, firms increasingly emphasize quality and efficiency (Agarwal et al., 2002; Gort et al., 1986; Nelson et al., 1982). Success may be based on a firm's ability to compete, improve efficiency and

quality, and refine core technology in an existing growing market, rather than in its pursuit of variety or new opportunities.

Low growth industries are defined as industries that are clearly below the mean of all industries in the population, but have not entered the decline stage. Low growth industries can be considered stagnant, or in the late maturity stage, and are typified by intense competition, low exploration, imitation, and declining margins (Porter, 1980). As the precursor to entering the decline stage, organizations may show signs of inertial forces and rigidity in decision-making (Cameron, Kim, & Whetten, 1987a; Staw, Sandelands, & Dutton, 1981). A lack of exploration and an unwillingness to take risks on new concepts may result in sub-par performance and reduced resources and capabilities.

The choice of mature, high growth and fully mature, low growth industries incorporates a substantial population of established, medium-to-large businesses, while still providing distinct differences in growth rates.

Negative Firm Outcomes (Value Destruction)

Value Destruction appears in the guise of disruptive innovation (Schumpeter, 1942/1976), equilibrium-seeking intense competition (Porter, 1985), and in management induced error (e.g., Cannella, Pettigrew, & Hambrick, 2001; Fama, 1980; Hannan & Freeman, 1984; Simon, 1957). Value destruction can be viewed as the opposite of value creation. Value creation may be defined as the developing of capabilities and innovative capacity by a firm and the exploitation of that innovative capacity, under some level of real uncertainty (Knight, 1921), to introduce new products, services and methods that substantially alter the competitive landscape (the overall definition is developed from Schumpeter's, 1934, detailed explanation and analysis).

As the opposite of creation, value destruction includes declining revenues, reduced capability, reduced investment in long term projects and overall resources, declining profitability, and eventual stock price decrease (Capron et al., 2002; Hayward et al., 1997; Lorange & Nelson, 1987; Lys & Vincent, 1995). Value destruction in this study is associated with negative deviations from industry average growth in revenue, profit and return on investment. Destroying value does not mean that the firm will end up in bankruptcy -- only that its overall capability will be impaired, and that its strategic outcomes are below industry averages.

Significance of Study

Management bias is considered a pervasive factor in strategic decisions of top management, yet has received little attention relative to strategic outcomes. In assessing firm strategy and performance, the majority of the literature focuses on essentially rational processes, such as choice of generic strategy (Porter, 1980; Porter, 1985), the sources of competitive advantage (e.g., Barney, 1991; Teece, Pisano, & Shuen, 1997), and diversification strategies (e.g., Geringer, Tallman, & Olsen, 2000; Stimpert & Duhaime, 1997). The emphasis has been on the positive outcomes of rational decisions, with less interest exhibited in negative outcomes.

The study of cognitive limits of senior managers has generally focused on a limited subset of strategic decisions, biases or contexts. These include research streams addressing decision-making processes (e.g., Eisenhardt & Zbaracki, 1992), acquisitions that destroy value for the initiating firm (e.g., Capron et al., 2002; Seth, Song, & Pettit, 2002); firms in decline (e.g., Cameron et al., 1987a; D'Aveni, 1989), top management

team characteristics (e.g., Finkelstein & Hambrick, 1996), and disruptive innovation (e.g., Tripsas, 1997). There is an opportunity to extend the study of cognitive influences to include the destructive forces of management myopia.

Extending the study of management bias may lead to a more in-depth understanding of processes that contribute to the enhancement or destruction of firm performance and firm value. Linking managerial cognitions in terms of myopia to strategic outcomes implies a set of actions and processes that affect strategic choice and implementation, the impact of which may be altered in direction and magnitude by industry conditions.

Organization of the Paper

Chapter II incorporates a review of the literature relative to the role of management bias in strategic management decisions, negative firm outcomes, and the moderating effect of industry context on managerial choice. This review is followed by a presentation of the model and specific hypotheses. Chapter III presents the research methodology including descriptions of the sample, measures of the key constructs and the methods used in analyzing the data. The remaining chapters present the results, discussion of those results, and conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

The normative and positive orientation of strategic management theory and research encourages a focus on the calculative rationality of choice in creating a fit between firm strategy and capabilities on one hand, and constraints and opportunities inherent in the firm's environment. The emphasis tends to be on successful actions, positions and strategies in answering the question "How, why and when do some firms perform at a higher level than other firms?"

In contrast, the question addressed in this paper is: "How, why and when do various forms of management myopia destroy value in firms?" This question shifts the focus of interest from the benefits of rational decision-making and visionary leadership to the cognitive limitations of managerial choice, and from firm success to negative outcomes. This "darker" perspective on managerial influence does not imply that most executives are prone to destructive decisions and actions, but that management judgment really does matter. There are differences in individual cognitive structures that lead one executive (or team of executives in an organization) to increase firm value while others reduce that value -- that a cognitive orientation (even a biased one) may be successful in one context but not in a different context.

This literature review addresses three forms of management myopia operating at the highest level of the organization, and explores their effects on firm value under different industry environments. Cognitive and learning theories identify patterns of

behavior associated with management judgment, beliefs, biases, and myopias. These cognitive factors affect management decisions and firm outcomes (Cyert & March, 1963; Hambrick & Mason, 1984; Levinthal et al., 1993; Simon, 1957). The behavioral view of strategic decision-making is integrated with mainstream competitive strategy concepts (Barney, 1991; Porter, 1991), adapting a comprehensive strategic decision-making model (Rajagopalan et al., 1997) to establish the linkage between cognitive factors (specifically management myopia) and firm outcomes.

The Strategic Change Framework (Rajagopalan et al., 1997) provides a comprehensive multi-lens model linking managers' cognition and learning to firm outcomes through strategic decisions and actions taken by senior executives. This comprehensive model includes multiple environmental influences (e.g., industry conditions) at various stages of the strategic change process. The direct link between cognitive factors (i.e., myopia) and firm outcomes is derived from this broad framework in a simplified model. Literature specifically addressing management myopia is then presented. The moderating influences of environment are discussed in terms of life cycle theory and the task environment literature. Alternative approaches to firm outcomes are reviewed relative to negative results and value destruction.

Strategic Decision Making (SDM) Frameworks

Strategic decision-making (SDM) research addresses the process of strategy formation and strategic change as a complement to the more extensive body of content research (Mintzberg & Waters, 1985). The content model of strategic choice focuses on the antecedents and consequences of strategic change in a primarily rational orientation

(e.g., Andrews, 1971; Ansoff, 1965; Dechow, Sloan, & Sweeney, 1996; Miller & Cardinal, 1994; Schendel & Hofer, 1979). Consistent with its roots in industrial organization (I/O) economics, the content model assumes that decision-makers will act rationally, and that rational action is clearly understood by decision-makers. The process model of decision-making also focuses on the role of the manager in initiating and enacting strategic change (Rajagopalan, Rasheed, & Datta, 1993). The process approach, however, generally acknowledges both rational and boundedly-rational behavior of managers, and the social and political nature of strategic decisions (Eisenhardt et al., 1992).

Four frameworks in the strategic decision making literature (Bell, Bromiley, & Bryson, 1998; Rajagopalan et al., 1993; Rajagopalan, Rasheed, Datta, & Spreitzer, 1998; Rajagopalan et al., 1997) strive to integrate the process and content perspective (Hough, 1999) -- incorporating managerial actions into the formation of strategy content, with both action and content impacting strategic outcomes. These frameworks include a strong cognitive orientation, and emphasize the influence of contextual factors on decision-making and economic outcomes. These frameworks are summarized in Table 1, including their theoretical focus, factors incorporated into the frameworks and their primary contributions.

Bell and associates (1998) sought to emphasize the integrated relationships among context, process, and content in producing strategic outcomes. This framework positions environmental factors as antecedents of processes, content and outcomes, and as moderators of the relationships between content/process and outcomes. The process of strategic decision-making is the central focus of this framework. This framework

addresses the complexities involved in the study of strategic decision-making (SDM), the importance of contextual influence in decision processes, and critical methodological issues.

TABLE 1
SDM Integrative Frameworks

Authors	Theoretical Focus	Factors in the Framework	Contribution
Rajagopalan, Rasheed & Datta 1993	Integrate Content & Process Perspectives	<ul style="list-style-type: none"> • Context (Environ., Organization & Dec. Characteristics) • SDM Process Characteristics • Process Outcomes • Economic Outcomes 	<ul style="list-style-type: none"> • Include content, & economic outcomes in SDM process • Incorporate contextual factors
Rajagopalan & Spreitzer 1997	Multi-lens theory focused on strategic change <ul style="list-style-type: none"> • Rational • Cognitive • Learning 	<ul style="list-style-type: none"> • Context (Environment & Organization) • Managerial Cognitions • Managerial Actions • Changes in Content • Organizational Outcomes 	<ul style="list-style-type: none"> • Focus on changes in content & process • Integrative view of SDM change • Incorporate the learning lens
Bell, Bromiley & Bryson 1998	Structural approach to SDM processes; Methodological issues	<ul style="list-style-type: none"> • Context • Process • Content • Outcomes 	<ul style="list-style-type: none"> • Complex Linkages • Reciprocal Process/Context Interaction
Rajagopalan, Rasheed, Datta & Spreitzer 1998	Multi-lens Theory focused on process <ul style="list-style-type: none"> • Linear View • Adaptive View • Interpretive View 	<ul style="list-style-type: none"> • Context (Environ., Organization & Dec. Characteristics) • Managerial Cognition • Managerial Actions • SDM Process Characteristics • Process Outcomes • Economic outcomes 	<ul style="list-style-type: none"> • Integrate the adaptive perspective • Integrate the interpretive view • Emphasized process & economic outcomes

The other three frameworks are closely related, with some overlap of authorship and a core structure of key elements and relationships. Rajagopalan and associates (1993) based their integrative frameworks on empirical studies of strategic decision

processes. Their extensive review of literature incorporated a wide range of perspectives from the “rational” model of an integrated, well coordinated body of decision-makers with clearly defined choices and objectives (Andrews, 1971; Ansoff, 1965) to political and behavioral models where individuals and subunits of unequal power bargain over conflicting perceptions and intentions (Pettigrew, 1973; Tushman, 1977). Environmental factors were explicitly identified in the framework as either antecedents or moderators of decision processes, process outcomes and economic outcomes. This framework was accompanied by an extensive literature review, which highlighted the lack of integration of content concepts, and the absence or simplistic treatment of environmental factors. The empirical orientation of this framework emphasized decision processes and decision outcomes, without specifically addressing managerial cognitions and actions.

Both the 1997 and 1998 Rajagopalan and associates’ frameworks (Rajagopalan et al., 1998; Rajagopalan et al., 1997) incorporate three theoretical lenses, specifically incorporating managerial cognition and action as key elements of the model. The multiple theoretical perspectives of the 1997 integrated change framework included the rational lens, the cognitive lens, and the learning lens; the 1998 integrated process framework discussed the three perspectives in terms of linear, interpretive and adaptive. Both of these later models emphasize the centrality of management cognition and action, and reinforce the importance of context. The 1998 “Decision Process” model continues the earlier model’s (Rajagopalan, Rasheed & Datta 1993) primary focus on process.

In a departure from the process focus of the other SDM frameworks, the Strategic Change Framework (Rajagopalan et al., 1997) shifts the emphasis from the process itself to a more integrative perspective on strategic change, and develops the cognitive and

learning lenses more completely. Consequently, the 1997 Strategic Change Framework provides the closest underlying theoretical basis for the current study's exploration of managerial bias and value destruction. It incorporates constructs from both the process and content traditions, with firm outcomes as the dependent variables. Linkages are identified that establish the rationale for the effect of cognitive and learning elements on strategic content and firm outcomes. Only this "multi-lens" model of strategic change (Rajagopalan et al., 1997) will be reviewed in detail relative to management myopia, environmental context and value destruction.

Overall Strategic Change Framework

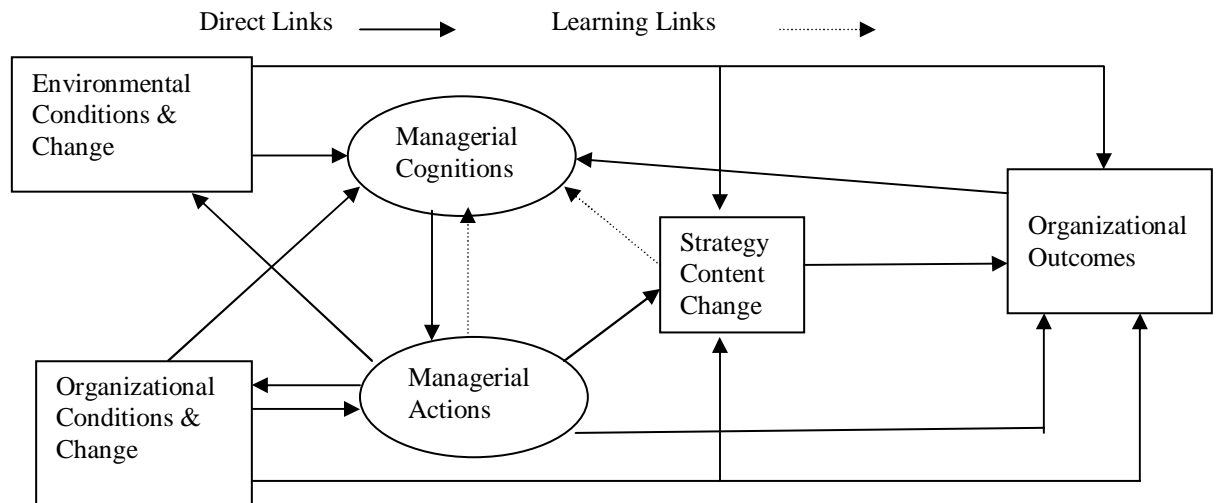
The Strategic Change Framework (Figure 2) integrates the rational lens, the cognitive lens and the learning lens to link managers' cognitions, learning processes, actions and decisions to strategic decisions and firm outcomes. This perspective seeks to integrate content and process approaches, which have developed as separate streams of strategic management literature. (See Rajagopalan and Spreitzer, 1997, for a complete review of the three lenses, and their integration in the overall framework.) This framework provides insight into why, when and how organizations initiate and implement strategic change, which impact firm performance and changes in firm value. The framework also provides insight in understanding why, when and how organizations fail to act and do not initiate change.

The rational lens provides a relatively deterministic or normative approach to strategic decision-making. Senior executives select appropriate strategies based on their assessment of industry and external conditions, and of internal capabilities and resources. In the rational perspective differences in resources and capabilities explain differences in

firm outcomes (Barney, 1986, 1991; Peteraf, 1993). The problem of strategic management is viewed as one of finding optimal solutions based on unambiguous information and expected outcomes (Ansoff, 1965; Mintzberg, 1990). The rational perspective ignores the black box of organizational processes (Pettigrew, 1992) and does not account for differences in managerial capabilities and attitudes, differences that are observed frequently in every-day business operations and in strategic decision-making (Amit & Schoemaker, 1993; Schwenk, 1988; 1995).

FIGURE 2

Multi-Lens Framework of Strategic Change
(Rajagopalan & Spreitzer 1997 – rational, learning and cognitive lenses)



The cognitive and learning lenses find a common logic in the concept of bounded rationality (Simon, 1957) and the behavioral theory of the firm (Cyert et al., 1963). The cognitive lens emphasizes knowledge structures and enduring belief structures, whereas cognitions have a direct effect on organizational outcomes (Gaertner, 1989; Thomas, Clark, & Gioia, 1993). The learning lens provides insight into the complex and

reciprocal interaction of managerial cognitions, decisions and actions with the environment and the organization (Rajagopalan et al., 1997).

Both the learning lens and the cognitive lens support the centrality of managerial cognitive factors (including biases such as management myopia) in decision-making processes, and ultimately, firm outcomes. The linkage between management myopia and firm outcomes is discussed in the simplified model below.

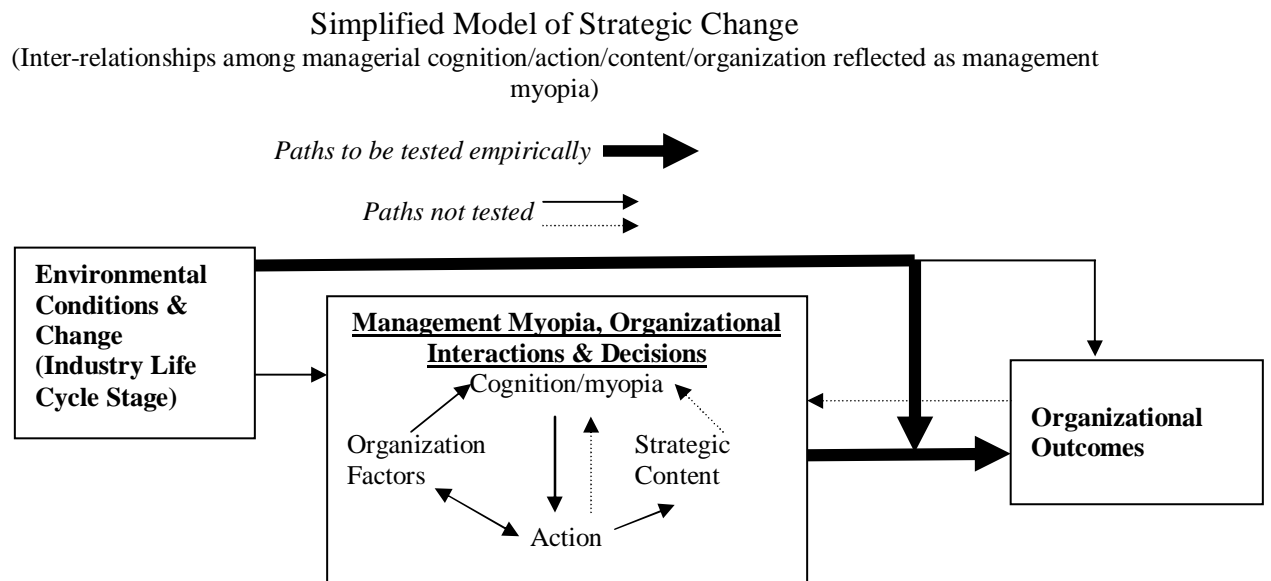
Simplified Model of Strategic Change

The multi-lens Strategic Change Framework provides the underlying logic and conceptual support for the multiple linkages between learning /cognitions and firm outcomes. A simplified model (Figure 3) can be structured that will enable tests of potential relationships between these learning/cognitive factors (e.g., management myopia) and critical firm outcomes (e.g., value destruction). As indicated in Figure 3, the myopia of senior executives represents an enduring orientation that biases judgment relative to strategic decisions. Management myopia will influence (and be influenced by) cognitions, learning, actions and organizational factors in the process of strategic decision-making. Strategic decisions reflect the myopia of senior executives, which ultimately impact firm outcomes.

The simplified model indicates how the overall Strategic Change Framework (Rajagopalan et al., 1997) can be reduced to focus on individual aspects of executive and organizational cognitions and decisions. For the purposes of this review, management myopia is the central factor of interest, and the focus of the simplified model. Management myopia is formed by organizational, internal, individual and experiential factors, as presented in the box titled “Management Myopia, Organizational Interactions

& Decision”. Managers at the highest level of the firm are subject to myopic tendencies, which reduce the scope of information considered in decision-making and influence how information is interpreted. Management myopia is expected to vary relative to personal characteristics, prior experiences of decision-makers, and environmental context.

FIGURE 3



Management myopia is posited as an enduring perspective that affects and constrains managerial decision-making abilities. Consequently, extreme levels of senior executive myopia are expected to influence firm outcomes (e.g., Christensen & Bower, 1996; Hayes & Abernathy, 1980; Levinthal et al., 1993; Miller, 1993). If some senior executives are substantially more myopic than other senior executives in similar circumstances (e.g., industry context), then substantial differences in senior manager myopia will be reflected in firm outcomes (e.g., value destruction).

Consistent with the integrative approach to strategic decision-making (Amit et al., 1993; Rajagopalan et al., 1997; Schwenk, 1995) and the strategic concept of

organizational/environmental fit (Schendel et al., 1979), the environment is included in the simplified model as a moderator. The impact of management myopia on firm outcomes is expected to vary depending upon industry context.

This simplified model provides the underlying logic of this review. The key assumptions of the model are discussed next, followed by a review of relevant literature.

Key Assumptions

The 1997 Strategic Change Framework provides assumptions critical to establishing the relationship between management myopia and firm level value destruction. The first assumption is that managers, primarily executives at the highest level of the organization, dominate the process of strategic decision-making. Senior managers (particularly CEO's) play an important role in determining strategic content and firm level outcomes. This argument is supported by a broad stream of SDM research (e.g., Eisenhardt & Bourgeois, 1988; Fredrickson, 1984; Fredrickson, 1986), and the upper echelons perspective (Finkelstein et al., 1996; Hambrick et al., 1984). A substantial body of organizational and strategic management literature directly or indirectly supports this viewpoint, that is, the importance of firm management in determining strategic choice (e.g., Astley & Van de Ven, 1983; Chandler, 1962; Child, 1972; Dutton & Jackson, 1987; Hough & White, 2003; Peteraf & Bergen, 2003).

Second, managers are not purely rational in all individual cognitive processes, but are influenced by past experience, time constraints, and other behavioral factors. The SDM frameworks (Table 1) discuss management bias as a relevant cognitive factor. The importance of bias and errors of judgment in the strategic decision-making process is expressly identified in a wider body of strategic management literature (e.g., Amit et al.,

1993; Bateman & Zeithaml, 1989; Das & Teng, 1999; Ocasio, 1997; Schwenk, 1995). The importance of executive biases and shortsightedness/myopia is also supported in recent qualitative research and literature (Burgelman, 1991, 1996; Finkelstein, 2004; Tripsas, 1997; Tripsas & Gavetti, 2000), in research focused on individual decision-making (Bazerman, 1994; Kahneman et al., 1993), and in learning theory literature (Argyris, 1990; Levitt et al., 1988).

The third assumption is that strategic decisions made by senior executives impact strategic content and the actions of the organization, which in turn influence firm level strategic outcomes. The normative nature of early strategic management theory emphasizes strategic choice. Senior managers make and implement important decisions that are believed to impact the direction and success of the firm (e.g., Andrews, 1971; Baum, Locke, & Smith, 2001; Chandler, 1962; 1977; Child, 1972; Desarbo, Di Benedetto, Song, & Sinha, 2004; Drucker, 2004; Finkelstein et al., 1996; Seth, Song, & Pettit, 2000). The field of strategic management is based on the premise of managerial action and choice (Bourgeois, 1984; Dean & Sharfman, 1996). Upper echelons perspective (Hambrick et al., 1984) and concept of dominant coalitions (Cyert et al., 1963) contribute to and support this argument.

The fourth assumption is that internal and external context will impact the effectiveness or appropriateness of strategic content and firm actions. Different strategies will be more or less effective depending on the environment in which they are enacted (Porter, 1980; Porter, 1985). The organization's ability to create a "fit" with the environment is a central tenet of strategic management theory and research, reflecting the rational lens in these integrative models (Andrews, 1971; Ansoff, 1965; Hofer, 1975;

Hofer & Schendel, 1978). The SDM literature (Dean et al., 1996; Rajagopalan et al., 1993; Schwenk, 1995) specifically incorporates the contingent and critical impact of environment relative to decision processes and effectiveness.

Table 2 identifies the assumptions critical to establishing the relationship between management myopia and firm level outcomes, along with the areas of theory and research that support those assumptions.

Table 2
Critical Assumptions and Supporting Literature

Critical Assumptions	Supporting Literature
Executives at the highest level of the organization, dominate the process of strategic decision making.	Upper Echelons Perspective; SDM, Early Normative literature (indirectly), qualitative/process literature
Managers are not purely rational in all individual cognitive processes, but are influenced by past experience, time constraints, & other behavioral factors consistent with the concepts associated with bounded rationality.	Bounded Rationality; the Behavioral Theory of the Firm; Upper Echelons Perspective; Cognitive Theory; Decision Theory; SDM; Learning Theory
Strategic decisions impact strategic content & the actions of the organization, which in turn influence strategic outcomes.	Normative Theory; RBV; I/O Econ; Strategy-Structure- Performance.
Internal & external context will impact the effectiveness or appropriateness of strategic content & firm actions, such that, different strategies will be more or less effective depending on the environment in which they are enacted.	Normative Theory; RBV; I/O Econ; Strategy-Structure- Performance; Contingency Theory; Life Cycle Theory

Management Myopia and Bias

In this section the definition of myopia is established, and its relationship to management bias clarified. The rationale for selecting management myopia rather than management bias as the cognitive independent variable of interest is then presented. This section is followed by an overview of literature that has addressed management myopia, and a discussion of Levinthal and March's (1993) three types of myopia.

Common definitions of myopia address “a lack of foresight or discernment; a narrow view of something” (Merriam-Webster, 1998), and “short-sightedness in thinking

or planning” (American-Heritage, 2001). These common definitions are reflected in the way that myopia is explored in marketing, management and finance literature. Myopia has been described as a form of bias or an orientation that restricts serious consideration of alternatives to decision-makers (Dess & Picken, 1999; Feinberg, 1995; Levitt, 1960; Merchant, 1990; Pinches, 1982). The term bias is generally defined as “an inclination of temperament or outlook; a personal and sometimes unreasoned judgment” (Merriam-Webster, 1998), and “a preference or inclination that inhibits impartiality” (American-Heritage, 2001).

These common definitions indicate a relationship between myopia and bias. The “inclination or outlook” in the bias definition is more specifically addressed as “a narrowing of vision” in the definition of myopia; “unreasoned judgment” (of bias) is more specifically addressed in the definition of myopia as “a lack of foresight” or “short-sightedness in thinking”. The common definitions of myopia and bias suggest that myopia is a form of enduring bias that hardens into a consistent orientation in the way individuals and groups of individuals view the world.

This common definition is supported and enhanced by the relatively limited body of management literature that discusses both myopia and bias concepts. Kogut and Kulatilaka (1994) reference managers’ myopic view of the world as a form of bias that influences investment decisions. Miller (1993) discusses myopia as “lenslike cognitive structures” that dictate “what managers will perceive, what they will ignore, and how they will interpret their perceptions”. These lenses “harden and focus more narrowly” (page 119) on behavior and activities that appear to have been most clearly successful in the past (Staw et al., 1981). Schwenk (1988) summarizes empirical research supporting

the argument that “availability, the illusion of control and other biases....may affect strategic decisions by restricting the range of strategic alternatives” (page 44), alluding to the effects of bias on myopia. Levinthal and March (1993) describe three forms of myopia (temporal, spatial and failure) respectively, as tendencies to ignore or overlook the long run, the larger picture, and failures.

These discussions of bias and myopia in the management literature indicate that biases may contribute to myopia as an enduring orientation, and that myopia contributes to biased decision-making and errors in strategic direction and action. Consistent with these descriptions and the general definition, management myopia is defined in this paper as *a stable perspective that narrows the set of alternatives considered by managers, and that exposes individual decision-makers and their organizations to errors in judgment.*

Although the relationship between bias and myopia has not been clearly established in prior literature, research that supports the influence of bias of management decision-making and firm outcomes provides indirect evidence of the potential impact on management myopia. Table 3 provides a description of strategic management decision studies that have explored the effect of bias in strategic decision contexts. The concepts studied include causal attribution (Bettman & Weitz, 1983; Clapham & Schwenk, 1991; Salancik & Meindl, 1984; Schwenk, 1985; Staw, McKechnie, & Puffer, 1983), retrospective interpretation of outcomes (Bukzar & Connolly, 1988; Golden, 1992), rationality in planning (Durand, 2003; Hodgkinson, Bown, Maule, Blaister, & Pearman, 1999; Ireland, Hitt, Bettis, & de Porras, 1987; Shoemaker, 1993), over-confidence (Busenitz & Barney, 1997; Simon & Houghton, 2003; Simon, Houghton, & Aquino, 2000; Tetlock, 2000), illusion of control(Simon et al., 2000), strategic change (Barr,

Stimpert, & Huff, 1992; Lant, Milliken, & Batra, 1992) and the impact of bias on firm outcomes (Bateman et al., 1989aa; 1989bb). Because myopia can be considered a more enduring form of bias, the impact of myopia on managerial decision making and firm outcomes can be expected to be at least as great.

TABLE 3

Bias in Strategic Management Literature (Includes SDM)

Author	Biases	Other Variables	Results
Bettman & Weitz 1983	Attribution Bias (selective reporting)	Neg/pos performance (relationship) Claims of causality	Internal cause of positive outcomes; External cause of negative outcomes
Staw, McKechnie & Puffer 1983	Impression management Attribution Bias	Neg/pos performance (relationship) Claims of causality	Performance not a strong determinant of causal attribution; Stock declined after defensive attributions; Interpreted as impression management
Salancik & Meindl 1984	Attributional Bias Impression management	Comparative performance vs economy Claims of TMT on causality	Overall attribution supported; Intentional attribution claims were supported – unstable firms took more credit for pos & neg outcomes; Performance improved after impression management
Schwenk 1985	Self-serving attribution bias	Resource commitments Confidence in management	Support for attribution bias; Self-serving bias relates positively to resource commitments & confidence
Bukszar Connolly 1988	Hindsight of success factors	Assessment of causal factors	Hindsight bias supported
Ireland, Hitt, Bettis & de Porras 1987	Availability	Differences in Strength & Weaknesses evaluated; Levels of Mgt; Industry	Differences found in level & in different firms (attributed to industry); Supports availability heuristic existence
Bateman & Zeithaml 1989 a	Framing Self-justification (Attribution)	Escalation of commitment; Past decisions; Slack	Dec Framing & Rationalization (attribution) lead to escalation of commitment; Interaction effects
Bateman & Zeithaml 1989 b	Framing Self-justification in failure feedback (Rationalization or Attribution)	Prediction of biases by subjects in earlier study; Escalation of commitment; Slack	Inaccurate prediction of bias; separation from the study produced more rationality
Clapham & Schwenk 1991	Self-serving attributions Impression management	Performance; Claims of causality for pos/ neg performance	Support for attribution rather than impression; Neg relation of attribution & performance

TABLE 3 (Continued)

Author	Biases	Other Variables	Results
Lant, Milliken & Batra 1992	Attribution Environmental awareness	Strategic Reorientation Past Perform, Environ. Turbulence TMT characteristics	Mixed findings on attribution; Positive on awareness; Mixed on TMT; Pos on Turbulence
Barr, Stimpert & Huff 1992	Attention: salience of environment Perception: need for change not perceived Range Limits: restricted alternatives	Munificence Organizational renewal Cognitive change (inertia)	Evidence of learning: Munificence delays recognition of need for change & slows alternatives
Golden 1992	Recollection bias	Performance; Strategic orientation; Extent of change in strategies	Recollection errors related to strategic orientation, past performance & extent of change.
Shoemaker 1993	Framing Availability bias Anchoring bias Conjunctive fallacy	Scenarios; Widening of confidence intervals (more realistic)	Scenario planning seems to reduce framing, availability & anchoring bias; but creates the conjunctive fallacy – producing mixed results
Busenitz & Barney 1997	Representativeness Over-confidence	Entrepreneurs vs Managers	All bias is not uniformly systematic; Variation in managers cognitive states
Hodgkinson, et al. 1999	Framing bias (DV)	Mapping techniques (Case analysis)	Premapping reduces framing bias
Simon, Houghton, & Aquino 2000	Overconfidence Illusion of control Small numbers	Entrepreneurial Risk Perceptions	Risk perceptions differ because of type of biases; Entrepreneurs may perceive less risk venture formation
Tetlock 2000	Over-confidence Attribution	Variation in ideology & cognitive style	Differences found in willingness to exhibit biases by authoritarian execs
Simon & Houghton, 2003	Overconfidence	Extreme certainty, Achieved success, Risk propensity & Pioneering	Positive relationship to pioneering
Durand 2003	Illusion of control Self-perception Ignorance of regression to the mean Education (internal focus) as bias	Market info investment	All biases produced higher positive error in forecasts, & most overall error; Market information moderated the effects of bias

The concept of myopia is directly related to concepts of bias, particularly those expected to impact strategic decision-making (SDM) processes and outcomes, as presented in Table 3. The benefits of reviewing biases that have received empirical attention relative to the discussion of management myopia are four-fold. First, the research provides some evidence that biases impact important decision making processes and firm outcomes. In that myopia is defined in this paper as an enduring bias, the research provides support for the strategic impact of management myopia. Second, any literature review that addresses myopia as enduring bias would be incomplete without a

thorough evaluation of SDM bias literature. Third, a number of these biases share characteristics with at least one of the myopias (e.g., over-confidence is closely related to failure-myopia and hubris). Fourth, some of the biases explored empirically appear likely to contribute to the development of multiple forms of management myopia (e.g., framing). The first two points are addressed in the previous review of the relationship between myopia and bias. The last two points deserve some additional discussion.

Some of the sixteen biases identified above appear to share some of the underlying characteristics of one or more of the three management myopias. Hubris may develop from or share characteristics or outcomes with over-confidence, internally-focused attribution, impression management and illusions of control. Over-confidence, by definition, relates directly to hubris. Attribution of firm success to internal or firm level factors and impression management are described in terms that are consistent with hubris. As an extreme form of confidence, managers who exhibit hubris are likely to credit their own skill and intuition as the cause of firm success, while downplaying the contribution of others. Illusion of control is a concept closely associated with internal attribution, and has obvious implications for over-estimation of individual capabilities. Illusion of control and internal attribution may be concentrated in one or a few senior managers as an indicator of hubris, rather than attribution to the firm in general.

The studies of over-confidence focus on differences in cognitive states for different types of managers, providing some support for cognitive and behavioral differences at the managerial level. The studies of attribution and impression management included in Table 3 link internal attribution to firm performance, external awareness and strategic reorientation. Although results have been mixed, there is clear

evidence of a relationship between attribution bias and performance. Illusion of control was associated with over-confidence, risk perception and forecast error in the studies reviewed (Durand, 2003; Simon et al., 2000; Tetlock, 2000). Durand indicates that illusion of control may also, in some cases, lead to reinforcement of current technologies, inertia and escalation of commitment. As such it may contribute to both hubris and spatial myopia, depending on the circumstances of the business.

Spatial myopia may share some characteristics or tendencies associated with external attribution. Attribution of negative outcomes to external factors reinforces the current regime, and may lead to escalation of commitment even in the face of negative feedback. Recollection bias, selective perception, availability bias, lack of awareness, internal focus, and range limits also may encourage a preference for existing operations and technologies, while discouraging external search and new concepts. Because these biases operate in all conditions and in all circumstances, it is also possible that they will reinforce tendencies toward hubris as well. However, it seems likely that they are more closely linked to spatial myopia.

Other biases, like framing and anchoring, may contribute to the development of any of the three myopias. Depending upon the initial framing of a specific set of choices, decision-makers have exhibited different preferences for risk. It is possible that framing results from the historical pattern of a business/industry and the experiences of its leaders. If the environment is perceived to have rewarded variety and risk taking (e.g., a high growth environment), there may be a greater tendency to take risks. In a less munificent environment, conservative strategies may be more common. These sources of bias may simply reinforce or increase the level of any or all of the myopias, depending on the

circumstances. Potential links between these sixteen biases and the three myopias are outlined in Table 4.

TABLE 4
Comparison of Management Myopia and Bias

Myopia	Bias
Hubris	Over-confidence Illusion of Control Internal Attribution (toward senior executives) Impression Management
Spatial Myopia	External Attribution Selective Perception Availability Bias, Lack Of Awareness, Education toward Internal Focus Range Limits
Temporal Myopia	There was no clear comparison for temporal myopia in this set of biases
Contributors to all forms of myopia	Framing Anchoring Ignorance of the Regression to the Mean Hindsight Conjunctive Fallacy Small Numbers

The potential linkage between these biases and types of myopia is somewhat speculative. These comparisons are based on definitions of the myopia concepts previously stated, and on their relationships with other variables (e.g., escalation of commitment, forecast error, strategic reorientation). Empirical analyses of these comparisons represent a worthwhile future project; however, it is beyond the scope of this study.

Rationale for Studying Management Myopia

There are a number of advantages in selecting myopia over bias as the cognitive concept of interest within the Strategic Change Framework. First, the Levinthal and

March (1993) typology provides a strong theoretical argument for the myopia of learning. Second, myopia can be considered a hardening of the lens through which a manager views the world (Miller, 1993), with a more enduring impact on multiple, strategic decisions. Third, the three myopias appear to relate directly to specific firm strategic issues already identified in the strategic management literature, such as commitment to the status quo, short-termism and over-confidence. Fourth, employing Levinthal and March's typology simplifies the construction of measures and the testing of those measures (in deference to having to select some types of biases and omitting others identified in the cognitive lens stream).

Three Forms of Management Myopia

Levinthal & March's (1993) three forms of management myopia are grounded in learning theory, particularly in concepts associated with dysfunctional learning. In this section, literature on dysfunctional learning is discussed as in contrast to learning as a positive phenomenon. The concept of myopia as a learned bias is then presented. This is followed by a detailed review of the three forms of management myopia.

Learning is argued to be critical to performance in the face of changing business environments (Burgelman, 1990; Levitt et al., 1988). It is seen as a means to develop capabilities that are valued by customers, as difficult to imitate, and as an important contributor to competitive advantage (Crossan & Berdrow, 2003). Learning is frequently represented as a positive phenomenon (Argyris et al., 1978; Senge, 1990; Watkins & Marsick, 1993). In much of the literature, learning is presented as a rational process within the domain of decision-making and choice (Cohen & Sproull, 1996; Lant &

Mezias, 1990; 1992). However, there has been less emphasis on the negative consequences of learning (Crossan et al., 2003).

Learning not only contributes to positive outcomes, but can become dysfunctional, leading to bias, myopia and errors in judgment. Lewin's (1947) concept of unfreezing, change and refreezing relates to both positive and negative impacts of learning. Similarly, Argyris & Schön (1978) note the limitations of single-loop learning. Cognitive maps learned under one set of circumstances may no longer be appropriate in different circumstances (Barr et al., 1992). The nature of learning itself involves substantial limitations in the acquisition and use of intelligence. The same processes that contribute to experiential wisdom may also encourage superstitious learning, competency traps and erroneous inferences (Leonard-Barton, 1992; March & Shapira, 1987).

Dysfunctional learning stems "partly from inadequacies of human cognitive habits, partly from organization features, partly from characteristics of the structure of experience" (Levitt et al., 1988: 335). Models of adaptation and qualitative research indicate that the fittest do not always survive (Gimeno, Folta, Cooper, & Woo, 1997; Nelson et al., 1982; Tripsas et al., 2000), and that learning does not necessarily maximize results (Busemeyer, Swenson, & Lazarte, 1986; Levinthal, 1997; Miner & Mezias, 1996). Learning may contribute to a "stable suboptima" (Denrell & March, 2001) and inertia even when managers are provided negative feedback (Miller, 1993; Staw, 1976; Staw, 1981). Experience can be a misleading teacher in its inadequacy to incorporate the complex and changing nature of the world in which learning takes place (Levitt et al., 1988).

The results of learning processes are evidenced in routines and heuristics that help improve decision-making through simplification and specialization processes. While these processes may be of benefit in commonly experienced decisions, they can interfere with the efficacy of less frequent strategic decisions. Miller (1993) posits that organizations face negative results by amplifying and extending a single path of action while de-emphasizing others. Qualitative evaluations of simplifying routines provide evidence of the negative impact of extreme focus on a single, dominant business model. Once-exceptionally performing businesses have been found to stagnate or even decline (Burgelman, 2002; Hill & Rothaermel, 2003; Miller, 1990; Starbuck, Grave, & Hedberg, 1978) as they fail to develop “requisite variety” (Buckley, 1968: 485).

Miller (1993) further notes that the impact of myopic inclinations on inertial tendencies increase when the “lenses harden and focus more narrowly” (page 120). Myopia becomes a powerful force that leads managers to ignore even negative feedback, falling prey to rationalizations and to inaccurate attributions (Staw, 1977). This lack of response to negative feedback is also noted by Weick (1979: 175), explaining that “the environment is full of equivocal cues that are easy to misinterpret.” The result can lead organizations to mechanically embrace a narrowing of skills, markets and technology (Miller, 1990). Homogeneous experience and conformity limit the scope of learning, decrease flexibility, and promote myopia and complacency (Miller et al., 1994a; Zollo, 2004).

The concept of myopia can also be found in other research streams. The idea of myopia originates with Theodore Levitt (1960) who introduced the concept, marketing myopia. Marketing myopia was initially described as a firm's shortsightedness or

narrowness when it is attempting to define its business. Myopia has been associated with risk and prospect theory (Thaler, Tversky, Kahneman, & Schwartz, 1997) relative to myopic loss aversion (Benartzi & Thaler, 1995.). Accounting literature discusses short-term financial actions as myopia (Merchant, 1990) and “short-termism” (Lavery, 1996).

Levinthal and March’s (1993) typology provides a structured approach for organizing the study of management bias as three forms of myopia. Literature addressing each of the three forms of management myopia is discussed in the following sections.

Spatial Myopia

Levinthal and March (1993: 101) characterize spatial myopia as “overlooking distant places” and as “the tendency to ignore the larger picture.” Spatial myopia develops from learning that “favors effects that occur nearer the learner” (page 110), leading to positive adaptation in some circumstances, but leading to self-destructive rigidities in others for individuals and organizations. Unlike temporal myopia, however, there is relatively little literature that addresses spatial myopia directly.

Miller (2002) defines spatial myopia as “the lack of awareness of other technologies within or outside the firm” (page 689). This form of myopia is believed to arise from managers' cognitive limitations and intra/inter-firm boundaries, restricting search and deployment of alternative technologies, and the potential benefits of technology interactions. This is consistent with Kahneman and Lovallo’s (1993) concept of isolating errors, whereas managers consider investment decisions individually.

Levinthal (1997) represented the problem of spatial myopia as one of disconnections to

multiple peaks in a complex landscape, where it is impossible to identify optimum alternative opportunities without extensive and widespread search.

Levinthal and March (1993) also relate spatial myopia to the dominant logic (Cyert et al., 1963; Prahalad & Bettis, 1986) of the senior executives of the firm. Simplification and decomposition tend to restrict scope and reinforce boundaries, encouraging the hardening and institutionalizing of mental models. This leads to screening out input that is divergent from the dominant logic. Learning at the operating level substitutes for learning at a higher level of the organization, and reinforces rigidities that arise from increased competencies on existing routines. As noted in the temporal myopia section, spatial myopia is increased by the character of temporal myopia contributing to a focus on efficiency and refinement. But unlike temporal myopia, spatial myopia will likely encourage long-term investment on current business models and technological approaches.

Although Levinthal and March (1993) discuss the negative ramifications of temporal myopia as developing competency traps, the description they provide indicates spatial myopia as the ultimate cause. Incumbent inertia is substantially explained by the competency trap, where firms are likely to pursue technologies and activities that are compatible with existing markets, activities and technologies (Christensen, 1997; Teece et al., 1997; Tripsas, 1997). Learned skills and subsequent cognitive heuristics and biases become impediments to anything that is inconsistent with the core business (Burgelman, 1996, 2002).

This perspective is amplified by Danny Miller's (1993) discussion of the dark-side of successful simplification and focus. An abundance of anecdotal cases (e.g.,

Halberstam, 1986; Lyon, 1984; Meyer & Zucker, 1989; Miller, 1990; Starbuck et al., 1978) indicate that many successful organizations decline as a result of their focus on a single strength, while neglecting capabilities that may be critical to future opportunities. Success creates a dangerous preoccupation with simplicity and focus. The simplification process increasingly narrows and hardens the lenses into spatial myopia. Success is attributed to the dominant program or policy even when multiple alternative explanations are likely (Staw et al., 1981). Focus initially produces efficient competence, eventually leading to errors of attribution, and rationalization (Staw, 1977; Weick, 1979). These biases encourage an increasing focus on the dominant business logic, even in the face of contrary evidence. This extreme focus can evolve into spatial myopia, leading to errors of judgment including incumbent inertia and irrational escalation of commitment.

Several examples may clarify the impact of spatial myopia in deference to temporal. Burgelman (2002) explains how Intel's cycle of single-minded focus on its primary business model excluded significant investment in newer, and therefore, less competent strategies and alternatives. The superior performance of the single, dominant logic left no room for any other significant thrust. The persistent exclusion of emerging opportunities became embedded in the investment logic of Andrew Grove (Intel CEO) who continued to make large financial commitments to the dominant technology. Ultimately, the firm ran out of growth and profit opportunities in its primary business. Inadequate investment in new business concepts and technologies severely limited options for growth.

In an in-depth study of Polaroid, Tripsas and Gavetti (2000) provide an example of spatial myopia in the absence of temporal myopia. Commitment to the historical

business model led Polaroid to resist the quick return potential (short-term benefit) of the “hardware” aspect of digital imaging. Even though competitors were clearly exploiting this market successfully, Polaroid’s management favored a longer-term commitment to technology – a strategy that had launched their initial successful product. The executive team escalated commitment to a very complex, uncertain, and high investment technology, viewing this approach as more consistent with the historical competency of the organization. The company exhibited spatial myopia, but not temporal myopia by making major commitments to historically successful long-term technical development while ignoring the immediate financial payoffs to the hardware segment.

These examples provide some evidence that spatial myopia and temporal myopia are not only theoretically, but also practically different. Spatial Myopia is, therefore, characterized by a lack of awareness or denial of utility of other technologies, processes and routines available within or outside the organization (Miller 2002). Learning favors technologies and routines near to the learner (Levinthal & March 1993), and limits the set of alternatives considered for implementation (Miller 2002). Spatial myopia is consistent with a focus on, and commitment to dominant technologies, core competencies, and the exploitation and development of existing firm capabilities, regardless of the time frame for financial payoff.

Temporal Myopia

Levinthal and March (1993) describe temporal myopia as the tendency to ignore the long run in “overlooking distant times” (page 101) and to sacrifice the long-run for the short-run. The same type of logic is found in discussions of trade-off between the short-term and the long term relative to exploitation versus exploration (Brown &

Eisenhardt, 1997; Cohen & Levinthal, 1990; March, 1991; Tushman & Romanelli, 1985). This stream of research emphasizes concepts such as adaptation, maladaptation, inertia and absorptive capacity within a learning framework to explain the general preference for exploitative or short-term orientations. At the same time, a similar logic can be applied to spatial myopia (which is discussed in detail in the following sub-section). The exploitation versus exploration stream of literature, including Levinthal & March's (1993) conceptual development of management myopia, does little to distinguish temporal from spatial myopia. However, the economic perspective provides a more specific emphasis on financial aspects of temporal myopia, which sets it apart from the spatial myopia concept.

In the economics and finance perspectives, temporal myopia can be identified as a short-term orientation, where it has been an important subject in finance and accounting literature. Significant external and firm level pressures have been identified as important factors that encourage firms and their managers to favor short-term actions over long term ones. Lavery's (1996) review of publications that address myopia and "short-termism" indicates the dominance of the economics and finance literature. While the important role played by short-termism in these streams of literature provides support for temporal myopia as a unique concept, there is a virtual absence of the organizational and the managerial perspectives.

Lavery (1996), in attempting to integrate the organizational/strategic perspective with that of the economic perspective, traces economic short-termism to five potential, underlying causes. The first three are consistent with the economic perspective: stock market pressure, impatient capital, and information asymmetry (Feinberg, 1995;

Hrebiniak & Joyce, 1986; Merchant & Bruns, 1986). To these structural causes emphasized by finance and accounting scholars, Lavery adds two behavioral causes: flawed management practices and managerial opportunism. Kogut and Kulatilaka (1994) also link external pressures and biased heuristics as combined sources of short-term myopia by organizations and senior executives. This link is developed further by Coff and Lavery (2001), who differentiate temporal myopia from other forms of bias in organizational and strategic settings. In short, managers and their cognitive biases, in the form of temporal myopia, lead to flawed management practices (errors). External pressures that favor short-term, low risk actions operate fairly constantly in the market place. It is the way that managers interpret that environment that causes differences in individual managers' tendency toward temporal myopia. The combination of the economic and behavioral view of short-termism as an important management bias contributes to the perspective of temporal myopia as a unique concept.

In one of the few evaluations comparing spatial and temporal myopia, Kent Miller (2002) references both the learning and the economic perspective in developing a working definition of temporal myopia. The logic Miller developed is helpful in understanding different forms of myopia in more generalized activities and routines that have been refined by the organization. His view of temporal myopia involves uncertainty about current states, failure to consider future states and limited foresight for technology investments. Shortsightedness can reduce the range of technologies adopted into the firm's knowledge inventory. Under temporal myopia, incumbent technologies are more attractive than new alternatives that include large initial costs and require some period of time and practice to compete with existing technologies.

Following Miller's (2002) logic, existing technologies, markets and processes are favored by both temporal and spatial myopia; however, the approach to investment in the current regime can be expected to differ between the two forms. Temporal myopia is posited to produce a preference for the existing regime at all levels of the organization; however, unlike spatial myopia, it can also be expected to develop a resistance to investment in the existing or related activities that cannot provide an early return, or that involve substantial commitments with longer-term payoffs. Temporal myopia may also produce a bias in favor of an acquisition approach over internal development, with a perceived faster implementation. The bias against longer-term payback on existing technology and markets should not be the case in decisions that reflect spatial myopia only.

Differentiating temporal and spatial myopias is in concert with qualitative and quantitative research dealing with risk in managerial decision-making. Shapira (1995), in a survey of chief executives and managers, found that true risk is to be avoided, and that managers expect to manage and control risk through their own intuition and capabilities. Long-term projects (regardless of spatial implications) are inherently perceived to be uncertain, involving unknown amounts of risk. Executive choice will be biased toward the more certain, short-term alternatives. This view is consistent with the concept of myopic loss aversion (Benartzi et al., 1995.; Thaler et al., 1997), which combines preferences for short horizons and a strong distaste for losses.

Temporal myopia is, therefore, characterized by the lack of awareness of, or interest in opportunities and investments beyond the near term (Levinthal et al., 1993; Miller, 2002). It involves sacrificing the long run for the short term (Lavery, 1996).

Temporal myopia will often be reflected in a very high preference for low risk, near term, relatively certain ventures and projects. Temporal myopia may contribute to spatial myopia through a focus on the more certain near technologies and opportunities.

Temporal myopia, however, will likely discourage long-term investments in the current business, an action consistent with decisions made under spatial myopia. Moreover, an excessive interest in the short-term is often associated with a financial approach to strategic decisions.

Hubris

Hubris is defined as the unjustified overconfidence in an individual's or an organization's capabilities, evidencing exaggerated pride (Hayward et al., 1997). Hubris encourages senior executives to over-estimate their ability to manage uncertainty and risk, to reinterpret historical results in a more favorable light, and to attribute success to abilities and failure to luck or external factors (Hayward et al., 1997; Kahneman et al., 1993). Managers often confuse correlation with causation by attributing success to specific management practices and decisions that are assumed to be driving forces in perceived success (Zollo, 2004). There have been a number of terms that tap into a similar concept including failure myopia (Levinthal et al., 1993), overconfidence (Bazerman, 1994; Schwenk, 1986), and superstitious learning (Levitt et al., 1988).

Failure myopia is the third form of myopia identified by Levinthal and March (1993), reflecting "the tendency to overlook failure" (page 101) through the "oversampling of successes, and the undersampling of failures" (page 110). Failure Myopia is evidenced in individuals who overestimate their ability to deal with problems unrelated to issues in which they have experienced their successes. Failure myopia can

lead to extremely high levels of confidence. While Levinthal and March (1993) employed the concept of failure myopia to reinforce management focus on the current business model, its extreme forms of “excessive confidence” lead to a willingness of executives to take extreme risks. These extreme forms of overconfidence share the characteristics of the hubris concept.

Over-confidence has been identified as one form of cognitive bias in a number of behavioral decision-making studies focused on negotiations and decisions under risk. Bazerman (1994) relates over-confidence to a phenomenon where people extend belief in their abilities from simpler decisions to more difficult decisions, and over-estimate their ability. In empirical strategic decision literature, levels of over-confidence have been linked to differences in ideology and management style (Tetlock, 2000), to differences in risk perception in entrepreneurs (Simon et al., 2000), and to differences in mental maps of large firm managers and entrepreneurs (Busenitz et al., 1997). Over-confidence has been characterized as cognitive bias in these studies.

The mismatch between confidence and competence where “the subjective experience of learning is compelling” and “the connections between actions and outcomes are mis-specified” has been discussed as superstitious learning (Levitt & March, 1988: 325). Superstitious learning involves misjudging the cause of successful outcomes. Managers often confuse correlation with causation by attributing success to specific management practices and decisions that are assumed to be driving forces in perceived success. Zollo (2004), in one of the few empirical studies of superstitious learning, found a positive relationship between superstitious learning and acquisition experience.

Acquisitions have also been the subject in studies of hubris. Roll (1986) introduced the concept of hubris as an explanation for acquirers' non-value added acquisitions. Hayward and Hambrick (1997) found a relationship between the level of CEO hubris and overpayments in acquisitions. They also found that weak governance structures increased the negative impact of CEO hubris. Seth, Song and Petit (2000; 2002) identified a substantial number of acquisitions that provided evidence of hubris as a motivation for overpayment by the acquirer. CEO celebrity, a potential contributor to hubris, has been related to the "fundamental attribution error" in CEOs (Hayward, Rindova, & Pollock, 2004). CEO celebrity can distort perceptions of control for the CEO, stockholders and employees. Celebrity can lead to over-confidence and commitment to continuing strategic choices associated with that celebrity (Camerer & Lovallo, 1999).

There are a number of concepts similar to hubris (over-confidence, superstitious learning, failure myopia and CEO celebrity) that share a central focus on excessive levels of confidence that can lead to serious errors of judgment. The empirical literature provides some support for differences in the level of confidence executives possess, and for the negative influence of over-confidence on strategic decisions and firm outcomes (Busenitz et al., 1997; Hayward et al., 1997; Seth et al., 2000; Simon et al., 2000). Although hubris can have serious and destructive consequences for executives and organizations, it may also produce necessary risk-taking in some circumstances (Levinthal et al., 1993).

Summary of Myopias

In summary, the myopia of learning provides a sound theoretical structure for exploring the effects of managerial bias on strategic decisions and firm outcomes. Although the three forms of management myopia have not been fully developed conceptually nor empirically tested, diverse streams of literature provide conceptual and empirical support for their influence on firm level actions and outcomes. These diverse literatures indicate that management myopia contributes to negative organizational phenomena, including inertia, escalation of commitment, lack of long term investment and overpayment for acquisitions.

There is no agreement on the issue of management myopia as primarily a unified concept, or as related, but separate dimensions. Levinthal and March's (1993) presentation of management myopia emphasizes the focus or inertial influences of all three dimensions, which are proposed to favor the dominant logic and existing competencies of the firm. Other scholars address the dimensions as important individual types of bias individually, generally employing different terminology (e.g., overconfidence and short-termism) and without reference to the overall concept of management myopia. The relatively limited numbers of empirical studies on the individual dimensions indicate some support for treating them as separate concepts.

Relative to contextual issues, some scholars (e.g., Levinthal & March 1993) expect that management myopia may have greater or lesser effect depending on the environments in which the subject firm operates. In the following section, industry-level environmental factors are discussed as moderators to firm level strategies and actions,

which are expected to be influenced by senior executive errors in judgment associated with management myopia.

Industry Context

While strategic management has historically debated the relative influence of the industry factors versus that of the firm, an integrative perspective has received increasing support (e.g., McGahan & Porter, 1997; Rumelt, Schendel, & Teece, 1994; Spanos & Lioukas, 2001). Firm level resources that provide sustainable competitive advantage are most likely embedded in organizational capabilities, managerial expertise and tacit knowledge (Barney, 1991; Prahalad & Hamel, 1990; Teece et al., 1997). This is in keeping with the management choice arguments made by early organizational and business policy scholars. The distribution of capabilities in any given industry reflects deliberate managerial action within the context of environmental and industry context (e.g., Andrews, 1971; Ansoff, 1965; Barnard, 1938; Chandler, 1962).

The strategic decision-making frameworks discussed at the beginning of this chapter (Table 1) reinforce the integrative perspective by incorporating environmental factors in models of decision-making and strategic choice. The authors argued that much of strategic management research gives inadequate attention to the interaction of firm/management and environmental factors (e.g., Bell et al., 1998; Rajagopalan et al., 1998). The Strategic Change Framework (Rajagopalan et al., 1997) particularly emphasizes the impact of industry factors in multiple steps in the strategic change process. Multiple conceptual and empirical streams of research in the field of strategic management support industry effects as both direct and moderating factors in strategic decision-making and firm outcomes (Henderson et al., 1997; Robinson & McDougall,

2001). The moderating influence of industry conditions on strategic decision-making processes and rationality has also received substantial support in strategic decision-making literature (Goll & Rasheed, 1997).

For the purposes of this study, senior executive myopia is considered an important firm factor relative to knowledge-based resources of the firm (Levitt et al., 1988; Miller & Shamsie, 2001). Consistent with the integrative view of firm and environmental factors, industry conditions are posited to moderate the relationship between senior executive myopia and major firm outcomes.

Two major perspectives have been advanced relative to industry context as a moderating influence on firm level actions, the industry life cycle (Hofer, 1975) and the organization task environment (Dess et al., 1984). Both perspectives identify growth as a major determinant of industry conditions. Munificence, substantially represented by industry growth, is associated with a favorable environment when growth is high, and environmental hostility when growth is low (Goll et al., 1997). Similarly, the growth stages in industry life cycle theory have been associated with lower competition, higher profitability and greater, more varied opportunities (Porter, 1980). The task environment stream of literature also identifies two other important characteristics, dynamism and complexity. While these additional dimensions represent interesting and important elements for a broad spectrum of strategic decision-making processes and outcomes, they are of less interest for this specific research question.

Industry growth (munificence) is proposed as the most appropriate characteristic in assessing the impact of management myopia on firm level outcomes in established industries for three reasons. First, cognitive biases and errors of judgment associated

with management myopia will be affected by senior executive perceptions of the industry environment. Even for established industries, the perception of participation in a high-growth versus a low growth (i.e., stagnant industry) is expected to significantly impact the orientation and outlook of senior executives responsible for charting the course of a business. Second, the simplification processes discussed in the myopia section of this review suggest that those senior executives will also simplify their view of the world (Miller, 1993). The labeling of industries as growth versus non-growth reflects this type of simplification process, which is likely to be reflected in senior executive cognitive orientations and business media reinforcement. Consequently, industry turbulence (dynamism) may restrict the formation of hardened biases (myopia). Third, there is less theoretical support for the impact of the complexity and dynamism characteristics relative to the relationship between myopia and firm level outcomes. Fourth, the focus on established industries reduces the likelihood of significant differences in dynamism and complexity (Castrogiovanni, 2002), allowing for a more restrictive test of the influence of industry growth.

In this section, task environment and industry life cycle theory and literature will be presented and the choice of industry growth rate supported as the most critical industry factor for this research question. Growth rate is a primary indicator of the life cycle stages. The task environment literature addresses revenue growth as a key driver of the munificence characteristic.

Industry Life Cycle Theory

A number of scholars consider industry or product-evolution life cycle as a fundamental variable in strategic management research (Anderson & Zeithaml, 1984;

Beal et al., 1999; Hambrick et al., 1982; Hofer, 1975; MacMillan, Hambrick, & Day, 1982; Robinson et al., 2001). Industry life cycle theory is derived from product life cycle concepts introduced in the 1960's in business, marketing and economics literature (Buzzell & Nourse, 1968; Cox, 1967; Levitt, 1965; Polli et al., 1969).

Hofer (1975) considered industry or product-evolution cycle as the “most fundamental variable in determining an appropriate business strategy” (page 789). A body of research suggests that industry life cycle plays an important role in competitive strategies (e.g., Anderson & Zeithaml, 1984; Hambrick et al., 1982; Hofer, 1975; MacMillan et al., 1982); however, this literature has offered somewhat conflicting evaluations of the match between competitive strategy and different stages (Beal & Lockamy 1999). Moreover, research incorporating life cycle concepts often focuses on the emergent or early growth stages (Eisenhardt & Schoonhoven, 1990; Eisenhardt & Schoonhoven, 1996; MacMillan & Day, 1987). A recent example is Robinson and McDougall's (2001) support for the moderating effect of industry life cycle on the relationship between entry barriers and performance in new ventures. Similarly, Lumpkin and Dess (2001) found that industry stage moderated the relationship between entrepreneurial orientation (a cognitive factor) and new venture performance. Still, there is little research incorporating life cycle stages in more established industries, notably those in the mature-growth (also termed late growth) and full maturity stages (Beal & Lockamy 1999).

The industry life cycle is commonly portrayed as four stages of emergence, rapid growth, maturity and decline, with important ramifications for firm strategies and outcomes (Porter 1980; 1985). The four-stage model provides a basic framework for

understanding major changes that occur between emergence and growth and between maturity and decline. It is particularly effective in identifying differences between very young, emerging firms from those that have reached full maturity. The four-stage model, however, provides little insight into the complexity of changes that occur in more established industries that still experience substantial differences in rates of growth (Hofer, 1975; Jovanovic & MacDonald, 1994; Polli et al., 1969). A number of scholars have identified additional sub-stages (Buzzell et al., 1968; Day, 1981; Greiner, 1996; Kotler, 2003; Sallee & Frankwick, 2004) that directly address this issue. The additional sub-stages are particularly applicable to established industries, whereas the maturity stage can be separated into periods of high or low growth.

Industry Growth and Life Cycle Stages

Product classes and industries pass through an emergence and rapid growth stage before a shakeout occurs and stronger, more efficient firms survive and prosper (Agarwal, Echambadi & Sarkar, 2002; Gort & Wall, 1986). This shakeout has been described in terms of a transition period (Porter, 1980), as period of deepening and concentration of innovation (Agarwal et al., 2002; Nelson & Winter, 1982), and as the competitive turbulence stage (Wasson, 1974). The industry is still growing; however, there is a shift from product and technology innovation to process innovation, efficiency and quality in a more “competitive” environment (Day, 1981; Utterback, 1994). This is substantially different from the post-emergence period of rapid growth in an industry that has yet to experience a shake-out of weaker firms. The post-emergence, rapid growth period still reflects substantial levels of experimentation, variation and technological innovation. The context of the early/rapid growth stage is substantially different from the later growth

period, which is more stable and generally preceded by a shakeout of less efficient firms. The industry is still growing, but there is a significant reduction in the levels of uncertainty and variety. The mature-growth stage increasingly rewards traditional competitive actions and focus, which is reflected in Porter's (1980) discussion of transition from growth to maturity.

Growth may continue for an extended period, but eventually gives way to a period of low growth, characterized by stagnation and increased competition. The existence of multiple growth and multiple maturity stages is documented in early product life cycle discussions (Buzzell et al., 1968; Polli et al., 1969), as well as in recent literature (Greiner, 1996; Kotler, 2003). Polli & Cook (1969) separate three stages of maturity – sustained maturity, maturity, and declining maturity, relating to differences in levels of real growth during those periods. Consistent with early treatments, and more recent studies, Cook and Polli (1969) identified multiple periods of growth and decline/stagnation in mature industries that did not lead directly to severe decline, dispersion or bankruptcy.

This body of literature supports important differences between periods of high and low growth within the stage traditionally identified simply as mature. The differences in environmental conditions between high-growth and low-growth periods are expected to play a critical role in moderating the relationship between management myopia and value destruction in established firms.

Munificence and the Task Environment

The three dimensions of the task environment include munificence, dynamism and complexity. Dess and Beard's (1984) factor analysis, supported by Rasheed and

Prescott (1992), indicates that munificence is impacted substantially by sales growth, and that dynamism is primarily a measure of variation in growth factors (instability/stability in Aldrich's 1979 review). Both studies found only geographic concentration as a measure of environmental complexity, with no real support for product diversity or specialization ratio. The general definition of each of the dimensions is as follows (Dess et al., 1984; Goll et al., 1997):

- Munificence: Environmental capacity or the ability of the environment to sustain growth (only measures of growth supported). High growth industries are considered munificent environments; low growth industries are considered hostile environments.
- Dynamism: The unpredictability of rate of change in a firm's environment (only variation in growth measures supported).
- Complexity: The degree of uncertainty in the environment associated with the number and variety of organizations in the environment (only geographical concentration supported).

The theoretical relevance of the task environment is tied to arguments from population ecology and resource dependence perspectives (Aldrich & Pfeffer, 1976; Hannan et al., 1984). An organization's survival is contingent on the acquisition of critical resources from the environment in general, and from other organizations. The nature of the environment and the organization's ability to access available resources largely determine which organizations will survive and which will fail (Aldrich 1979; Dess & Beard 1984).

There are several obvious relationships between life cycle theory and the munificence dimension. As Dess and Beard (1984) showed, the concept of munificence is primarily a rate-of-growth concept. Growth is believed to increase the number of options available to competitors, provide some level of slack, and evidence far less intensity of competition, not only in the actual environment, but also in the perceptions of the participants. The concept of munificence clearly parallels the logic of life cycle. Both munificence and life cycle stages are substantially associated with the rate of growth in an industry. They agree on the idea that higher growth is associated with more favorable environments, and lower growth with more competitive or hostile environments.

Goll and Rasheed (1997) argue that environmental munificence exerts an important influence on managerial choice. More munificent environments encourage greater managerial discretion, and are more likely to evidence variety in strategic direction (Goll et al., 1997; Hambrick & Finkelstein, 1987). More hostile environments are more likely to reinforce more rigid, conservative approaches to strategic change (Finkelstein & Hambrick, 1990). This has a particularly important influence on the cognitive states of senior executives and their boards of directors. The level of munificence in an industry will likely impact the perceived choices of senior executives. For example, hubris may be allowed to have greater negative effect on firm outcomes in munificent industries due to fewer real and perceptual constraints placed on “intuitive” or arrogant decisions. On the other hand, low munificence environments may reward actions encouraged by overly confident executives who initiate changes that break the organizational out of the inertial forces of stagnation. Conversely, low munificence levels may encourage rigidity in some

executives, leading to increased focus on the existing business model, and the avoidance of risk associated with new markets and technologies.

Dynamism, the second dimension of the task environment, has received a considerable amount of attention in strategic management decision-making literature. A number of articles have tied industry dynamism to greater or lesser benefits of rational decision processes (Goll & Rasheed, 1997). Arguments have been made for greater benefit of rational processes in empirical studies of both dynamic (e.g., Eisenhardt et al., 1990; Goll et al., 1997; Miller & Friesen, 1983), and stable markets (e.g., Fredrickson, 1984; Fredrickson & Iaquinto, 1989). The ambiguity in results offer somewhat less convincing arguments for the moderating influence for the dynamism dimension relative to the three forms of management myopia.

The third industry dimension, complexity, has received somewhat less attention in the strategic decision-making literature. Moreover, the definition and measurement of complexity have been disputed (Harris, 2004; Rasheed & Prescott, 1992; Sharfman & Dean, 1991). Beard and Dess' (1984) factor analysis supported only geographic concentration. Others have measured concentration and density ratios in relation to new business entry (Boeker, 1991). Heterogeneity or range of competitors, suppliers, customers and organizational task was not supported Beard and Dess' (1984) factor study, but is believed to be an important conceptual approach to complexity (Castrogiovanni, 2002). The multiple potential definitions of complexity complicate the already difficult task of determining potential interaction effects with management myopia. At this juncture, there is little theoretical support for addressing a specific type of complexity relative to the research question under review.

In summary, both life cycle theory and task environment theory provide support for employing industry growth as the primary measure of industry context. Dynamism and complexity are recognized widely as important industry characteristics, but do not appear to be as clearly related to the effects of management myopia.

Management Myopia and Industry Growth

The learning lens provides insight into the effects that industry growth patterns have on managerial cognition and to the potential impact of managerial myopia on strategic decisions. Managers may interpret their environment to fit with their view of the world (Barr et al., 1992; Jawahar & McLaughlin, 2001; Weick, 1979), which in some cases is more or less myopic than in others (Amit & Schoemaker, 1993; Miller, 1993). Porter (1980) notes that the actual stages of the growth cycle can be difficult to determine, particularly for executives operating within real industries, and without the benefit of hindsight. This perspective is especially relevant for the focus of this study, which is on established industries that have passed the rapid growth phase and have yet to enter the permanent decline phase.

Variety is greater and competition less severe in the earlier stages than the later stages (Miles, Snow, & Sharfman, 1993), which can be applied to established industries in a high or low growth mode. Porter (1980) gives significant attention to the transition phase between growth and maturity. Growth is still high in this phase, but uncertainty relative to the favored technology (or a limited number of technologies) has substantially dissipated. These conditions can be expected to benefit firms that build and exploit competitive advantages associated with the dominant technologies or regimes. These firms are rewarded by focusing on development (rather than exploratory research),

investment in process improvements and quality, and efficiency efforts (Gort et al., 1986; Jovanovic et al., 1994). The high-growth stage combines the competitive orientation of efficiency and focus with the positive advantage of growth and variety.

Because firms are rewarded for focus, efficiency and exploitation of existing technologies, spatial myopia may have little or no negative effect on firm outcomes. Focus is likely to be rewarded, even in the extreme form. Conversely, managers who experience extreme levels of hubris may be encouraged to explore and to take major risks on new businesses when the rewards are substantially greater for exploiting existing technologies.

Mature industries also experience low real growth. In these conditions, industries tend to evidence even less uncertainty, increasingly aggressive competitive tactics (often easily understood and matched by competitors), decreasing variety, and greater standardization (Gort et al., 1986; Nelson et al., 1982). This is most evident for established industries that have fully passed through a transition period from rapid growth (as in Porter's 1980 explanation), and have entered what is called the stagnation stage (Hamermesh & Silk, 1979). Porter's (1980) description of the maturity stage reflects this low growth condition. Firms tend to view the industry as stagnant, with substantially less opportunity to differentiate. Competition tends to be more imitative. Prior periods of extensive focus on current technology and markets may contribute to structural inertia and rigidity in approach. The firms and their executives have experienced success (and survival) during shakeout phases of growth that rewarded focus, efficiency and quality, with relatively fewer rewards for variation and investment in new opportunities.

In the low-growth period, firms that continue to focus on existing markets and technologies are likely to confront intensifying competition for a relatively fixed market. The focus on existing markets and technologies (Porter 1980) can lead to spatial myopia, which can increase the firm's reliance on the increasingly competitive business model. Spatial myopia biases the top management team to emphasize focus, efficiency and the core business concept and processes (Levinthal et al., 1993; Miller, 1993; Miller, 2002). Barriers to exit exist both objectively and in the cognitive maps of senior executives that have defined success (Barr et al., 1992). These cognitive maps even screen out objective feedback on lower than average industry performance. Executives may invest deeper into old technologies and markets where competitors are involved in a downward spiral of excessive competition.

In low growth industries, spatial myopia may also restrict consideration of new concepts, new markets and new technologies that could lead to lower competition, higher growth and greater profitability. The lack of search and investment in opportunities restricts a firm's ability to find less competitive positions, niches and new markets (Beal et al., 1999). The context may have the opposite effect on hubris. Levinthal and March (Levinthal et al., 1993) note that hubris may contribute to strategies that encourage the firm to break-out of the spiraling competition of stagnating businesses. Over-confidence can lead to critical experimentation and consideration of new concepts. In summary, differences in growth patterns involve substantially different contexts, in which there may be substantial variation in the effects of different forms of management myopia on firm outcomes.

Negative Firm Outcomes: Value Destruction

The research question of this study addresses the dysfunctional aspects of learning of senior executives, which are expected to result in negative outcomes for the firm. Just as dysfunctional learning, bias and myopia depart from the positive orientation of normative and rational processes of strategic management theory, the background for assessing negative firm outcomes must be sought outside the convention of positive, financial performance. Literature focused on organizational decline, retrenchment and turnaround, and value destruction specifically address negative firm outcomes.

Decline Literature

Organizational decline was identified as an important but little studied management issue by Whetten (1980). Whetten's observation was followed by a number of studies that have taken varying positions on the potential for negative or positive factors associated with decline, suggesting a contingent relationship (Mone, McKinley, & Barker, 1998). The theoretical and empirical works addressing decline provide evidence that other factors (e.g., management error, bias and myopia) impact firms differently. This stream of literature also provides a definition of decline and a number of operationalizations of the concept. Even though the decline literature generally seeks to understand the effects of decline on organizational behavior (Cameron, Whetten, & Kim, 1987b; D' Aveni, 1989), it also provides some information on the potential antecedents of decline. For example, management error and bias that contributes to organizational inertia may also be a cause of decline, rather than an effect.

Evidence of positive and negative relationships between organization decline and subsequent firm outcomes suggests that other factors may influence that relationship.

The “negative” perspective of one body of decline literature has emphasized outcomes associated with inertial forces. These negative outcomes include increased rigidity (e.g., (Staw et al., 1981), reduced innovation (Nystrom & Starbuck, 1984), and/or escalation of commitment (Staw, 1981). The body of work supporting negative outcomes suggests that decline is associated with intensified, restrictive focus on existing operations and technologies, and a heavy emphasis on efficiency (Brockner, 1992; D' Aveni, 1989; Ocasio, 1995). Although this body of work stresses firm decline as the theoretical antecedent to inertial characteristics, the direction of the causal relationship is not clear in all circumstances. Extreme focus on the current regime and on efficiency (consistent with managers who exhibit spatial myopia) may also contribute to decline in sales, profitability and/or capabilities.

The streams of literature supporting positive outcomes following decline point to actions that stimulate innovation, initiate strategic change, and/or involve higher risk (Boeker, 1994; Lant et al., 1992; McKinley, 1984; Wiseman & Bromiley, 1996; Zajac & Kraatz, 1993). Once firms are in decline, this stream of literature argues that organizations will be encouraged to act in novel and innovative ways. This evidence appears to contradict the negative effects stream of decline literature, but actually may indicate differences in environments, organizational cultures or management factors (Mone et al., 1998). A potential significant individual factor is the cognition of managers as represented by management myopia. Differences in managerial perceptions and organizational actions may contribute to the decline of some firms in a growing or stable industry, while others prosper. Even firms that recover after a period of decline through

strategic change may have been lead into decline by myopic decisions and management error.

Cameron, Whetten and Kim (1987) defined organizational decline relative to a substantial, absolute decrease in an organization's resource base that occurs over a specific period of time. Mone and associates (1998) considered organizational decline as a measurable threat to an organization's viability, referencing protracted reductions in market share, financial losses, reduced enrollments, and substantially reduced product demand and sales. The general view of this literature steam is that firms may decline as a result of either industry contraction or of firm specific problems, although some authors consider firm causes as much more critical (Mone et al., 1998). Empirical treatments of organizational decline have employed multiple measures, including real decline in revenues (Cameron et al., 1987b), failure as cessation of operations (Amburgey, Kelley, & Barnett, 1993; Hambrick & D'Aveni, 1988), reduction in overall asset levels (Wiseman & Bromiley, 1996), and low levels of profit returns (Hambrick & D'Aveni, 1988).

Turnaround Literature

Scholars interested in retrenchment and turnaround activities shift the emphasis of research from factors associated with organizational decline to activities designed to correct strategic and operational problems (Barker & Duhaime, 1997). This body of work builds on the decline literature in relating decline to management cognition and error, emphasizes firm induced decline, and provides additional operationalizations of negative firm outcomes.

The cause of decline is a critical factor in determining conditions most associated with turnaround activities, specifically targeting firms that underperform relative to their

peers (Barker & Barr, 2002; Hambrick & Schechter, 1983). For turnaround theorists, the greatest interest is in firms that have failed because they have not enacted strategic change, have chosen the wrong action, or have implemented it poorly (Barker & Patterson, 1996; Hofer, 1980; Robbins & Pearce, 1992; Schendel & Patton, 1976). Decline has been specifically linked to bias, managerial failure, and misguided beliefs and interpretations (e.g., Barker et al., 2002; Barker et al., 1997; Nottenburg & Fedor, 1983). The link between misguided beliefs, bias and management error draws direct comparison to Levinthal & March's (1993) management myopia.

Turnover literature also includes multiple measures of decline; however, there is a greater emphasis on more traditional financial measures (Bruton 1989). Some early authors employed qualitative measures, including impression of firm's overall financial condition, market position, strategic health, published stories of profits and market shares, and in-depth interviews (e.g., Firsirotu, 1985; Hofer, 1980; O'Neill, 1981; 1986). The most frequent quantitative measure incorporates some form of change in profitability or profit ratio (e.g., Barker et al., 2002; Bruton, Oviatt, & White, 1994; Ford & Baucus, 1987; Furman & McGahan, 2002; Schendel, Patten, & Riggs, 1976), which are generally normalized for industry levels. Z scores, indicating a risk of bankruptcy, have also been employed as indicators of decline (Barker et al., 2002). Barker and associates (2002) defined declining organizations as those with significant reductions in asset levels, number of employees, and normalized sales. In a study of acquisitions of financially distressed firms, Bruton and associates (1994) employed qualitative assessments of firm success.

Value Destruction Literature

Value has historically played an important role in strategic management theory. Porter argued that “Competitive advantage grows fundamentally out of the value a firm is able to create for its buyers” (1985: xvi). Value is the first component of Barney’s (1991) VRIN (valuable, rare, inimitable and not-substitutable) formula for determining sustainable competitive advantage. For firms to be successful, they must create value in terms of perceived customer benefit or loss, and they must capture value for the firm, avoiding giving away value already created (Bowman, 2001).

The related issue of value destruction has had substantially less attention in strategic management research (Barnett & Burgelman, 1996). In Schumpeter’s (1942) view of creative destruction, the decline of existing firms is the result of the introduction of new technologies or administrative approaches. However, there are other sources of decline and destruction at the firm level. Porter (1985) provides an extensive review of the negative aspects of intense competition that is expected to develop in stagnant or declining industries. The Five Forces model and the Value Chain concept specifically discuss how value can be lost to competitors, customers, suppliers and potential new entrants by an individual firm and its management. Managers may lead their firms by successfully creating and sustaining firm value, or can destroy firm value by succumbing to management error, self-serving actions, bias and myopia (e.g., Cannella et al., 2001; Fama, 1980; Hannan et al., 1984; Hayward et al., 1997).

Finance and economics literatures employ capital market theory in equating value creation/destruction to changes in stock market value (e.g., Fama, 1976; Lubatkin & Shrieves, 1986). Changes in shareholder value have been found to vary after major

“events” occur that affect the value of the firm. Individual evaluations of AT&T’s acquisition of NCR (Lys et al., 1995) and the attempted merger of Volvo and Renault (Bruner, 1999) describe post-announcement declines in shareholder stock price as value destruction. Bruner particularly attributes the destruction to “hubris, managerialism and the escalation of commitment” (page 125). Supporting these claims, empirical studies in the finance and economics areas have found that many acquisitions result in declines in the acquiring firms’ long-term profitability (e.g., Fowler & Schmidt, 1988; Ravenscraft & Scherer, 1987) and in shareholder value (e.g., Agrawal, Jaffe, & Mandelker, 1992).

A number of strategic management scholars have taken up the issue of value destruction by the management of acquiring firms, based on concepts of managerialism (Baumol, 1962) and hubris. Seth, Song & Petit (2002) found evidence of synergy, managerialism and hubris in a study of cross-border acquisitions. They concluded that managerial motives explain why some acquiring managements create value and others destroy value. In a more specific study of management hubris, Hayward and Hambrick (1997) found that hubris of the acquiring firms’ CEOs was specifically tied to the payment of unjustified premiums, resulting in the destruction of value for the acquiring firms.

Overall, the study of value destruction in acquisitions provides qualitative and quantitative evidence of value destruction as a transfer of value to other organizations and individuals. The cause of this destruction has been tied to management error, self-interest and hubris. The study of acquisitions is, however, limiting in its measures. Acquisitions often represent short-term events relative to their announcement to the public. Moreover, the change in price reflects the markets best-guess of future potential based on current

information, not actual value captured or lost (McWilliams & Siegel, 2001). Changes in stock price are also subject to manipulation by executives (Dechow & Skinner, 2000; Johnson & Kaplan, 1987), and by unrealistic expectations by investors and stock analysts (Cornell, 2001; Shleifer & Vishny, 1994). Although stock price has been found to be appropriate for single event type studies, its problems limit its application as a single measure of value creation or destruction.

The problems of employing a single type of measurement are not restricted to the use of market values. The frequent employment of profit ratios in strategic management theory has been frequently criticized (Chakravarthy, 1986; Geringer et al., 2000; Venkatraman & Ramanujam, 1986). The common measures of profitability (e.g., ROI, ROA, and ROE) are, by themselves, incapable of capturing the full dynamics of growth and decline.

The different approaches to negative firm outcomes reviewed in this section suggest a multi-dimensional approach to measuring value destruction. The term value destruction is employed to indicate that value is dissipated by firms in a number of ways not fully captured by single-measure approaches (e.g., ROI) or by shareholder wealth concepts.

For the purpose of this study, negative firm outcomes are described in terms of value destruction, which is measured by declining revenues, declining profits and declining returns on assets. Revenue growth rates indicate the extent to which firms provide value to customers (Bowman & Ambrosini, 2000; Geringer et al., 2000; Porter, 1985). Lower growth as compared to competitors in the same industry indicates value destruction. Profit growth rates reflect both the creation or destruction of customer

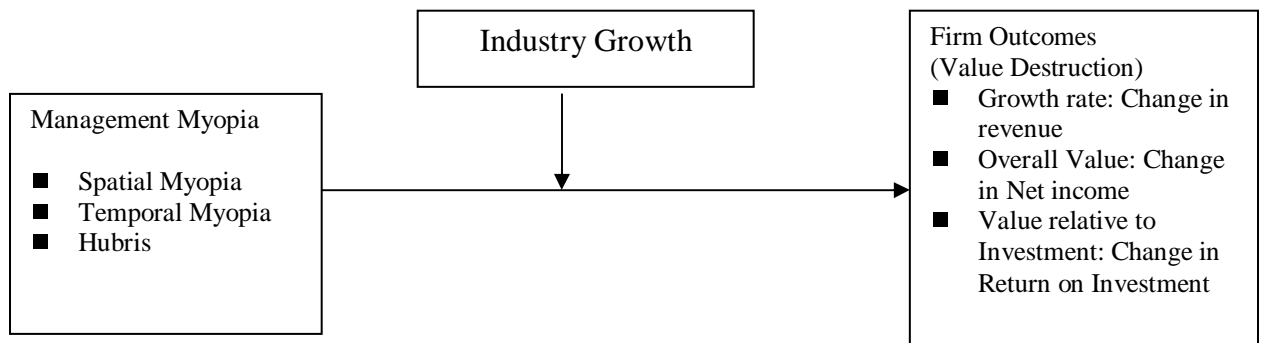
defined value, and the extent to which a firm captures or retains the value it has created (Bowman et al., 2000). Return on assets factors in the efficiency in which the firm employs assets in creating or destroying value.

Model and Research Hypotheses

The Strategic Change Framework (Rajagopalan et al., 1997) reviewed at the beginning of chapter II (Figure 2) provides the primary logic for a simplified model that links enduring management cognitions to important firm outcomes. The simplified model focuses on the relationship between management myopia, industry growth patterns and firm outcomes (value destruction).

FIGURE 4

The Model of Management Myopia and Value Destruction



Management myopia represents the enduring orientation of senior executives in decision making that ultimately impacts firm outcomes. The dysfunctional nature of myopic learning suggests negative firm outcomes, which are represented as value

destruction in the model. Environmental conditions are represented by industry growth patterns as the moderator of that relationship.

As noted earlier in this chapter, management myopia is defined as a stable perspective of managers that narrows the set of alternative choices, and that exposes the individual or organization to errors in judgment. Levinthal and March (1993) develop the concept of dysfunctional learning as “the myopia of learning” (page 95), identifying three forms of myopia that can have substantial effects on strategic decisions and firm outcomes. Temporal myopia reflects short-term thinking and actions. Spatial myopia reflects the trade-off of exploiting current technology or seeking variety and innovation in new areas. Failure myopia leads to over-confidence and hubris, which can result in higher risk decisions.

Learning theory provides the underlying logic for the destructive potential of management myopia (e.g., Argyris et al., 1978; Cohen et al., 1990; Levinthal et al., 1993; Levitt et al., 1988) Management myopia is a product of valuable learning processes that are effective in repetitive situations, where experience, and past successes are relevant to ongoing decisions. This presents a paradox for strategic decision-makers. Senior executives are involved in a large number of relatively ongoing decisions that benefit from simplification processes and effective heuristics. Much of their success may be attributable to making and implementing operationally oriented decisions; however, the simplification processes associated with learning may not be applicable to strategic decisions. Strategic decisions are relatively infrequent, involving substantial ambiguity and uncertainty. Feedback on success or failure of individual strategic decisions may not be realized for several years, and even then, evaluation is subject to alternative

interpretations of success or failure. Consequently, senior executives are particularly exposed to errors of judgment in strategic decisions, which are associated with a narrowing of viewpoints and constraints on consideration of alternatives (i.e., management myopia).

The strategic management perspective generally regards rational decision-making as beneficial to the quality of those decisions and to firm outcomes (e.g., Andrews 1971; Porter 1980, 1985). Following the logic of dysfunctional learning, strategic decisions made by executives with higher levels of myopia will be less rational than those with lower levels of myopia, with a restricted range of alternatives considered and an increased potential for significant errors. Although all managers may exhibit some level of myopia, managers with higher levels of myopia will introduce greater levels of error into strategic decisions, with negative firm consequences. This can be expected to occur for any of the major forms of myopia identified by Levinthal and March (1993).

The dysfunctional side of organizational theory provides theoretical support for a relationship between high levels of management myopia (temporal myopia, spatial myopia and/or hubris) and value destruction at the firm level. Negative firm outcomes are identified as value destruction in all hypotheses. Value destruction is reflected by changes in firm level revenue and profitability that are below industry averages.

Hypothesis 1: High levels of CEO spatial myopia will be significantly and positively related to value destruction at the firm level.

Hypothesis 2: High levels of CEO temporal myopia will be significantly and positively related to value destruction at the firm level.

Hypothesis 3: High levels of CEO hubris will be significantly and positively related to value destruction at the firm level.

The Moderating Influence of Industry Growth

The learning literature stresses that myopia results from a learning process, whereas success can ultimately lead to myopia and value destruction (Rosenkopf & Nerkar, 2001). On one hand, building core competence by extending existing technologies, markets and capabilities enhances value for the operation. However, that same process can lead to competency traps, superstitious learning and core rigidities (Leonard-Barton, 1992; Levitt et al., 1988). This paradox implies that focusing on the core business may be a strength within certain contexts, but become myopic and deteriorate value in other contexts. Levinthal and March (1993) note that the overconfidence (i.e., hubris) may contribute to errors of recklessness in many situations, but could also have a positive effect under circumstances where sustaining exploration is beneficial to firm value. This paradox suggests that external context will moderate the relationship between executive myopia and value destruction.

In this section, an argument is made for different conditions existing in the high and low growth industries. These different conditions moderate the effects and intensity of the three forms of myopia. The primary thesis of this paper is that lack of fit between management bias and industry characteristics destroys value at the firm level. Consistent with the paradox of beneficial and dysfunctional learning, different forms of management myopia may contribute to value destruction in high growth industries, but not in low growth industries, and visa versa. It is even possible that high levels of spatial myopia

may be beneficial in high growth environments by increasing emphasis on the transition to quality and efficiency; and that high levels of over-confidence may be necessary for executives to break the organization from inertial tendencies in stagnant industries. The interaction of each form of myopia and industry context is evaluated individually.

Spatial Myopia

Spatial myopia contributes to an organization falling into competency traps and to increased rigidity in action. It involves a less than rational exclusion of alternative business processes, technologies and markets that do not fit with the top managements' view of the core business. A key problem in Levinthal & March's (1993) view is that spatial myopia crowds out exploratory learning in favor of exploitation and leads to organizational inertia and rigidity. Spatial myopia is expected to be associated with investment in near technologies and markets, in efficiency and quality programs that enhance and leverage existing core competencies (Miller, 2002). This reflects a choice of exploitive versus exploratory strategies.

The lack of fit between spatial myopia and low growth environments is expected to result in value destruction for the firm. Low growth industries can be characterized by intense competition, and little uncertainty about technologies, markets and competitive strategies (Porter, 1980). Firms have learned how to compete with standard efficiency and focus strategies, which paid-off during the transition from early growth to mature-growth periods. These strategic actions may continue to protect value for a period of time in firms that execute these strategies most effectively. Eventually, however, the lack of uncertainty, fewer opportunities and increasingly transparent competitive actions will lead to price-cutting, excessive competition, and a downward spiral of value corruption

for those firms committed to the established business model (Cameron & Whetten, 1983; D' Aveni, 1989; Mone et al., 1998).

An argument for the negative effect of spatial myopia is not as compelling in periods of high growth. Growth itself allows for more variety in establishing strategic positions, and has been associated with higher levels of slack (Agarwal et al., 2002; Goll et al., 1997; Miles et al., 1993). Executives may be less inclined to recognize and interpret lower than industry growth as a deficiency in strategy as long as “acceptable” growth is achieved, and the threat of serious financial problems perceived to be remote (Hall, 1976, 1984; Hambrick et al., 1988; Hedberg & Jonsson, 1977; Miller & Friesen, 1984; Whetten, 1980). Decline can involve complex circumstances, be difficult to interpret, and develop over an extended period of time (Barker et al., 2002; Cameron et al., 1987b). This may lead some firms to continue to invest in variety when there is a more significant benefit to focus on existing markets and process technologies. Spatial myopia may even contribute to a beneficial “focus” in high growth environments that can discourage investment outside core product lines, and encourage beneficial aspects of focus on existing strengths (Miller & Chen, 1994b).

The industry growth pattern can be expected to moderate the relationship between spatial myopia and value destruction.

H4: The relationship between spatial myopia and value destruction will be stronger in lower growth industries than in higher growth industries.

Temporal Myopia

Levinthal & March (1993) argue that temporal myopia contributes to and is highly correlated with spatial myopia; however, there are important differences in strategic decision-making and action (Laverty 1996; Miller 2002). Temporal myopia reflects a bias toward the certainty of short-term, fast return investments. While this will favor the near term pay-off of exploitative investments (cost reduction and quality programs) over explorative investment (new markets, technologies), it will also favor immediate actions that will discourage major investment of any kind that has a longer pay-back. This financial and control orientation of temporal myopia is supported by prospect theory and research (Kahneman et al., 1993), the increasing evidence of short-term dysfunctionality of businesses in general (Laverty 1996), and the theoretical distinction between temporal and spatial myopia (Miller 2002).

The negative effects of temporal myopia are likely to be more severe in periods of intense competition, whereas some form of experimentation or exploration is essential to breakout of the equilibrium-like conditions of stagnant industries. Cutting off essential capabilities for the core business not only limits the exploration and exploitation of future opportunities, but also undermines the firm's ability to compete in the current technology and market (Levinthal et al., 1993; Miller, 1993).

Unlike spatial myopia, it is likely that temporal myopia will have a negative influence on value in high and low growth contexts, but that its impact will be more severe in lower growth industries. Industry growth patterns will moderate the relationship between temporal myopia and value destruction, with different levels of influence on the two environments.

H5: The relationship between temporal myopia and value destruction will be stronger in lower growth industries than in higher growth industries.

Hubris

Hubris is an extreme form of over-confidence. While some level of overconfidence can be expected to influence executives who have achieved substantial levels of success, it will generally act to reinforce the existing logic of an organization in maintaining focus and defending established positions (Levinthal et al., 1993).

However, there is evidence of extreme levels of overconfidence that exists in some manager's cognitive states (Hayward et al., 1997; Hayward et al., 2004; Levitt et al., 1988). This extreme overconfidence, or hubris, leads executives to overestimate their ability to make and execute high-risk strategies, and to underestimate uncertainties and external forces. The extreme impact of hubris can be aggravated by the celebrity that accompanies highly visible actions, and by high levels of individual power that can be accumulated by highly visible CEO's. The likely effect of senior management hubris is to over-estimate their ability to manage and control their environment, and engage in high-risk projects without objective estimates of success (Kahneman et al., 1993). This orientation can lead senior executives to deviate from the core existing business strategy.

Life cycle theory indicates that consolidation, focus and efficiency can be appropriate strategic actions in high growth industries. Risk taking in uncertain and non-core markets and technologies can distract the organization from the critical strategies of building core competencies. Senior executives with high levels of confidence in their own judgment and abilities may actively seek to embark on unique strategies that run

counter to the industry norm. Executives who fail dramatically tend to suffer from the illusion of infallibility, to be obsessed with their personal image and vision, and downplay the reality of real complications and obstacles (Finkelstein, 2004). Hubris will likely encourage departure from a basic strategy of focus and building on core competencies that can be expected to be critical in higher growth environments.

Conversely, in periods of lower growth, benefits may accrue from countering the forces of inertia and taking more calculated risks (Kahneman et al., 1993; Porter, 1980). Firms that have successfully persisted through periods of shakeout and intensifying competition had to rely on core competencies, focus and efficiency. These values become engrained in the beliefs of the organization and its leadership, even when an industry suffers from low growth and high levels of direct competition. Altering the nature of the competition and seeking less visible opportunities may provide growth and opportunity in stagnant environments. Hubris may actually contribute to the seeking of new opportunities, and pull an otherwise inertial organization out of a downward spiral (Levinthal et al., 1993); however, it is uncertain as to the ultimate success of new businesses and technologies. They can lead to value creation or even an acceleration of value destruction.

The industry growth pattern is expected to moderate the relationship between hubris and firm outcomes (value destruction). Hubris may lead CEOs in higher growth industries to depart from a very successful business model in favor of less certain opportunities. In this situation, the expected effect is negative. In lower growth industries, the same departure may have benefits in breaking out of a low growth pattern, encouraging entrance into new markets where higher growth and profitability is possible.

There is no guarantee, however, that entry into new markets will be successful. The effects of some firms entering new businesses successfully may be offset by the failure of other firms attempting to diversify.

H6: The relationship between hubris and value destruction will be stronger in higher growth industries than in lower growth industries.

Chapter Summary

A primary tenet of the strategic management paradigm is that senior managers in an organization substantially impact firm outcomes through the strategic decision-making and implementation processes. The cognitive and learning perspectives indicate that strategic decision-making is influenced by the biases and myopias of senior executives. Strategic decision-making and life cycle theorists have made strong arguments for a moderating affect of environment on the effect of strategic decisions. These perspectives are integrated in the Strategic Change Framework (Rajagopalan et al., 1997), and amplified by Levinthal and March's (1993) presentation of management myopia. The literature suggests that enduring biases of senior managers, represented by management myopia, influence firm outcomes, and that the influence may be moderated by industry context. The methodology for exploring the hypothesized relationships is presented in Chapter III.

CHAPTER III

METHODOLOGY

Chapter III describes the sample, measures and analytical techniques employed in this study to evaluate the research hypotheses and research questions stated in chapter II. First, the methodology for identifying and selecting samples of firms from specific industries is discussed. This is followed by a review of measures for all variables included in the empirical model presented in chapter II. Finally, analytical techniques employed in testing the validity of the measures and evaluating the research hypotheses are identified.

Sample

The sample to be used in this study is comprised of medium to large publicly traded firms from industries with different rates of growth for the period 1998 through 2000. Approximately half of the firms are from higher growth industries, balanced by a similar number of firms from lower growth industries. The selection of industries is guided by the theoretical development of the management myopias as enduring forms of bias. These biases are “learned” and “harden” over time, and are more likely to be represented by firms that operate in consistently high or low growth environments. The differences in industry growth rates serve as the moderating variable in the study. Industries were selected that evidenced steady annual growth of 8 percent or more, or that evidenced steady growth of 5 percent or below for the period 1998 - 2000. These ranges

compare to an average growth rate of 7 percent for all companies reported by the Bureau of Economic Analysis in the period 1998-2000. An attempt was made to achieve a clear separation between “higher and lower” growth industries. This delineation is similar to those used previous by Polli and Cook (1969) and Cameron, Whetten and Kim (1987).

The industries chosen exhibit relatively little dynamism (variation in growth rate). The sample excludes emerging industries and declining industries, which do not match the requirement for sustained patterns of growth. Industries dominated by a single firm were also avoided.

To be included in the sample, companies must be publicly traded in the United States and be in operation from 1998 through 2003. Additionally, they meet a minimum revenue threshold (\$1 billion) by 2003, which includes most of the largest 1000 publicly traded U.S. companies. Companies that meet this minimum sales revenue are more likely to have developed enduring biases, and are more likely to be the subject of media attention. All companies from target industries that meet these criteria have been included in the research sample. Information on the industries is presented in table 5.

An initial review of industry sectors and industry segments was accomplished employing published census data from the bureau of economic development, various public investment/ financial services (e.g., Reuters, Hoover’s, Standard & Poor’s), and business publications (*Business Week*, *Forbes* and *Fortune*). These industries were then evaluated relative to revenue growth rate for the period 1998 to 2000 from the COMPUSTAT database. All companies meeting the criteria with the same primary SIC code were included in the COMPUSTAT analysis in order to capture the full industry statistics for industry growth. Annual sales growth for the target industries has been

calculated from firm revenue figures in COMPUSTAT, adjusted for any additions or deletions of firms from 1998 to 2003, and restatements associated with major, abnormal acquisition activity.

Table 5

Industry Sample

<u>Higher Revenue Growth Industries</u> Industry/SIC Code	Number of Firms	Avg. Rev. Growth (%)
Semi-conductors/3674	13	15%
Pharmaceuticals/2834	10	11%
Family Apparel/5651,21	14	13%
Comp Processing & Data Prep Svc/ 7374	6	12%
Hospital & Medical Svc Plans/ 6324	6	8%
Drug & Proprietary Stores/ 5912	6	14%
Total Higher Growth Firms	55	12%

<u>Lower Revenue Growth Industries</u> Industry/SIC Code		
Dept Stores / 5311	8	3%
Grocery Stores/ 5411	12	5%
Newspaper Publishers/ 2711	9	5%
Fire, Marine, Casualty Ins/ 6331	19	3%
Total Lower Growth Firms	48	4 %

Measures

Measures of management myopia, industry munificence, and firm performance are discussed in this section. Three forms of management myopia are measured from multiple sources. Negative firm outcomes (value destruction) are measured as changes in revenue, profit and return on assets (ROA), normalized to account for industry influences. The moderator, industry growth rate, is structured in the sample selection of

high and low growth industries as noted in the previous section. Control variables are also identified and explained.

Data for independent variables and control variables have been collected for the base period (1998-2000). Data for dependent variables was collected for the subsequent three years (the outcome period, 2001-2003).

Independent Variables

Measurement of the three forms of myopia creates a number of challenges for this study. This is the first attempt to clearly differentiate the three forms of myopia in terms of definitions and operationalization.

Table 6

Management Myopia Measures

Type of Measure	-----Form of Myopia-----		
	Spatial Myopia	Temporal Myopia	Hubris
Cognitive	<i>Focus Orientation in letters to shareholders (new)</i> <i>Defensive Attributions relative to problems & performance (Adapted from attribution literature)</i>	<i>Short-term Orientation in letters to shareholders (new)</i> <i>Financial emphasis in letters to shareholders (new)</i>	<i>Favorable Media Reports (Hayward & Hambrick 1997)</i> <i>Personal statements in letters to shareholders (new)</i>
Management Characteristics	<i>TMT Tenure (from escalation of commitment)</i> <i>TMT Homogeneity (from escalation of commitment)</i>	<i>Functional Concentration in finance or accounting (adapted from functional TMT literature)</i>	<i>CEO Relative Pay (Hayward & Hambrick 1997)</i>
Management Behavior	<i>Line of Business Concentration -- (Strategic change literature)</i>	<i>Accrual Inflation (Accounting manipulation literature)</i>	

Operationalization of the three constructs involves a clear definition of each, the employment of existing measures that are consistent with the definitions, and the development of new measures. Cognitive measures are taken from content analysis of letters to shareholders and from media sources. Behavioral measures are derived from

financial data provided in COMPUSTAT and in company reports. These cognitive and behavioral measures have been supplemented by top management team (TMT) characteristics, which have been associated with management cognitions, and firm level variables that indicate senior executive decisions and behavior. Table 6 provides a summary of each proposed measure.

Spatial Myopia

Operationalization of the spatial myopia construct relies on the detailed definition to establish a new cognitive measure, to adapt existing attribution variables, to employ TMT characteristics (which have been employed as proxies for managerial cognitive states and perspectives) and to include a firm level indicator of strategic persistence. The definition and development of this construct is based on dysfunctional learning theory, but is also influenced by literature that addresses extreme levels of focus, strategic persistence, escalation of commitment, and commitment to the status quo. The common denominator of these concepts with spatial myopia is in the cognitive limitations that impede management's interest in, and their ability to depart from the current business model. Spatial myopia by senior executives can be expected to contribute to irrational decisions that are consistent with escalation of commitment, unjustified strategic persistence, and excessive commitment to the status quo (Levinthal et al., 1993; Miller, 1993; Miller, 2002).

For the purposes of this study, spatial myopia is defined as a lack of awareness, or the denial of utility of technologies, processes, routines and markets that are not central to the existing operations of the firm. It can be expected to limit the set of alternatives considered for implementation, and is consistent with a focus on dominant technologies,

core competencies, and the exploitation and development of existing firm capabilities, regardless of the time frame for financial payoff. Spatial myopia is represented by extreme focus on current markets, technologies and administrative structures. Spatial myopia implies very limited consideration of change, particularly any major departure from existing processes, technologies and markets. Spatial myopia can be consistent with significant, long-term investment, but not variation from the existing business logic. This definition serves as the basis for establishing the domain of the construct, and the basis for identifying measurement proxies that adequately reflect the concept.

Three cognitive indicators of spatial myopia are incorporated into this study, defensive external attribution, defensive internal attribution, and focus orientation. Two TMT characteristics, which have been identified with strategic persistence and escalation of commitment in strategic management research, are believed to tap into the same concept as spatial myopia. These measures are TMT tenure and TMT homogeneity. Additionally, a measure of strategic persistence is employed relative to the diversification of the firm's portfolio of businesses (line of business by SIC code), where no change represents a commitment to the existing business.

Attributional variables employ existing self-serving attribution measures, combining attribution of low-performance to external factors (external-defensive attribution), and attribution of low-performance to "investment" in the current strategy or business model (internal-defensive attribution).

External-defensive attribution is based on existing attribution measures employed in previous studies of letters to shareholders (Clapham et al., 1991; Gordon, Stewart, Sweo, & Luker, 2000; Salancik et al., 1984; Staw et al., 1983). It includes all statements

that attribute negative results to external forces. External-defensive attribution is a common reaction of senior executives in explaining firm level problems or low performance by external and uncontrollable factors. External-defensive attribution is particularly associated with sensemaking (Weick, 1979) by managers who seek to justify the existing business operation and strategy (Clapham & Schwenk, 1991). By diverting attention from firm level influences, particularly the current strategic direction, managers may increase commitment to existing strategies even in the face of negative results. External-defensive attribution has been linked to escalation of commitment, irrational commitment to the status quo, and a narrowing of perspective in case studies and empirical research (Barker et al., 1996; Hedberg et al., 1977; Lant et al., 1992; Nystrom et al., 1984; Staw et al., 1983). Escalation of commitment, commitment to the status quo and strategic persistence all reflect a cognitive preference (orientation) for the current business and strategic direction. These outcomes are consistent with the definition of spatial myopia, whereas executives increase their focus on the current business model, harden their position, and screen out contradictory information (Levinthal & March 1993; Miller, 1993; Miller, 2002).

Internal-defensive attribution follows a similar logic, but involves a refinement of the internal attribution measure. Prior literature has generally interpreted internal attribution of negative events as an awareness of internal deficiencies that require change in strategy or structure (Barker et al., 1996). The logic is that managers who recognize internal causes are more likely to initiate a change in strategy or structure. This viewpoint is supported when management identifies the necessity to change, but is not

born out when management specifically makes a commitment to the existing strategy or business practice despite unfavorable results.

The implication is that internal attribution, linked with a statement of change, will encourage broader search and consideration of new approaches; whereas internal attribution accompanied by commitment to the existing strategy is more consistent with inertial tendencies (escalation of commitment, strategic persistence, and commitment to the status quo). Consequently, this study uses the term defensive-internal attribution in cases where CEOs link problems and low performance to their commitment to the current strategy or business operation.

An example may clarify the difference between defensive and change-oriented internal attributions. An example of defensive-internal attribution is revealed in the following statement referring to investments in the current business model.

“Unfortunately, like all investments that create theoretical opportunities in the future, they cost real money right now. Consequently, during the fiscal season, they helped drag down our net income.” In contrast, a change-oriented internal attribution is reflected in the following statement about “disappointments” that require change. “Weaker overall ratings at the network signaled a need for change. Consequently, we have refocused our programming, and retooled our schedule.”

Letters to shareholders provide the evidence of defensive attributions. Each type of defensive attribution was coded in a content analysis of the letters, based on detailed instructions consistent with the definition and examples presented in this section.

Defensive attribution measures are calculated as the ratios of total number of statements for each type of attribution to total statements in 1998-2000 letters to shareholders.

Focus orientation, the second cognitive measure, assesses the number of statements in letters to shareholders associated with a commitment to, and focus on the existing business model and strategic direction of the firm. The focus orientation measure is developed directly from the definition of spatial myopia, as applied to the current and future strategy of the firm.

The content analysis of letters to shareholders is designed to capture evidence of spatial myopia through the measure of focus orientation (as compared to other strategic orientations, such as short-term actions or strategic change). This involves coding of statements based on key words and phrases as the initial step. The selected words and phrases were then evaluated within the context of adjoining sentences and paragraphs to determine if the initial coding unambiguously identifies the orientation of the statement. Ambiguous statements (or ones that clearly refer to temporal or change-orientations) have been excluded.

Key words/phrases (and derivatives) about current and future strategies, thrusts, plans and visions that are positively related to spatial myopia include: focus, core, conventional, current, efficiency, established, proven, exploit, process/continuous improvement, and commitment. The calculation for focus orientation is the ratio of the number of focus orientation statements to total statements in letters to shareholders for the 1998-2000 period.

These cognitive measures of spatial myopia are complemented by two top management team (TMT) characteristics, tenure and homogeneity. There is theoretical and empirical support for an association between these structural indicators and high levels of commitment to the current business model (i.e., strategic persistence), to the

status quo and inertia (Boeker, 1997; Finkelstein et al., 1990; Hambrick, Geletkanycz, & Fredrickson, 1993; Lant et al., 1992). Resistance to change, inertia and strategic persistence are consistent with a focus orientation.

TMT Tenure: The relationship between TMT tenure and level of strategic change has received substantial support theoretically and empirically. Long-tenured management teams can be expected to have greater social cohesion, tend toward consensus rather than conflict, have developed a more consistent view of the world through similar “lenses”, and are more reluctant to change past ways or challenge the status quo (Michel & Hambrick, 1992). Empirical works provide consistent support for this relationship. Long-tenured TMTs have been found to increase the commitment to the status quo (Bantel & Jackson, 1989; Boeker, 1997) and to lower the likelihood of strategic change (Finkelstein et al., 1990). Conversely, shorter average TMT tenure and higher levels of TMT turnover have been associated with strategic change (Wiersema & Bantel, 1992).

Team tenure is measured as the mean number of years of employment by TMT members of the firm in year 2000 (Finkelstein & Hambrick, 1990; Boeker, 1997), the last year prior to measuring rate of change in sales/profit/asset growth.

TMT homogeneity: Empirical studies of TMT homogeneity and heterogeneity have also found relationships with strategic change orientation and inertial tendencies. In this study, homogeneity of TMT tenure is employed, consistent with findings of Wiersema and Bantel (1992) and Boeker (1997). Wiersema and Bantel found a relationship between heterogeneity and strategic change. Boeker found a relationship between TMT homogeneity and the extent of strategic change, where high levels of

homogeneity limited the extent of strategic change. Teams that are more homogeneous are less likely to consider broader information sources and different perspectives. The measure of tenure diversity is identical to that of Boeker (1997), employing the coefficient of variation (the standard deviation divided by the mean) for the tenure of each TMT member.

An indirect measure of CEO and TMT behavior is represented in the diversification strategy of the firm. Managers committed to the existing business model will emphasize existing business operations, and investment in current markets. An aggressive diversification strategy indicates an orientation to change that is inconsistent with spatial myopia, escalation of commitment and strategic persistence. The absence of any activity or very limited new industry sales revenue indicates a commitment to the existing business model, and can be a reflection of spatial myopia. Changes in the Herfindahl index ($\sum P_i^2$, where P_i is the proportion of sales in each line of business) were employed to calculate change in line of business (LOB) concentration.

Temporal Myopia

Conceptually, temporal myopia shares a common ground with accounting and finance theory and research addressing the tendency for managers, stock markets and firms to over-emphasize the short-term to the detriment of long term investment and success (Merchant, 1990). While this stream has investigated the financial implications and antecedents of short-term behavior, it has generally ignored the cognitive element (Lavery, 1996). In this research study, two cognitive measures of temporal myopia (or short-termism) are developed from the detailed definition. An existing measure of short-term financial actions is incorporated from the accounting and finance literature.

Functional background, a TMT characteristic, is adapted to capture the financial experience of executives as a potential indicator of over-emphasis on short term financial results. The definition of temporal myopia is derived from dysfunctional learning literature (Levinthal & March, 1993; Miller, 2002), but also reflects explanations of short-term bias as found in financial, accounting and strategy literature (e.g., Coff et al., 2001; Das & Teng, 2001; Hayes et al., 1980; Merchant et al., 1986).

Temporal myopia is the lack of awareness of, or interest in opportunities and investments beyond the near term (Levinthal & March, 1993; Miller, 2002). It involves sacrificing the long run for the short term (Laverly, 1996). Temporal myopia will often be reflected in a very high preference for low risk, near term, relatively certain ventures and projects. Temporal myopia may encourage spatial myopia, because it will favor the more predictable characteristics of investment in current technologies and market. However, temporal myopia will likely discourage long-term investments in, and heavy commitment to the current business -- actions consistent with decisions made under spatial myopia. Moreover, an excessive interest in the short-term is often associated with a financial approach to strategic decisions.

Temporal myopia is best differentiated from spatial myopia by its emphasis on short-term thinking and actions, and on financial elements of firm performance. The primary indicator of an unbalanced temporal bias is a heavy emphasis on short-term financial results, financial planning (in deference to vision or long-term strategy), and short horizon investments. Temporal myopia will discourage executives from considering new and less certain innovations, technologies and markets. It will also discourage commitments to current technology and markets that involve substantial

investments and long-term or uncertain payoffs. Managers who are temporally myopic will be more likely to favor cost cutting regimes over less tangible, and more intermediate or long-term investments (investments in quality improvements, for example).

The *Short-term Orientation* measure is taken directly from the construct definition and applied to strategic statements by the CEO in letters to shareholders that emphasize short-term actions associated with high probabilities of increasing profits, cutting costs, or reducing asset levels. Examples of short-term financial actions include cost reductions, workforce restructuring, eliminating departments or businesses, finding or exploiting “cost synergies”, layoffs, efficiency as a cost reduction mechanism, investment efficiency, and managing expenses. Key words and phrases indicating a short-term orientation include short-term, fast, early, quick, and certain in combination with investment, return, payback, cost-reduction, retrenchment, and synergy. The actual measure calculates the ratio of temporal orientation statements to total statements in the letters to shareholders.

Financial emphasis is the second cognitive measure of temporal myopia, reflecting the extent to which financial discussions dominate the letter to shareholders. Virtually all letters to shareholders include a financial results section; however, extreme emphasis on financial and capital market issues may indicate a focus of the CEO and the company on the financial aspect of corporate management. Financial emphasis tends to focus attention on short-term results in response to capital market pressures, and can reflect a built-in short-term bias in financial executives, processes and (Dechow et al., 1996; Dunk & Kilgore, 2001; Tyrrall, 1998). A financial emphasis can crowd out

attention to important operational issues, reduce attention to the long term-strategy, and lead to management myopia (Bhojraj & Libby, 2005; Merchant, 1990). Capturing the amount of space committed to financial results and issues in letters to shareholders acts as an indicator of the emphasis and importance the CEO places on financial matters. The measure of financial emphasis is the number of statements addressing financial results and issues as a ratio of the total number of statements in the letter

The *Financial Experience* measure is designed to capture the extent of the financial background of the top management team. Although there has been relatively little empirical work focused on financial backgrounds of company executives, there is empirical support for the influence of functional background on cognitive maps of senior executives. Strategic management scholars have found evidence for functional bias relative to emphasis on strategic change, whereas functional background may limit the scope of internal problems identified and possible alternatives to be considered (Waller, Huber, & Glick, 1995). Functional background shapes what is seriously considered, and what is put-off, delayed or ignored. Kiesler and Sproull (1992) make a case for prior experience impacting a manager's level of awareness and his or her willingness to act. Waller, Huber and Glick (1995) identify a tendency in managers to ignore areas that are less familiar to them. Executives with extensive financial or accounting backgrounds will be more inclined to favor what is familiar to them. The primary mechanisms, processes and time frames of financial and accounting activities focus far more on short-term rather than long-term issues.

Coff and Laverty (2001) identify probable causes of barriers to investing in strategic assets in terms of financial, control and performance monitoring mechanisms,

important tools employed by financial and accounting functions. These mechanisms create a number of barrier mechanisms that are biased toward the short-term, including a bias toward tangible assets in accounting principles, a bias toward certainty implied in analytical tools (such as discounted cash flow models), bias toward a short horizon inherent in annual budgeting cycles, bias toward rewarding financial performance, and bias toward the power structure in allocating resources. Three of these biasing mechanisms are integral to the financial organization. The other two are closely related to their power base.

Senior executives with financial backgrounds are intensively involved in the quarterly, public reporting of results, which are believed to drive short-term swings in stock prices (Cornell, 2001). Such a heavy emphasis and continuous exposure to short-term financial measures can be expected to have an enduring influence on those most responsible for preparing and explaining the “numbers” (Loescher, 1984; Nolan, 2002). If a high number of powerful members of the TMT (including the CEO and board chairman) have extensive financial backgrounds, it is more likely that the firm will emphasize financial mechanisms, which may then contribute to higher levels of temporal myopia. The financial experience measurement is the number of TMT members with a financial or accounting background (experience and education) out of the five highest paid executives reported in SEC filings.

Accounting Manipulation (also called earnings management) is an important indicator of temporal myopia taken from the accounting literature. It reflects management behavior in propping up short-term results. The types of actions considered described as accounting manipulation generally involve the recording of assets or

liabilities rather than expenses, accelerating revenue or profit making entries, or disguising accounting transactions to improve current financial reports (Beneish, 1999; Dechow et al., 1996). Accounting manipulations are likely to have a negative impact on firms in the future in a number of ways, all with depressing effects on stock prices (Dechow et al., 1996; Hall, 2001). The first is that the population of accounting transactions that can be manipulated eventually dries up, and the firm may be unable to sustain an inflated revenue or profit growth rate. A second problem is that manipulations may have to be reversed in the future, either because of timing or audit pressure. A third and more serious issue is that accounting manipulations can lead to negative media reports, sanctions, and even criminal charges against the company and its officers. All have the potential for negative, if not disastrous, impacts on share value.

One of the most important and easily measured statistics identified in this stream of literature is *accrual inflation*. Beneish (1997) found accrual levels to be significantly associated with GAAP violations. Dechow, Sloan and Sweeney (1996) found a direct relationship between accrual inflation and subsequent earnings declines in firms subject to SEC enforcement actions. Balsam (1998) tied manipulation of discretionary accruals to self-serving actions of managers. Chan and associates (Chan, Jegadeesh, & Sougianni, 2004) report empirical support for accrual inflation as an indicator of manipulation (e.g., Sloan, 1996; Teoh, Welch, & Wong, 1998). As a major form of short-term manipulation, accrual inflation is included as a measure of temporal myopia. The Dechow and associates' (1996) calculation is used to determine accrual inflation:

$$\text{Accrual inflation} = (\text{change in current assets} - \text{change in current liabilities} - \text{change in cash/cash equivalents} + \text{change in debt included in current liabilities} - \text{depreciation and amortization expense}) / \text{lagging assets}$$

Hubris

Following the lead of Hayward and Hambrick (1997), the term hubris is defined as exaggerated pride or self-confidence, and is applied to managers who highly estimate their ability to make and carry out strategic decisions. This definition of hubris is compatible with the concept of over-confidence, which has been discussed as extreme optimism, the tendency to ignore additional information, under-estimation of uncertainty, and a focus on action without rational support (e.g., Bazerman, 1994; Busenitz et al., 1997; Fischhoff, Slovic, & Lichtenstein, 1977). Hubris represents an extreme form of failure myopia, which is most likely to lead senior managers, particularly CEOs, into significant errors that have major negative impacts on the firm.

For the measurement of hubris, this study begins with the proxies developed by Hayward and Hambrick (1997), media praise and CEO relative compensation. Hayward and Hambrick selected these measures as contributors to CEO hubris, and found a relationship between these proxies for hubris and loss of value for acquiring firms.

Media Praise for the CEO, following Hayward and Hambrick's (1997) approach, is identified through content analysis of media reports for the 1998-2000 base period. These authors argue that hubris is "most likely activated by favorable press" (Hayward et al., 1997: 113). The propensity of the media to romanticize the heroic nature of highly visible CEOs has been documented by other scholars (Chen & Meindl, 1991; Meindl, Erlich, & Dukerich, 1985). It is also quite likely that hubris may lead CEOs to seek celebrity through media attention (Finkelstein, 2004; Hayward et al., 2004), reinforcing attributions of the CEO and others in the organization (Cameron et al., 1983) and further concentrating power (Pfeffer, 1981). Media praise is identified in the attribution of

organizational outcomes to CEOs or other comments about CEO performance by members of the media. Each media report is coded on a six-point scale from “unequivocally favorable” to “unequivocally unfavorable”. Articles were identified in a thorough review of the Dow Jones Factiva database for magazines and newspapers. A comparison of Factiva to Lexis/Nexis and ABI inform indicate that Factiva was more complete than the other two sources. Comments by the CEO or reports of actions taken by the CEO or the company are not included in this measure.

CEO relative compensation is the second measure taken from the Hayward and Hambrick (1997) study. The difference between the cash compensation of the CEO compared to the second-highest-paid officer (calculated as a ratio) is a measure of the CEOs self-importance. CEOs have substantial influence over their own pay and that of senior level managers in the organization (Tosi & Gomez-Mejia, 1989). A substantial gap may reflect an inflated self-image by the CEO, which is consistent with hubris. Company proxy statements provide information on the five highest compensated executives in each firm.

Personal Statements of the CEO in letters to shareholders is a new measure of hubris suggested by Finkelstein’s (2004) study of CEO failure. CEOs who consider the company their own private domain may mix company and private interests and concepts. CEOs who identify closely with the firm may consider it an extension of themselves and lead the firm into high risk decisions that appeal to the CEO’s ego (Hayward et al., 2004). One way that CEOs communicate this phenomenon is in personal attributions, the use of the first-person “I”, and comments about personal activities or actions in letters to shareholders. Personal Identification with the company is calculated by a simple count of

the number of sentences that include personal attribution, the use of the first person “I”, or the comments about personal activities. The cumulative number of statements that include personal references to the CEO were counted and accumulated for the three letters (1998-2000), calculated as a ratio of total statements in those letters.

Dependent Variables

The rate of change for firm growth (normalized to account for industry effects) in revenues, profits and ROA are three outcome variables employed to represent value destruction in this study. Each of these measures addresses deterioration of value at the firm level. *Sales change*, a measure of market value, is a prime indicator of a firm’s ability to meet market expectations and compete effectively (Porter, 1980). *Net income change* is a function of both sales growth and firm efficiency in delivering products and services (Bowman et al., 2000; Kaplan & Norton, 1996), reflecting both the firm’s ability to create value and capture value inside the firm. *ROA change* combines the impact of profit changes and efficiency of investment. Each variable is measured and evaluated individually.

COMPUSTAT reports corporate revenue, operating profit, and ROA, which provide comprehensive industry level data for public firms included in the data base. COMPUSTAT files provided information on all U.S. companies with target industry SIC codes. The data for each company was accumulated by SIC code and then incorporated into an industry category. Sales change and net income change data have been adjusted to eliminate the impact of abnormal acquisition activity, employing company SEC reports available on the EDGAR database.

Control Variables

Control variables frequently employed in strategic management studies that include financial performance are industry, size and prior performance. Control for industry was accomplished by employing within industry Z-scores for independent and dependent variables. Firm size is measured in terms of average revenue for the base period, 1998-2000. The effect of prior performance is accounted for by including average ROA from the base period. In order to account for changes in leadership of firms and potential impact on future strategic decisions, CEO change was coded as a control variable.

Data Analysis Techniques

Correlation Analysis and Factor Analysis

One of the objectives of the study is to evaluate three sets of variables, each set including variables expected to represent spatial myopia, temporal myopia or hubris. These variables were selected from different streams of literature to provide multiple measures for comparison purposes. The extent to which they tap into or contribute to similar constructs should be reflected in at least moderate correlations and similar loading patterns in factor analysis.

These techniques are not the primary empirical focus of the research, but are expected to provide some insight into the relevance and relationships among the variables representing each of the three types of myopia.

Regression Analysis

Direct effects of the relationship between the three management myopias are tested through regression analysis, followed by a regression analysis of the interaction of the three myopias and the moderator (industry growth).

CHAPTER IV

ANALYSIS AND RESULTS

This chapter includes the methods of analysis and results of the research outlined in chapter III. It is presented in four sections: descriptive information for the sample data, statistical tests related to assumptions in linear regression, correlation and factor analyses for each type of myopia, and a review of the results relative to the hypotheses presented in chapter III.

Sample Data

To address the general questions of this study, data was obtained from multiple sources for 103 firms from 10 different industries. Data for independent variables was collected for the base period, 1998 to 2000; data for the dependent variables spanned the subsequent three years (the outcome period), 2001-2003. The sample consisted of 103 firms; 55 firms from 6 industries representing higher growth environments (annual industry sales increases of 8.4% to 14.5%), and 48 firms from 4 industries representing lower growth environments (annual industry sales increases of 3.1% to 4.9%).

Industries were selected that evidenced a consistent pattern of growth from 1997-2000 and included at least 5 firms that operated independently throughout the six year period from 1998 through 2003. The criteria for selection of firms within industries required that revenue exceeded \$1 billion dollars, that the primary 4-digit SIC code was identical, and that more than 50% of sales had the same 2-digit SIC code.

The three types of variables included in the study (identified in chapter III) are cognitive, top management team (TMT) characteristics, and financial information. Sources for cognitive variables included letters to shareholders and media reports. The sources for TMT characteristics included periodicals, company reports and media reports. COMPUSTAT was a primary source of financial data; however, this source was augmented by a review of company records relative to line of business (LOB) data, sales and net earnings, and accrual inflation data. The company records acted as a check against the accuracy of the data and provided missing data. A thorough review of 10-Ks and annual reports was essential in eliminating the impact of major acquisitions for two dependent variables, sales change and net income change.

Each letter to shareholders was analyzed and coded by two individuals, the author and one of four individuals with work experience and post-graduate education. Each coder was provided extensive training and a manual for determining each of the codes, including a set of letters in which their coding was not included in the data set. For every letter, differences between coders were reconciled and a mutual decision made in the final coding. Agreement between the author and four independent coders for all variables (prior to discussion and reconciliation) in the letters ranged from 85% to 92% for the four coders. The total level of agreement for each variable prior to joint review and reconciliation is identified below:

- ◆ Short-term orientation = 88%
- ◆ Focus orientation = 91%
- ◆ Financial emphasis = 94%
- ◆ Defensive external orientation = 86%
- ◆ Defensive internal orientation = 85%
- ◆ Personal references = 99%

In over 99% of the cases the coders agreed upon the final classification. In the few instances where the coders could not agree, the statement was excluded from the coding. This level of agreement compares favorably to studies that employed the similar variables and data collection techniques (e.g., Clapham et al., 1991; Hayward et al., 1997).

The collection of the media praise variable followed the procedures employed by Hayward and Hambrick (1997). This procedure involved a search of the Dow Jones Factiva database between 1998 and 2000, using a scale ranging from 3 points for an article that was unequivocally favorable to the CEO, to -2 points for articles that were unequivocally negative about the CEO. The 57 CEO's who received no favorable or unfavorable press reports were given zero points. The percentage of zero codes for media praise found in this sample is similar to the Hayward and Hambrick (1997) study. Each of the 162 articles were selected and analyzed by the author and four business major seniors who had work experience, and had completed a strategic management course. The level of agreement prior to review ranged from 89% to 95% percent, averaging 91% for all coders. Subsequent joint review by the two coders resulted in full agreement on the score for all media praise articles, consistent with similar prior studies (e.g., Hayward & Hambrick, 1997).

The top management team (TMT) is defined as the five highest paid executives in the corporation (Carpenter, Pollock & Leary, 2003; Carpenter, Geletkanycz, & Sanders, 2004), representing the dominant coalition of the firm (Cyert and March, 1963). The list of TMT members, executive pay and company tenure was collected from SEC reports (EDGAR data base). Data on functional background was collected from company proxy

statements, *Who's Who in Finance & Industry*, *Standard & Poor's Registry of Corporate Directors and Executives*, Hoover's, and two on-line media report data bases (FACTIVA & ZoomInfo) .

COMPUSTAT provided the initial set of data for two behavioral independent variables, line-of-business (LOB) concentration and accrual inflation. The COMPUSTAT data was supplemented by reviews of 10-Ks and annual reports for missing and contradictory data. This was particularly critical for LOB data, in that a change in reporting procedure has lead to a number of errors in COMPUSTAT data.

The construct, value creation, is represented by three dependent variables, sales change, net income change and ROA change. As noted in chapter III, *Sales growth* is a prime indicator of a firm's ability to meet market expectations and compete effectively (Porter, 1980). *Profit growth* is a function of both sales growth and operational efficiency in delivering products and services (Bowman et al., 2000; Kaplan et al., 1996). Company SEC and annual reports supplemented COMPUSTAT data. The use of restated data was essential to eliminate changes due solely to merger/acquisition activity in order that the rate of change information reflected performance and value creation/destruction. Company records of significant acquisitions and restatements were the sole criteria employed in determining whether or not the restatement was necessary.

The third dependent variable, change in return on assets (ROA change), is frequently employed in the study of firm performance (e.g., Lenz 1980; Venkatraman & Ramanujam 1986). Below average ROA change represents value destruction in terms of operational and asset efficiency. It does not require restatement for acquisition activity.

In order to eliminate the impact of industry differences, all variables (except one control variable, CEO change, and the moderation variable, industry growth rate) were normalized and Z scores calculated within each industry.

The sample size of 103 firms is similar to studies employing content analysis because of the substantial amount of time it takes to record, code and analyze the data. Consistent with similar studies (e.g., Barker et al., 2002; Barker, et al., 1996; Hayward, et al., 1997) and the exploratory nature of this study, relationships were tested at the .10 level of significance.

Assumptions

Linear relationships

Linearity in the relationship between each independent variable is a critical assumption for linear regression analysis. The partial regression plots for each independent variable were evaluated for each regression analysis. No curvilinear or non-linear pattern was evident in any of the variables.

Constant variance of the error term (homoscedasticity)

Plotting the residuals (studentized) against the predicted values (Z_{pred}) and comparing them to the null plots show no distinct pattern for any of the regression equations. For several models tested, the form of the scatter plot was somewhat compressed horizontally, but did not form into a pattern that would indicate significant heteroscedasticity. Two models with net income as the dependent variable evidenced some compression, those with temporal myopia variables and hubris variables.

Independence of the error terms (uncorrelated)

The scatter plots for each regression analysis indicated no issues relative to correlated errors. The Durbin-Watson statistic was calculated for each regression analysis. This statistic is within the acceptable range (1.75-2.25) for all models, indicating that the error terms were independent.

Normality of the error term distribution

Normal probability plots of residuals (P-P test) for each regression analysis indicate little deviation from the normal distribution represented by a straight diagonal line for all models. Where deviations are observed, the residual plots run close to the diagonal line, and vary above and below the line. The plot of residuals for models assessing relationships to the sales change dependent variable show more of residual plot falling below the normal distribution diagonal. These residual plots are very close to the diagonal, indicating a mild skewness. Although departures from normality are of some concern, the regression technique is robust to violations of normality.

Outliers

Scatter plots for the dependent variables indicated the potential for at least one problem outlier for each set of regression analyses. Studentized residuals greater than 3.0 indicated the potential for issues with case #13 for the sales change analyses, case # 82 for the net income change analyses, and case # 24 for ROA change. Cook's D indicated only one case that was clearly exceptional – case #24 for ROA change. No unusual cases were identified employing DFBETA. All three outliers are extreme cases, and did not involve any data errors.

Each analysis was evaluated including and excluding each of the potential outliers. There was no major difference in the results. Consequently, all observations were included in the regression analyses.

Multicollinearity

Multicollinearity was evaluated in three ways. An examination of the correlation matrix for the independent variables indicates no high correlations (i.e., .90 and above) – the highest correlation found was .34. The tolerance analysis confirms this with statistics for all independent variables well above the .10 level (multicollinearity is suggested when the tolerance statistic is below .10). Similarly, all variance inflation factor (VIF) statistics are well below the value of 10 (levels above this indicate multicollinearity).

Ideally, each of the sets of myopia variables will show a significant correlation, but that correlation will not be extremely high (e.g., .90 or above). While there are no issues with multicollinearity, the variables in each set indicated disagreement even in sign (positive/ negative). The implications are that those variables that are not in substantial agreement may not represent proxies for constructs suggested by the literature, or that the myopia concepts are not fully consistent with related constructs (e.g., spatial myopia and inertia/commitment to the status quo). Each set of myopia variables are reviewed relative to correlation tables below.

Review of Correlations

As noted in chapter III, this is the first study to develop clear definitions and to operationalized the three forms of myopia (spatial, temporal and hubris) identified by Levinthal and March (1993). The variables chosen to operationalize these variables were

identified in detail in chapter III, and were described as individual variables that may contribute to or act as proxies for each of the three types of myopia. The expectation was that the different variables representing three different lenses (management cognitions, TMT characteristics and financial data) would provide multiple ways to operationalize the construct.

The evaluation of these variables as representing or contributing to three single and individual constructs is accomplished primarily through the review of correlations among variables representing each construct. Although not a strict test of content validity, significant correlations would provide support for the variables representing or contributing to a single construct. The results of exploratory factor analysis and regression analysis presented in the next sections of this chapter supplement the correlation review.

Spatial Myopia Correlations

As noted in chapter III, spatial myopia is defined as the lack of awareness, or the denial of utility of technologies, processes, routines and markets that are not central to the existing operations of the firm. It can be expected to limit the set of alternatives considered for implementation, and is consistent with a focus on dominant technologies, core competencies, and the exploitation and development of existing firm capabilities, regardless of the time frame for financial payoff. Spatial myopia is represented by extreme focus on current markets, technologies and administrative structures.

The variables chosen to operationalize spatial myopia include three cognitive measures derived from letters to shareholders (focus orientation, defensive internal attribution and defensive external orientation), two TMT characteristics (average TMT

tenure with the firm and TMT tenure homogeneity), and one financial measure of focus (line-of-business concentration). The correlation matrix presented in table 7, includes the three dependent variables (1-3), three control variables (4-6), and the six spatial myopia variables (7-12).

Table 7

Correlations – Spatial Myopia

Variables	1	2	3	4	5	6	7	8	9	10	11
1. Sales change											
2. Net Income change	0.32***										
3. ROA change	0.07	0.58***									
4. Firm Size	0.32***	-0.12	-0.14								
5. CEO Change	0.22**	-0.13	0.04	0.10							
6. ROABASE	0.26**	0.07	0.39***	0.22**	-0.11						
7. Focus orientation	-0.08	-0.13	-0.06	0.20**	0.16	-0.03					
8. Defensive external attribution	-0.19*	-0.03	-0.09	-0.03	0.04	-0.03	0.18*				
9. Defensive internal attribution	-0.14	-0.07	0.16*	-0.10	0.12	0.22**	-0.01	0.11			
10. Average Firm Tenure	0.32***	0.03	0.09	0.34***	-0.11	0.12	-0.16	0.20*	0.16		
11. Homogeneity -- firm tenure	0.04	0.12	0.02	0.11	0.21**	0.12	-0.13	-0.01	-0.11	0.34***	
12. LOB Concentration	-0.11	0.01	0.01	-0.07	0.23**	-0.10	0.08	0.07	0.14	-0.08	0.01

Correlation significance levels (2-tailed): .01 ***, .05 **, .10 *
N = 103

A comparison of the correlations among the spatial myopia variables (table 7) indicates some level of agreement in sign for defensive external attribution, defensive internal attribution, firm tenure, and tenure homogeneity, but only three relationships (out of a possible fifteen) that yield significant correlations. Twelve correlations are not.

With only three significant correlations out of a possible fifteen correlations, there is little evidence that the six spatial myopia variables converge on a single construct.

A review of the relationships of each of the three “spatial myopia” variables with the three dependent variables similarly provides little support for the six variables representing or contributing to a single construct. Correlations of spatial myopia variables with the dependent variable sales change are generally negative (as predicted); however, only two variables are significantly correlated with sales change, defensive external orientation and average firm tenure. None of the correlations with the dependent variable net income change are significant, a consistent pattern for most analyses including this dependent variable. Only the correlation of defensive internal attribution and ROA is significant.

Temporal Myopia Correlations

As defined in chapter III, temporal myopia is the lack of awareness of, or interest in opportunities and investments beyond the near term (Levinthal & March, 1993; Miller, 2002). It involves sacrificing the long run for the short term (Lavery, 1996). Temporal myopia will often be reflected in a preference for low risk, near term, relatively certain ventures and projects. The primary indicators of temporal bias are heavy emphasis on short-term financial results, cost-cutting and short horizon investments.

The variables expected to operationalize the construct temporal myopia include two new cognitive measures (short-term strategic orientation and financial emphasis in letters to shareholders), one TMT characteristic (financial functional background), and one financial measure (accrual inflation). Table 8 provides correlations for these variables (7-10), the three dependent variables (1-3) and three control variables (4-6).

Table 8

Correlations – Temporal Myopia

Variables	1	2	3	4	5	6	7	8	9
1. Sales change									
2. Net income change	0.32								
3. ROA change	0.07	0.58***							
4. Firm size	-								
5. CEO change	0.32***	-0.12	-0.14						
6. ROABASE	-0.22**	-0.13	0.04	0.10					
7. Short-term orientation	-								
8. Financial emphasis	0.26**	0.07	0.39***	0.22**	-0.11				
9. Financial background	-0.01	-0.03	0.14	-0.14	-0.06	-0.21**			
10. Accrual inflation	-0.03	0.11	0.14	-0.01	-0.11	0.16	-0.09		
	0.16	0.21**	-0.01	0.04	0.06	0.25**	-0.03	-0.08	
	-								
	0.12	0.14	0.03	0.22**	0.01	0.02	-0.13	0.01	0.18*

Correlation significance levels (2-tailed): .01 ***, .05 **, .10 *
N=103

The correlations among the temporal myopia variables are fairly low, with only the correlation between financial background and accrual inflation achieving significance ($r = .18$, $p \leq .10$). Only one of the correlations between the temporal myopia variables and the dependent variables was significant (financial background and net income change). There is no evidence that these variables represent or are highly related to a single construct.

Hubris Correlations

Hubris is defined as exaggerated pride or self-confidence (Hayward & Hambrick, 1997), and is applied to managers who highly estimate their ability to make and carry out strategic decisions. Hubris represents an extreme form of failure myopia, which is most likely to lead senior managers, particularly CEOs, into significant errors that have major negative impacts on the firm.

Two of the variables (media praise and CEO relative pay) were introduced by Hayward and Hambrick (1997). A third variable was derived from letters to shareholders capturing personal references by the CEO in letters.

Table 9
Correlations – Hubris

Variables	1	2	3	4	5	6	7	8
1. Sales change								
2. Net Income change	0.32***							
3. ROA change	0.07	0.58***						
4. Firm size (sales)	-0.32***	-0.12	-0.14					
5. CEO change 98-00	-0.22**	-0.13	0.04	0.10				
6. ROA: base period	0.26**	0.07	-0.39***	0.22**	-0.11			
7. Media praise	0.18*	-0.08	-0.16	0.12	0.10	0.01		
8. Personal references	0.02	-0.09	0.01	-0.05	0.06	-0.01	0.21**	
9. CEO relative pay	-0.06	0.22	0.12	-0.02	0.00	0.02	-0.01	0.15

Correlation significance levels (2-tailed): .01 ***, .05 **, .10 *
N = 103

With the exception of a moderate correlation for media praise and personal references (.21, $p \leq .05$), the correlations among the three hubris variables were small and not significant (Table 9). The correlation ($r = .18$; $p \leq .10$) between media praise and sales change is positive.

There is no indication that these three variables represent a single construct.

Exploratory Factor Analysis

The independent variables selected for this study have been employed as proxies for managerial cognition (e.g., TMT characteristics and statements in letters to shareholders), as contributors to bias/myopia (e.g., media praise and CEO relative compensation), or as behaviors consistent with myopic perspectives (e.g., accrual

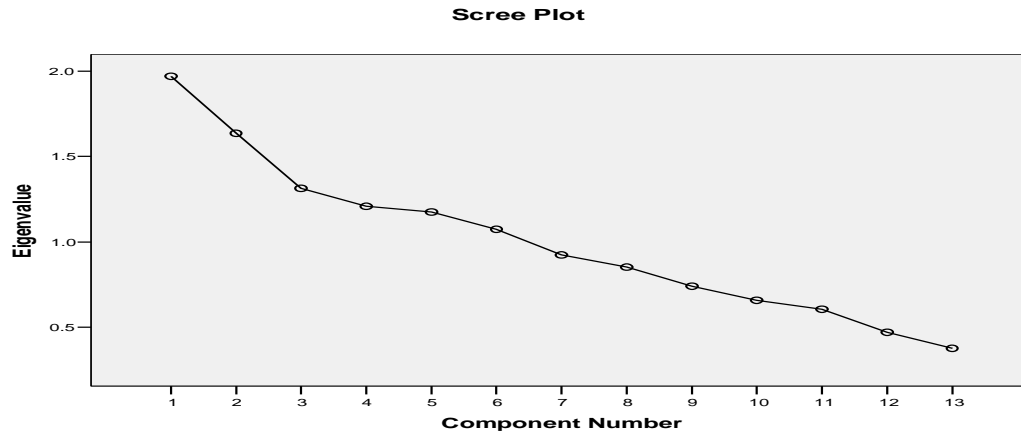
manipulation and line of business concentration). They were chosen to provide multiple types of measures for operationalizing the myopia constructs. The exploratory factor analysis supplements the correlation analysis in assessing similarities among variables chosen for each of the three types of myopia. It may provide information about relationships not otherwise identified in the correlation analysis.

Consistent with the correlation findings, the results of the exploratory factor analysis, no evidence that the three sets of variables represent distinct constructs.

Thirteen variables were entered into the factor analysis, representing the three types of myopia (six spatial, four temporal and three hubris). Both orthogonal (Varimax) and oblique (Promax, & Oblimin) rotations were applied to the data, with similar results for all techniques. The data shown reflects the Promax rotation.

The number of factors suggested by the review of literature and theory development is three; however, five factors yielded eigen values above 1.0. The Scree plot shows a break after 3 factors, but only 38% of the variance is explained, clearly inadequate (5 factors explains only 56% of the variance compared to a recommendation of at least 60%). The sample passes the Bartlett's test of sphericity, confirming the existence of non-zero correlations; however the Kaiser-Meyer-Olkin Measure of Sampling Adequacy of .48 is well below the recommended level of .7 to .8 (indicating a marginal degree of correlation). Only one variable met the .50 guideline for communalities extraction for the 3 factor analysis. The anti-correlation matrix diagonals range from a low of .36 (accrual inflation) to a high of .61 (media praise), indicating several marginal variables as well. Overall, this information provides little evidence of any level of common underlying component.

Figure 5
Factor Analysis Scree Plot



The pattern matrix shown in table 10 employs the theoretically derived three factor solution. A detailed analysis of different numbers of factors was completed by the author. None of the analyses provides any contribution beyond the three factor solution, which is shown below.

In the three factor solution, the six spatial variables load on three different factors in this solution, as do the four temporal variables. The three hubris variables load on two of the factors.

The loading patterns indicate a lack of common relationships among the sets of variables, and some relationship that operate across the different sets. The lack of relationships is, in part, due to the difficulty in using factor analysis with secondary data; however, the results provide additional evidence that cognitive measures and TMT characteristics may not indicate simple myopic perspectives, or lead to simple behavioral patterns.

An observation that may be of some interest is in the possible impact of the different “lenses” used in this study to capture myopia. As noted in table 10, the variables for each construct load on all 3 components in the factor analysis. If the variables truly reflected a single construct, each set of variables would converge on a single component. A possible explanation is that the different lenses affect the relationships among the variables. There may be some similarities in the underlying concept within a set of variables, but the different lenses may contribute to a second level of underlying relationships.

Table 10

Factor Analysis Pattern Matrix

	Component		
	1	2	3
<u>Spatial Variables</u>			
Focus orientation		-0.55	
External attribution		0.49	
Internal attribution		0.52	
Firm tenure (avg)	0.61		
Tenure homogeneity	0.52		
LOB concentration			0.55
<u>Temporal Variables</u>			
Short-term orientation		0.68	
Financial emphasis	0.50		
TMT finance background		-0.33	0.60
Accrual Inflation	0.34		0.47
<u>Hubris Variables</u>			
Media praise	-0.61		-0.26
Personal statements	-0.61		
CEO relative pay			0.58

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

The lack of statistical support for employing factor analysis suggests that any interpretation of the matrix in table 10 can be problematic. The regression analysis in the

following section provides more meaningful information for the relationships between individual independent variables and the three dependent variables.

Hypothesis Tests

Six hypothesis tests are analyzed in multiple regression analyses. These tests provide information about the relationships of the independent variables and the three dependent variables.

The analysis is organized, first, by type of myopia, beginning with spatial myopia followed by temporal myopia and hubris. Each type of myopia is operationalized as multiple variables representing each construct as identified in chapter III. Each hypothesis is tested in linear regression analysis for the three dependent variables, sales change, net income change, and ROA change.

Interaction effects are then tested relative to the moderator, industry growth for each type of myopia. Consistent with the hypotheses 4, 5, and 6, interaction effects are explained in terms of higher and lower growth industries.

Hypothesis 1 and 4: Spatial Myopia Variables

As presented in chapter III, spatial myopia is operationalized with six variables, focus orientation, defensive external attribution, defensive internal attribution, TMT tenure, TMT homogeneity and line-of-business concentration. These variables are evaluated in separate regression analyses for each of the three dependent variables to test hypothesis 1, which posits that spatial myopia will be related to value destruction in terms of lower than average changes in sales, net income and return on assets (ROA).

H1: High levels of CEO spatial myopia will be significantly and positively related to value destruction at the firm level.

Hypothesis 4 incorporates the moderating effect of industry growth rate. The relationship between spatial myopia and value destruction will be stronger in lower growth industries. This moderation hypothesis will be tested for each of the six independent variables for each of the three dependent variables.

H4: The relationship between spatial myopia and value destruction will be stronger in lower growth industries than in higher growth industries.

Spatial Myopia Variables and Sales Change

Biases associated with spatial myopia (excessive focus on the current business model and mode of operation) will affect the judgment and strategic decisions of the executives in the dominant coalition. Hypothesis 1 is first tested with sales change as the dependent variable, with a negative relationship posited for each of the six independent variables.

As shown in table 10, control variables (firm size, CEO change, and base period ROA) account for 24% of the variance explained (model 1a). Firm size is negatively related to sales change; base period ROA is positively related to sales change ($p \leq .01$ for both). In order to account for the possible impact of the former CEO being replaced, CEO change was included in the set of control variables, significant in this model at the .10 level. These three control variables were included in all models.

After accounting for control variables, six variables representing spatial myopia were introduced into the model (1b) with a total variance explained of .344 ($p \leq .001$), an

R² change of .123. Average firm tenure is significantly and negatively related to sales change ($p \leq .001$), providing some support for H1. Average firm tenure, as a potential contributor to spatial myopia, is associated with below average sales change.

The five other variables (focus orientation, external defensive attribution, internal defensive attribution, TMT tenure homogeneity, and LOB concentration), expected to reflect or contribute to spatial myopia, produced no significant relationship with sales change, in model 1b.

Table 11

Spatial Myopia IVs; Sales Change DV: Regression Analysis

Coefficients & <i>Standard errors</i>	Model 1a	Model 1b
(Constant)	0.044 <i>0.087</i>	0.042 <i>0.084</i>
CEO change 98-00	-0.501 * <i>0.299</i>	-0.480 <i>0.306</i>
Firm size (sales)	-0.380 *** <i>0.091</i>	-0.288 *** <i>0.098</i>
ROA: base period	0.326 *** <i>0.091</i>	0.318 *** <i>0.089</i>
Focus orientation		-0.044 <i>0.091</i>
External attribution		-0.129 <i>0.090</i>
Internal attribution		0.000 <i>0.091</i>
Firm tenure (avg)		-0.300 *** <i>0.103</i>
Tenure homogeneity		-0.079 <i>0.088</i>
LOB concentration		0.098 <i>0.093</i>
Model R square	0.241 ***	0.344 ***
All Industries: N = 103		
* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$		A6

Interaction Analysis: No interaction effects for the six spatial myopia variables and industry growth rates were found relative to sales growth (table 12).

Table 12

Spatial Myopia IVs; Sales Change DV: Interactions

	Interaction Coeff	Std Error	R2	R2 change
Focus x Ind growth	-1.628	1.959	0.349***	0.005
DEA x Ind growth	1.239	1.929	0.347***	0.003
DIA x Ind growth	0.337	1.912	0.344***	0.000
Tenure x Ind growth	-2.219	1.895	0.354***	0.01
Homogeneity(ten) x Ind gr	1.53	1.939	0.349***	0.004
LOB concentration x Ind gr	-2.75	1.881	0.359***	0.015

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

In that no interactions were significant, the negative direct effect of average tenure is the only finding linking spatial myopia to value destruction, measured in terms of sales change. Longer average tenure of the top five executives in the organization is related to below average sales change levels. The sales change regression analysis provides limited support for hypothesis 1 in the negative relationship between tenure and sales change. There is no support for the moderation effect posited in hypothesis 4.

The absence of significant relationships for five of six “spatial myopia” variables reinforces the observations from the correlation review. There is no evidence that these six variables, as a group, contribute to or represent the same construct.

Spatial Myopia & Net Income Change

Hypothesis 1 posits that the relationship between each of the six myopia variables and net income change will be negative.

For the net income change regression analysis, the level of variance explained by the control variables was very small (.034), with none of the control variables achieving significance. This lack of significance for these control variables is unusual, considering

that firm size and prior profitability have been empirically related to performance in other strategic management studies.

The regression model including spatial myopia variables (table 13) with net income change as the dependent variable did not achieve a significant R^2 (.057) when all variables were entered (model 3b).

The lack of any significant relationship provides no evidence of a relationship between any of the spatial myopia variables and value destruction in terms of net income change. There is no support for hypothesis 1.

Table 13

Spatial Myopia IVs; Net Income Change DV: Regression Analysis

Coefficients & Std Errors

	Model 2a	Model 2
(Constant)	0.030 <i>0.098</i>	0.020 <i>0.101</i>
Firm size (sales)	-0.132 <i>0.102</i>	-0.140 <i>0.117</i>
CEO change 98-00	-0.342 <i>0.337</i>	-0.233 <i>0.367</i>
ROA: base period	0.091 <i>0.102</i>	0.070 <i>0.107</i>
Focus orientation		-0.082 <i>0.109</i>
External attribution		-0.052 <i>0.108</i>
Internal attribution		-0.055 <i>0.109</i>
Firm tenure (avg)		0.040 <i>0.124</i>
Tenure homogeneity		0.077 <i>0.112</i>
LOB concentration		0.041 <i>0.106</i>
Model R square	0.035	0.057

All Industries: N = 103

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

Interaction Analysis: As presented in table 14, none of the regression models employing net income change as the dependent variable and interactions for the six 6 spatial myopia variables produced a significant interaction term. This analysis provides no support for hypothesis 4.

Table 14

Spatial Myopia IVs; Net Income Change DV; Interactions

	Interaction Coeff	Std Error	R square	R square change
Focus x Ind growth	-4.033*	2.317	0.087	0.030*
DEA x Ind growth	0.847	2.317	0.058	0.001
DIA x Ind growth	-2.612	2.276	0.070	0.013
Tenure x Ind growth	-2.346	2.277	0.068	0.011
Homogeneity(ten) x Ind gr	3.435	2.306	0.079	0.022
LOB concentration x Ind gr	-1.196	2.279	0.060	0.003

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

The net income change variable measurement may be problematic. Very small positive and negative net income levels in the base period create some very large or unusual change ratios relative to the outcome period.

An indication of this problem is that none of the control variables evidenced any relationship with net income as the dependent variable. The control variables are the same for the models testing the temporal myopia and hubris models (which follow in the next few pages). This lack of significant relationships occurs only when net income change is the dependent variable. The relationship between spatial myopia and value destruction in terms of profitability may be more meaningfully addressed with return on assets as the dependent variable.

Spatial Myopia & ROA Change

Hypothesis 1 posits a negative relationship between the six spatial myopia variables and ROA change.

Control variables (model 3a) account for 15% of the variance explained with ROA change as the dependent variable. Model 3a achieved significance at the .01 level, primarily due to a strong negative relationship between base period ROA and ROA change.

Table 15

Spatial Myopia IVs; ROA Change DV: Regression Analysis

Coefficients & <i>Std Errors</i>		
	Model 3a	Model 3b
(Constant)	0.000 <i>0.092</i>	-0.013 <i>0.093</i>
Firm size (sales)	-0.053 <i>0.096</i>	-0.110 <i>0.107</i>
CEO change 98-00	-0.003 <i>0.316</i>	0.146 <i>0.337</i>
ROA: base period	-0.375 *** <i>0.096</i>	-0.379 *** <i>0.098</i>
Focus orientation		-0.053 <i>0.100</i>
External attribution		-0.159 <i>0.100</i>
Internal attribution		0.054 <i>0.100</i>
Firm tenure (avg)		0.180 <i>0.113</i>
Tenure homogeneity		0.020 <i>0.103</i>
LOB concentration		-0.026 <i>0.097</i>
Model R square	0.152 ***	0.205 ***
All Industries: N = 103		
* p ≤ .10; ** p ≤ .05; *** p ≤ .01		

The spatial myopia variables were entered in model 3b, yielding an R² of .207 (table 15). The overall model is significant at the .01 level. Although the regression model including the spatial myopia was still significant, the R² change was modest (.05).

None of the spatial myopia variables were significantly related to ROA change in model 3a. A number of interactions were, however, significant.

Interaction Analysis: An interaction for each spatial myopia variable with industry growth rate was entered individually into model 3 with ROA change as the dependent variable. Significant interaction effects between each of three spatial myopia variables (focus orientation, internal attribution and tenure homogeneity) and industry growth rate were identified in the moderation models (table 16).

Table 16

Spatial Myopia IVs; ROA change DV; Interactions

	Interaction Coeff	Std Error	R2	R2 change
Focus x Ind growth	-3.814*	2.213	0.232***	0.027*
Ext Attribution x Ind growth	0.448	2.129	0.205**	0.000
Int attribution x Ind growth	-4.701**	2.047	0.248***	0.044**
Tenure x Ind growth	-0.989	2.100	0.207**	0.002
Homogeneity(ten) x Ind gr	4.239**	2.096	0.239***	0.034**
LOB concentration x Ind gr	-2.868	2.074	0.221**	0.016

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

The interaction between industry growth and tenure homogeneity is consistent with hypothesis 4 -- homogenous TMTs can be expected to exhibit spatial myopia by limiting aggressive action and profitability to a greater extent in lower growth industries than in higher growth industries. However, the interactions involving focus orientation and defensive internal attribution variables provide contradictory results. Focus orientation evidences a stronger negative relationship with ROA change in higher growth industries than in lower growth industries. Defensive internal attribution is related to above average ROA change in lower growth industries, potentially contributing to value enhancement rather than value destruction. These results are discussed in greater depth in separate regression analyses for higher and lower growth industries, noted below.

No significant interactions were found for the other three spatial myopia variables – average tenure, external attribution, and LOB concentration.

Comparison of Low and High Growth Industries

Hypothesis 4 predicts a stronger relationship for spatial myopia variables and ROA change in lower growth industries than in higher growth industries. In order to clarify and explore the effects identified in the interaction models noted above, separate regression analyses were evaluated for high growth and low growth industries (table 17).

With only the control variables entered, R^2 (.248) was significant at the .01 level for the higher growth industries (model 3.2a), but R^2 (.124) was not significant for the lower growth industries (model 3.1a). Base period ROA was the only significant control variable, with a negative relationship to ROA change in both higher growth ($p \leq .01$) and lower growth ($p \leq .05$), industries, indicating a consistent relationship regardless of industry growth pattern.

R^2 for high and low growth samples (.361 and .403, respectively) was significant at the .01 level when the spatial myopia variables were entered into the model, yielding significant R^2 change for both high and low growth firms. The spatial myopia variables enhance the explanation of differences in ROA change when the context of industry growth is introduced, providing evidence of a moderation effect. However, the relationships between each spatial myopia variable and ROA change are not the same in direction or intensity (table 17).

The positive, significant relationship ($p \leq .05$) of tenure homogeneity in the higher growth industries (model 3.2b), and the non-significant result in the lower growth industries provide indirect support for H4. This is consistent with life cycle theory (e.g.,

Porter, 1980, 1985), whereas tenure homogeneity may contribute to a more focused and consistent approach in higher growth firms. This greater focus may contribute to a balance between growth and profitability.

TABLE 17

Spatial Myopia IVs; ROA change DV: High & Low Growth Industry Regression Analysis

Coefficients & Std Errors	Low Growth Industries		High Growth Industries	
	Model 3.1a	Model 3.1b	Model 3.2a	Model 3.2b
(Constant)	-0.056	-0.069	0.047	0.023
	0.143	0.133	0.119	0.114
Firm size (sales)	-0.003	-0.057	-0.073	-0.118
	0.142	0.143	0.133	0.159
CEO change 98-00	0.536	0.664	-0.650	-0.315
	0.449	0.461	0.448	0.448
ROA: base period	-0.287 **	-0.286 **	-0.445 ***	-0.522 ***
	0.142	0.136	0.133	0.133
Focus orientation		0.086		-0.236 *
		0.148		0.134
External attribution		-0.277 *		-0.145
		0.143		0.126
Internal attribution		0.319 **		-0.037
		0.145		0.135
Firm tenure (avg)		0.366 **		-0.030
		0.155		0.164
Tenure homogeneity		-0.087		0.277 **
		0.155		0.135
LOB concentration		0.055		-0.209 *
		0.140		0.123
Model R square	0.124	0.361 **	0.248 ***	0.403 ***
Low Growth Industries: N = 48				
* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$				

Contrary to hypothesis 4, the negative relationship between focus orientation and ROA change was significant ($p \leq .10$) in higher growth industries (model 3.2b), but was not significant in the lower growth industries (model 3.1b). The results indicate that focus orientation is related to value destruction in terms of ROA change in higher growth

industries, but there is no empirical evidence of that relationship in lower growth industries. This relationship is contrary to the hypothesis and acts in the opposite direction of tenure homogeneity.

The relationship to ROA change for defensive internal attribution is significant, but positive in the lower growth industries ($p \leq .05$), while non-significant with a low negative coefficient in the higher growth industries. The positive relationship in lower growth industries is contrary to the value destruction hypotheses, suggesting that internal attribution is associated with value enhancement in low growth industries, but may not be in higher growth industries.

Firm tenure reflects a similar pattern to that of internal defensive attribution, yielding a positive significant relationship with ROA change in the lower growth industries, and a non-significant, low-value negative coefficient in higher growth industries. This pattern was not identified in the regression analysis for interaction between firm tenure and industry growth rate, but appears in the individual regression analyses of higher and lower growth industries. This result is also contrary to the hypothesized relationship, which predicted below average ROA change in lower growth industries.

The significant, negative defensive external attribution relationship (.10 level) in the high growth industries appears to be similar to the relationship in low growth industries, although the latter relationship was non-significant. No interaction is suggested.

In summary, the three independent variables provide evidence of the moderating influence of industry growth rates; however, the hypothesized direction of the outcomes

was supported only in tenure homogeneity. The differences between higher and lower growth industries relative to focus orientation, firm tenure and defensive internal attribution are opposite of those posited in hypothesis 4. Additionally, two variables that did not yield significant interaction terms in the overall moderation model evidenced significant and contrary relationships in lower growth industries. This provides further evidence that variables employed to assess concepts similar to management myopia (e.g., inertia, commitment to the status quo, and escalation of commitment) do not act uniformly.

Although the test for hypothesis 4 relative to ROA change produced mixed results, 5 of 6 variables yielded significant relationships in either lower growth or higher growth models. This provides strong support for the importance of these variables, and the relevance of industry growth rate as a moderator of the relationships. The lack of agreement in results for the “spatial myopia” variables in direction and intensity indicate that relationships to outcome variables may be very complex and substantially influenced by context.

Summary of Spatial Myopia Results

The only significant direct effect supporting hypothesis 1 was in the negative relationship between average firm tenure and sales change. Even after controlling for firm size and profitability, higher growth firms with longer tenured executives realized lower sales change levels than other firms in their industries.

Hypothesis 4 received limited support from the interaction analyses with ROA change as the dependent variable. Indirect support for the hypothesis was indicated by the positive relationship of tenure homogeneity to ROA change (value enhancement) in

higher growth industries. However, contradictory results were evident for focus orientation, defensive internal attribution, and firm tenure.

Hypotheses 2 and 5: Temporal Myopia Variables

Temporal myopia is operationalized as four variables: short-term orientation, financial emphasis, financial background and accrual inflation. Hypothesis 2 posits that each of the four variables will be negatively related to each of the three dependent variables. They are evaluated in a regression analysis for each of the three dependent variables to test hypothesis 2. The overall effect is evaluated first (H2) followed by an analysis of interactions of each temporal myopia variable (H5) with each dependent variable. Negative relationships indicate value destruction; positive relationships indicate value enhancement. Both hypotheses predict negative relationships regardless of industry growth.

H2: High levels of CEO temporal myopia will be significantly and positively related to value destruction at the firm level.

H5: The relationship between temporal myopia and value destruction will be stronger in lower growth industries than in higher growth industries.

Temporal Myopia Variables and Sales change

The hypothesized (H2) relationship between each of the four temporal myopia variables and sales change is negative. Temporal myopia creates a focus on the short-term at the expense of the long-term. A short-term perspective by senior executives is posited to result in lower levels of performance, including below-average sales growth. (Note that the relationships between the control variables and the three dependent

variables have already been reviewed in the discussion of the regression analysis of the spatial myopia variables, yielding an R^2 of .241.)

Table 18

Temporal Myopia Variables; Sales Change DV: Regression Analysis

Coefficients & Std Errors	Model 1a	Model 1c
(Constant)	0.044 0.087	0.049 0.088
Firm size (sales)	-0.380 *** 0.091	-0.378 *** 0.095
CEO change 98-00	-0.501 * 0.299	-0.565 0.304
ROA: base period	0.326 *** 0.091	0.312 *** 0.098
Short-term orientation		-0.014 0.092
Financial emphasis		-0.098 0.091
TMT finance background		0.095 0.094
Accrual inflation		0.018 0.093
Model R square	0.241 ***	0.262 ***
All Industries: N = 103		
* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$		A6

Introducing the four independent variables into model 1c yielded an incremental R^2 of only .02 (table 18). None of the beta coefficients for the four temporal myopia variables met the significance test individually, providing no support for hypothesis 2.

Interaction Analysis: Similarly, no significant relationships were found in models that introduced interaction terms for the temporal myopia variables (table 19). The test provides no support for hypothesis 5.

TABLE 19

Temporal Myopia IVs; Sales Change DV: Interactions

A11	Interaction Coeff	Std Error	R2	R2 change
Short-term orientation	1.266	1.990	0.265***	0.003
Financial emphasis	1.263	1.970	0.266***	0.003
Financial background	-2.568	1.834	0.278***	0.015
Accrual inflation	-0.634	1.959	0.263***	0.001

* ≤ .10; ** ≤ .05; *** ≤ .01

Temporal Myopia Variables and Net Income Change

Hypothesis 2 posits a negative relationship between the four temporal myopia variables and the dependent variable, net income change. However, little variance is explained.

Table 20

Temporal Myopia Variables; Net Income Change DV: Regression Analysis

Coefficients & Std Errors	Model 2a	Model 2c
(Constant)	0.030 <i>0.098</i>	0.034 <i>0.097</i>
Firm size (sales)	-0.132 <i>0.102</i>	-0.108 <i>0.105</i>
CEO change 98-00	-0.342 <i>0.337</i>	-0.391 <i>0.337</i>
ROA: base period	0.091 <i>0.102</i>	0.005 <i>0.108</i>
Short-term orientation		-0.023 <i>0.102</i>
Financial emphasis		0.109 <i>0.100</i>
TMT finance background		0.216** <i>0.104</i>
Accrual inflation		0.071 <i>0.103</i>
Model R square	0.035	0.096

All Industries: N = 103

* p ≤ .10; ** p ≤ .05; *** p ≤ .01

A6

Neither the full model R^2 (.096), nor the change in R^2 (.061) were significant (table 20). This absence of relationships appears in all models with net income change as the dependent variable.

One variable (TMT financial background) yielded a positive, significant beta coefficient; however, the absence of a significant overall regression model limits any potential interpretation. The positive relationship is opposite of that hypothesized in H2. There is no support for hypothesis 2.

Interaction Analysis: An interaction for each spatial myopia variable with industry growth rate was entered individually into model 2 with net income change as the dependent variable.

Table 21

Temporal Myopia IVs; Net Income change DV: Interactions

Interaction term	Interaction Coeff	Std Error	R square	R square Change
Short-term orientation x Industry growth	1.875	2.199	0.103	0.007
Financial emphasis x Industry growth	-0.358	2.185	0.096	0.000
Financial background x Industry growth	0.202	2.052	0.096	0.000
Accrual inflation x Industry growth	-4.299**	2.124	0.134	0.038**

* $\leq .10$; ** $\leq .05$; *** $\leq .01$

As noted in table 21, none of the interaction analyses yielded significant results for the overall model. One interaction term produced a significant R^2 change (accrual inflation x industry growth); however, the lack of significance of the overall model limits any potential interpretation. Hypothesis 5 is not supported.

Temporal Myopia Variables and ROA Change

Hypothesis 2 posits a negative relationship between the four temporal myopia variables and ROA change. As presented in table 21, R^2 is significant for the control model 6a (.152) and for model 6b, including the temporal myopia variables (.211).

Table 22

Temporal Myopia Variables; ROA Change DV: Regression Analysis

Coefficients & Std Errors	Model 3a	Model 3c
(Constant)	0.000 <i>0.092</i>	-0.004 <i>0.091</i>
Firm size (sales)	-0.053 <i>0.096</i>	-0.032 <i>0.098</i>
CEO change 98-00	-0.003 <i>0.316</i>	0.044 <i>0.315</i>
ROA: base period	-0.375 *** <i>0.096</i>	-0.429 *** <i>0.101</i>
Short-term orientation		0.070 <i>0.095</i>
Financial emphasis		0.225 ** <i>0.094</i>
TMT finance background		0.114 <i>0.097</i>
Accrual inflation		0.016 <i>0.097</i>
Model R square	0.152 ***	0.211 ***
All Industries: N = 103		
* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$		A6

Only the coefficient for financial emphasis in the letters to shareholders indicates a significant relationship with ROA change ($p \leq .05$). Contrary to hypothesis 2, financial emphasis was positively related to above-average improvement in ROA. No significant relationship is indicated for the short-term orientation, TMT financial background or accrual inflation.

It is unclear what is indicated by the positive relationship between financial emphasis in letters to shareholders and ROA improvement. Several possibilities may explain this phenomenon, and could be a subject for future studies. It is possible that paying attention to the financial results and projections of the firm may be beneficial in terms of profitability return ratios. This will be explored further in the chapter V.

Interaction Analysis: The introduction of industry growth and interactions into the model yielded no evidence of moderation (table 23). None of the interaction terms approached significance. No support is provided for hypothesis 5.

Table 23

Temporal Myopia IVs; ROA change DV: Interactions

	Interaction Coeff	Std Error	R2	R2 change
Short-term orientation	2.254	2.050	0.221***	0.010
Financial emphasis	0.227	2.042	0.211***	0.000
Financial background	0.816	1.915	0.212***	0.002
Accrual inflation	-3.095	2.002	0.230***	0.019

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

Summary of Temporal Myopia Results

Only the relationship between financial emphasis and ROA change was significant, and it was contrary to the hypothesized relationship. Moreover, the addition of financial emphasis and three other variables did not yield a significant R^2 change. The dearth of significant results for the temporal myopia variables provides almost no support for any effect of temporal myopia. This suggests that these may not be meaningful variables, or that their relationships with financial outcomes may be more complex than expected.

Hypotheses 3 and 6: Hubris Variables

Hubris is represented by three variables, media praise, personal references (in letters to shareholders), and CEO relative pay. These three hubris variables are evaluated in a regression analysis for each of the three dependent variables to test hypothesis 1. Negative relationships indicate value destruction; positive relationships indicate value enhancement.

H 3: High levels of CEO hubris will be significantly and positively related to value destruction at the firm level.

The overall effect is evaluated first (H3) followed by an analysis of interactions of each spatial myopia variable (H6) with each dependent variable. Both hypotheses predict negative relationships; however, the moderation effect hypothesized in H6 would be consistent with positive relationships between hubris variables and the dependent variables for lower growth industries, where hubris may actually positively impact the performance of the firm. CEOs with extraordinary confidence may be willing to take actions that involve more significant changes to the business and overcome resistance to change related to inertia and commitment to the status quo.

H6: The relationship between hubris and value destruction will be stronger in higher growth industries than in lower growth industries.

Hubris Variables and Sales Change

Hypothesis 3 predicts a negative relationship between each of the Hubris variables and sales change. Hubris is expected to detract from decision quality of senior executives.

Model 1a includes the three control variables, with sales change as the dependent variable yielding a significant R^2 of .241 (table 24). Firm size and ROA are significant at the .01 level, while CEO compensation premium is significant at the .10 level. All three control variables are significant when the three hubris variables are entered into model 1d. Base period ROA is positively related to sales change, potentially reflecting access to financial and other resources that fuel growth. Firm size and CEO change are negatively related to sales change. The R^2 of .306 for model 1d shows a meaningful increase in the variance explained, primarily due to media praise.

Table 24

Hubris Variables; Sales Change DV: Regression Analysis

Coefficients & Std Errors	Model 1a	Model 1d
(Constant)	0.044 <i>0.087</i>	0.049 <i>0.085</i>
Firm size (sales)	-0.380 *** <i>0.091</i>	-0.412 *** <i>0.089</i>
CEO change 98-00	-0.501 * <i>0.299</i>	-0.566 * <i>0.292</i>
ROA: base period	0.326 *** <i>0.091</i>	0.329 *** <i>0.088</i>
Media praise		0.250 *** <i>0.088</i>
Personal references		-0.033 <i>0.088</i>
CEO comp premium		-0.070 <i>0.086</i>
Model R square	0.241 ***	0.306 ***
All Industries: N = 103		
* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$		

A6

Contrary to the hypothesis (H3), model 1d indicates that the relationship between media praise and sales change is significant and positive ($p \leq .01$). Higher levels of media praise in the base period (1998-2001) were positively related to sales increases. This is counter to the hypothesis that hubris will lead to value destruction, as represented

by lower than average sales growth. This result should, however be interpreted in conjunction with the results presented and discussed in the following pages.

Relationships between the two other hubris variables (personal references in letter to shareholders and CEO compensation premiums) and sales change are not significant.

Interaction Analysis: No interactions were found to be significant, indicating no support for hypothesis 6, which posited a stronger relationship to value destruction in higher growth industries.

Table 25

Hubris IVs; Sales change DV: Interactions

Interaction term	Interaction Coeff	Std Error	R square	R square Change
Media praise	0.267	1.923	0.306***	0.000
Personal references	-0.990	1.928	0.308***	0.002
Relative pay	-0.921	1.891	0.308***	0.002

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

Hubris Variables and Net Income Change

The relationship between the three hubris variables and net income change is posited to be negative in hypothesis 3.

The three control variables were entered in model 2a with net income as the dependent variable (table 26), with no significant relationships identified, and without yielding a significant R^2 (.035). Model 2d included the three hubris variables, but achieved only a modest and non-significant change in R^2 to .097. The beta coefficient for the variable relative pay was significant at the .05 level, but may not be meaningful with the low R^2 .

No support is evidenced for hypothesis 3

Table 26

Hubris Variables; Net Income Change DV: Regression Analysis

Coefficients & Std Errors	Model 2a	Model 2d
(Constant)	0.030 0.098	0.027 0.097
Firm size (sales)	-0.132 0.102	-0.130 0.101
CEO change 98-00	-0.342 0.337	-0.314 0.333
ROA: base period	0.091 0.102	0.085 0.100
Media praise		-0.024 0.100
Personal references		-0.120 0.101
Relative pay		0.232 ** 0.098
Model R square	0.035	0.097
All Industries: N = 103		
* p ≤ .10; ** p ≤ .05; *** p ≤ .01		A6

Interaction Analysis: No significant interactions were found when interaction terms were entered individually into the regression analysis. There is no evidence to support hypothesis 6.

This lack of results is consistent with the other tests of myopia variables relative to net income change. The issues associated with this dependent variable were outlined in the spatial myopia section above.

Table 27

Hubris IVs; Net income change DV: Interactions

Interaction term	Interaction Coeff	Std Error	R2	R2 change
Media praise	-0.219	2.193	0.098	0.000
Personal references	2.278	2.189	0.108	0.010
Relative pay	-1.216	2.156	0.101	0.024
* p ≤ .10; ** p ≤ .05; *** p ≤ .01				

Hubris Variables and ROA Change

The relationship between the three hubris variables and ROA change was hypothesized to be negative (H3).

None of the hubris variables contributed significantly to the explanation of ROA change in regression model 3d (table 28). The R² change was .038, with a total R² of .19. Hypothesis 3 is not supported by this analysis.

Table 28

Hubris IVs; ROA Change as DV: Regression Analysis

Coefficients & Std Errors (Constant)	Model 3a	Model 3d
	0.000	-0.003
	<i>0.092</i>	<i>0.092</i>
Firm size (sales)	-0.053	-0.031
	<i>0.096</i>	<i>0.096</i>
CEO change 98-00	-0.003	0.035
	<i>0.316</i>	<i>0.315</i>
ROA: base period	-0.375 ***	-0.379 ***
	<i>0.096</i>	<i>0.095</i>
Media praise		-0.149
		<i>0.095</i>
Personal references		0.013
		<i>0.095</i>
CEO comp premium		0.126
		<i>0.093</i>
Model R square	0.152 ***	0.190 ***
All Industries: N = 103		
* p ≤ .10; ** p ≤ .05; *** p ≤ .01		A6

Interaction Analysis: An interaction term for each hubris variable with industry growth rate was entered individually into model 3 (table 29). The significant interaction effect of media praise and industry growth ($p \leq .05$) supports the hypothesized relationship – the relationship between media praise (hubris) and below average ROA change (value destruction) is greater in high growth industries than in low growth industries.

Table 29

Hubris IVs; ROA change DV: Interaction

	Interaction Coeff	Std Error	R Square	R Square change
Media Praise x Industry Growth	-4.151**	2.033	0.224***	0.034**
Personal Statements x Ind Growth	1.050	2.083	0.192***	0.002
Relative Pay x Ind Growth	0.410	2.046	0.190***	0.000

* $\leq .10$; ** $\leq .05$; *** $\leq .01$

Analysis of Higher and Lower Growth Industries

The interaction effect for media praise and industry growth is supported when the sample is split between low growth and high growth industries (table 30).

Table 30

Hubris IVs; ROA change DV; High & Low Growth Industries Regression Analysis

Coefficients & Std Errors	Low Growth Industries		High Growth Industries	
	Model 8a	Model 8b	Model 8a	Model 8b
(Constant)	-0.056	-0.055	0.047	0.044
	0.143	0.146	0.119	0.117
Firm size (sales)	-0.003	0.019	-0.073	-0.027
	0.142	0.146	0.133	0.134
CEO change 98-00	0.536	0.524	-0.650	-0.611
	0.449	0.461	0.448	0.441
ROA: base period	-0.287 **	-0.281	-0.445 ***	-0.450 ***
	0.142	0.147	0.133	0.132
Media praise		-0.025		-0.251 **
		0.157		0.122
Personal references		-0.028		0.040
		0.157		0.124
Relative pay		0.176		0.075
		0.145		0.123
Model R square	0.124	0.156	0.248 ***	0.318 ***

All Industries: N = 48

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$

Consistent with the interaction analysis and supporting H6, there is a significant ($p \leq .05$) negative relationship (value destruction) between media praise and ROA change

in the higher growth industry sample. No significant relationship was found in the low growth sample (coefficient is -.03).

No significant relationships with ROA change were identified in the high and low growth industry samples for personal statements and CEO comp ratio.

Overall Evaluation of Hubris Relationships

The significant, negative relationship between media praise and ROA change in high growth industries is consistent with the hypothesized relationship. Comparing this result to the significant, positive relationship between hubris and sales growth (direct effect) provides an interesting contrast. CEOs who receive high levels of praise are more likely to increase the sales level of the company, but in high growth industries, their firms' ROA is below average. This may be a result of the hypothesized impact of hubris in higher growth industries where there are fewer impediments to CEO action, both internal (resource availability, TMT challenges & CEO restraint) and external (e.g., board oversight). The increased sales realized by highly praised CEOs may actually result in lowered profitability – an outcome consistent with value destruction hypotheses (H6).

Summary

This chapter presented a description of the sample, test results for assumptions relevant to multiple regression analysis, and results of correlation, factor and multiple regression analyses. Three sets of variables associated with spatial myopia, temporal myopia and hubris were evaluated to assess similarities within each set of variables, and to assess relationships with three firm level dependent variables. Nine primary models

were evaluated for direct effects and interactions of each independent variable with the moderation variable, industry growth.

Assessment of Myopia Variables

The correlation analysis provided little support for the expected relationship among each set of myopia variables.

TABLE 31
Correlation Analysis Summary

Type of Myopia	Significant r	Non-significant r
Spatial Myopia 3 of 15 significant correlations; only 2 are in the expected direction	Focus orientation & external attribution (1); however the relationship is negative not positive. Firm tenure &: external attribution, homogeneity (2)	Focus &: external attribution, tenure, homogeneity, LOB concentration (4) Internal attr &: external attribution, tenure, homogeneity and LOB concentration. (4) LOB concentration &: external attrib., tenure & homogeneity (3) Homogeneity & ext attrib. (1)
Temporal Myopia 1 of 6 significant correlations	Financial background & Accrual Inflation	Short-term orientation &: fin emphasis, fin background, accrual inflation (3) Financial emphasis &: financial background, accr inflation (2)
Hubris 1 of 3 significant correlations	Media Praise & Personal references	CEO relative pay & : media praise, personal references (2)

Only 3 of 15 spatial correlations yielded a significant correlation, as noted in table 30. The results are similar for the temporal myopia variables, with 1 of 5 possible correlations significant, and for hubris with 1 of 3 significant correlations.

The results of the factor analysis provided no support for the operationalization of three distinct types of management myopia as represented by the variables chosen for this study.

The results of the multiple regression analysis also indicate little evidence that the sets of variables measure a single construct. Differences were observed in both direction of relationship and in significance levels for direct effects and for interaction effects.

Multiple Linear Regression Results

Linear regression is the primary analysis employed in testing the models associated with each of six hypotheses. These results are summarized in table 31. There is little support for any of the first set of hypotheses (H1, 2, 3), which posited negative relationships between management myopia, in all three forms, and the dependent variables. There was contrary evidence for hypothesis 3.

A significant, negative relationship was found for longer average tenured executives and sales change. Sales growth was below average for firms with longer tenured executives, expected to reflect spatial myopia. This is consistent with H1.

TABLE 32

Direct Relationship Hypotheses H1 – H3

Hypothesis	Dep Variable	Supporting Results	Contrary results
H1: Spatial myopia → Value destruction	<i>Sales change</i>	TMT tenure (neg)	None
	<i>Net Income chg</i>	No variables significant	None
	<i>ROA change</i>	No variables significant	None
H2: Temporal myopia → Value destruction	<i>Sales change,</i>	No variables significant	None
	<i>Net Income chg</i>	No variables significant	Model not sig.
	<i>ROA change</i>	No variables significant	Financial emphasis pos
H3: Hubris → Value Destruction	<i>Sales change</i>	No variables significant	Media Praise (pos)
	<i>Net Income chg</i>	No variables significant	None
	<i>ROA change</i>	No variables significant	None

The negative relationship between financial emphasis and ROA change is contrary to H2. CEOs who emphasize historical financial results in letters to shareholders have higher than average sales.

There is one contrary result for H3, relative to the positive relationship between media praise and sales change. A significant, positive relationship was found for the relationship between media praise and sales change. CEOs who received greater favorable media attention relative to their capabilities and leadership lead firms that grew faster than other firms in their own industry.

Interaction Effects

There were no significant interaction effects for any of the variables in models with sales change or net income change as dependent variables (table 32). A number of significant interactions were identified for ROA change models.

TABLE 33

Interaction Hypotheses Summary

Hypothesis	Dependent Var	Supporting Results	Contrary results
H4: : Spatial myopia → Value destruction; Stronger in lower growth industries	<i>Sales change</i>	No interactions sig.	None
	<i>Net Income chg</i>	No interactions sig.	None
	<i>ROA change</i>	TMT homogeneity pos in high growth	Focus orientation negative in high growth; Internal attribution & firm tenure positive in low growth
H5: Temporal myopia → Value destruction; Stronger in lower growth industries	<i>Sales change</i>	No interactions sig.	None
	<i>Net Income chg</i>	Model not sig.	Model not significant
	<i>ROA change</i>	No interactions sig.	None
H6: Hubris → Value destruction; Stronger in higher growth industries	<i>Sales change</i>	No interactions sig.	None
	<i>Net Income chg</i>	No interactions sig.	None
	<i>ROA change</i>	Media Praise negative in high growth industries	None

The interaction of TMT homogeneity and industry growth rate yielded a significant relationship with ROA change. In higher growth industries homogeneity was significantly related to ROA change. This result provides some support for hypothesis 4.

Contrary to hypothesis 4, focus orientation yielded a significant, negative relationship with ROA change in higher growth industries. Additionally, the relationship between internal attribution and ROA change is positive and significant in low growth industries but not in higher growth industries. These results provide additional evidence that variables associated with focus concepts (e.g., inertia, escalation of commitment, spatial myopia) do not have a consistent relationship with performance outcomes.

The interaction effect of the media praise and industry growth supports hypothesis 6. At least in high growth industries, hubris can lead managers to take risks that do not pay off in profit returns. The fact that there was a direct positive effect of hubris on sales growth for all industries may actually reinforce the hypothesized effect. An emphasis on sales at the expense of profitability is a logical impact of hubris, and may be associated with low performing acquisitions as well.

These results will be discussed, along with conclusions and implications for researchers and practitioners in chapter V.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The research question addressed in this paper is: “How, why and when do various forms of management myopia destroy value in firms?” This study builds on the concept of learned myopia (e.g., Miller, 1993), specifically on three forms, spatial myopia, temporal myopia and hubris (Levinthal et al., 1993), within a decision-making framework that links managers’ cognitions to significant firm outcomes (Rajagopalan et al., 1997). This framework, supported by a broad spectrum of strategic management works (e.g., Porter, 1980), incorporates the influence of environmental context on the relationship between management cognition and decision-making performance. Errors associated with cognitive biases, specifically management myopia of senior executives, contribute negatively to firm performance.

This objectives of the study include: 1] develop a working definition of management myopia and the three types (spatial, temporal and hubris); 2] operationalize the constructs employing existing and new variables expected to contribute to, or reflect the constructs; 3] test the relationship between these variables and firm outcome variables representing value destruction; and, 4] evaluate the moderating effect of industry sales growth rates on those relationships.

The definitions were developed in detail in chapters II and III. Chapter IV focuses on operationalization and testing. This chapter reviews the empirical findings,

discusses explanations of contrary findings, addresses contributions and implications, and suggests potential future research.

Overview of Empirical Results

The results of this study produced one principle “non-finding” and one principle finding. The non-finding refers to the lack of agreement among variables selected to operationalize each construct. This lack of consistency requires that each variable be assessed individually relative to firm outcomes and industry context. It also suggests that the relationships among TMT characteristics, managerial cognitions, and firm behavior are complex and subject to contextual influence.

The principle finding identifies the significant influence of industry growth rates on the relationships between a number of variables and ROA change. The analysis of ROA change indicates substantial differences in relationships for firms from higher growth and lower growth industries.

The results also indicate support for several new variables introduced in this study and provide additional information for a number of measures previously employed in strategic management research. Each of these results will be addressed in the following discussion.

Lack of Agreement of Variables

Contrary to expectations, there was little agreement among the variables representing spatial myopia, in terms of correlations of the independent variables, exploratory factor analysis, and the relationships of the independent variables to the dependent variables. Although there is substantial support for the three types of myopia

in learning theory, the variables employed in this study did not provide a consistent operationalization of any of the three constructs.

This lack of agreement among each set of myopia variables may reflect a number of issues associated with cognitive studies employing secondary data. First, cognitive measures tapping into letters to shareholders (e.g., focus orientation, defensive internal attribution) and media reports (e.g., media praise) may not fully capture the beliefs and intentions of the CEOs or the dominant coalition in the organization. However, the number of significant relationships found for the three cognitive variables noted above (reviewed in more detail below) provide some evidence of their relevance. It is more likely that the measures, as structured, do not sufficiently capture the extreme impact of myopia on strategic decision-making, or that there was not sufficient time for negative results to be realized.

A second concern is the inability to relate these cognitive measures to TMT characteristics (e.g., tenure, homogeneity and functional background) and financial measures of firm behavior (e.g., line of business concentration, accrual inflation, and CEO relative compensation). The relationship simply was not found.

Previous research provides some support for relationships between TMT tenure and homogeneity relative to inertial tendencies, irrational escalation of commitment, or strategic persistence (e.g., Bantel et al., 1989; Hambrick et al., 1993; Michel et al., 1992), although the results are not uniformly in agreement (e.g., Finkelstein et al., 1996). A review of correlations and regression results relative to the cognitive variable, focus orientation indicates a lack of agreement.

The variable, focus orientation, was carefully structured to capture focus, strategic persistence and commitment to the current business model in statements made by senior executives. Yet, the general relationship between focus orientation and TMT homogeneity and tenure measures was negative. Additionally, these TMT measures did not correlate with line of business concentration – a behavioral measure of focus.

The spatial myopia correlation analysis and the factor analyses showed some evidence that TMT homogeneity and tenure may be more related to defensive attribution, accrual inflation (accounting manipulation), and financial emphasis, than to spatial myopia or focus. This would indicate a level defensiveness and financial orientation for long-tenured and homogenous executive teams. A potential explanation is that the relationship between TMT inertia, commitment to the status quo, and strategic persistence may be driven more by financial conservatism and defensive attributions than active commitment to the current business model and core capabilities.

A third issue is that learning theory (e.g., Argyris et al., 1978; Levinthal et al., 1993) and strategic decision-making theory (e.g., Schwenk, 1988) support both beneficial and detrimental effects of the heuristics that lead to myopic tendencies. Extreme focus on the core business or on shorter-term, financial issues, may be beneficial for some companies but not for others, in some conditions but not in others. To some extent, the interaction results for a number of “spatial myopia” variables lend some credence to this explanation

Moderation Effect of Industry Growth Rates

The principle finding of the study is in support of the moderating effect of industry growth rates. For ROA change, interaction effects were found for one hubris

variable (media praise), and three spatial myopia variables (focus orientation, defensive internal attribution and tenure homogeneity). Additionally, there was evidence of a moderating effect of industry growth rate on the relationship between average firm tenure and ROA change when the lower growth (no relationship) and higher growth industries (positive relationship) were analyzed separately.

Consistent with Hayward and Hambrick's 1997 study, hubris was positively related to higher sales growth for the full sample, but was negatively related to ROA change in higher growth industries. Highly confident CEO "celebrities" (with cooperation from their associates and board of directors) may tend to take unnecessary chances (e.g., Bazerman, 1994) and seek growth over profitability (e.g., Hayward, et. al., 2004; Zollo, 2004), particularly in expanding the core business through internal growth and acquisitions. These results reinforce the use of media praise as an indicator of hubris.

The results for regression analyses of the spatial myopia variables were more complex. There was some support for the hypothesized relationships, but these results were inconsistent and even contradictory. The relationship between firm tenure and sales change was negative for the full sample; however, when high and low growth industries are analyzed separately, five of the six "spatial myopia" variables were found to have significant relationship with ROA change for one or both of the split samples (as discussed in the previous section). Moreover, the results contradicted the hypothesized effects, and were inconsistent among the variables themselves.

The results provide clear support for the importance of industry growth as a moderating factor relative to the relationships of four spatial myopia variables, media praise and the dependent variable, ROA change.

In summary, the relationship of these variables to ROA change appears to be complex and substantially influenced by context. In this study, industry growth was the focus of interaction effects; however, there are other contextual factors that could be important in understanding the nature of the relationships. This finding should encourage more in-depth evaluations of these variables, as discussed in future research opportunities at the end of this chapter.

Cognitive Variables

An objective of the study was to explore cognitive variables expected to contribute to or be associated with management myopia. Two cognitive variables (short-term orientation and focus orientation), developed for this study, were structured to capture the essence of the definitions for temporal myopia and spatial myopia. Internal defensive attribution was employed in the study as a cognitive measure of commitment to the status quo and to reflect a willingness to support sub-par investments in core strategies. Media praise was expected to contribute directly to hubris by CEOs.

This study provides empirical support for the relevance of focus orientation, but not in the expected direction. In high growth industries, focus orientation was significantly and negatively related to ROA change; in low growth industries, the relationship was not significant. A general negative relationship was hypothesized (H1), based on literature that has addressed the dangers of too much focus (e.g., the myopia of learning; lack of consideration of promising new business opportunities; inertial

tendencies, and irrational escalation of commitment). What is surprising is that the relationship was not significant in the lower growth industries. Scholars who have addressed the myopia of learning (e.g., Levinthal et. al., 1993; Miller, 1993) and life cycle theory (e.g., Porter, 1980) indicate that actions associated with spatial myopia should present a more serious problem in non-munificent (lower growth) environments. There are several possibilities that could explain this unanticipated result.

One is that the more munificent environment of the higher growth industries provides greater discretion to the dominant coalition and/or greater access to investment resources. In these conditions any type of myopia (temporal, spatial or hubris) can be expected to contribute to below average profitability, whereas executives in lower growth industries may be more restricted in pursuing more extreme strategies of any type. This was the argument made for hubris having a stronger relationship with value destruction in higher growth industries (H3), a condition that was supported by the results for media praise. This would also require a rethinking of the conditions that exist in lower growth (“mature”) industries, where myopia may be less likely to impact decisions than in high growth industries.

A second explanation for the absence of significant relationships for focus orientation in the low growth industry sample could be attributed to unique industry characteristics. For example, the general insurance industry had a large influence on this sample, with 19 of 48 lower growth industry companies (almost 40%). It is possible that regulation, risk concerns, and other specific industry conditions dampen the influence and effect of managerial orientation and bias in this industry.

For the variable, short-term orientation, there was no evidence of any relationship with change in sales or profitability. This is somewhat surprising in that the negative consequences of short-termism are frequently noted in financial and accounting literature. This lack of results for the short-term orientation measure may, however, be tempered by the fact none of the established TMT or financial measures selected for the construct, temporal myopia, yielded significant results. The minimal level of significant results for any of the temporal myopia variables suggest that the concept and approach to measurement may have to be reevaluated. Additionally, longer time frames and other contextual factors should be evaluated.

This study also incorporated a variation of defensive attribution, by capturing attributions specifically identifying and supporting investment in the current business model or core operations that were linked to sub-par performance. Defensive internal attribution was significantly and positively associated with above average ROA change in lower growth (but not higher growth) industries. This was contrary to the hypothesized negative effect (H4). The logic of the hypothesis is that internal attribution is associated with irrational escalation of commitment and inertial tendencies, which should have a greater detrimental impact in lower growth industries. An explanation of the contrary results may be found in the benefits of investing in higher risk projects in more competitive environments. This is the counter-argument to that of irrational escalation of the commitment – in other words, this result may be consistent with “rational” commitment even in the face of initial problems.

The hubris variable, media praise, developed by Hayward and Hambrick (1997), received strong support as a meaningful variable in significant relationships with both

sales change and ROA change. The positive relationship between media praise and sales change provides an interesting contrast to the negative effect relationship between media praise and ROA change in higher growth industries. The above average growth in sales is consistent with highly praised executives having higher levels of confidence and access to resources that can fuel sales growth – higher investment equals higher growth. The same access and confidence may also lead them to making errors in lower return investments, as evidenced by the below average change in ROA. This result is in concert with agency theory, learning theory, and “executive celebrity” literature.

Implications for Academic Researchers

There is abundant evidence, both practical and empirical, that managerial decision-making is constrained by human and organizational limitations. Various proxies have been employed to represent cognitions of senior level managers relative to baisses, strategic decision-making and firm outcomes. This study complements previous research by exploring CEO cognitions from letters to shareholders, and evaluating them in conjunction with measures and concepts that have acted as proxies for managerial cognitions (e.g., TMT characteristics), and factors that may indicate or contribute to myopic behavior (e.g., media praise and CEO relative pay).

Organizing cognitive limitations and managerial biases in terms of three forms of myopia provides a structured approach to assessing these limitations. The study operationalizes these constructs and provides a vehicle for evaluating several new cognitive variables in conjunction with existing variables whose outcomes indicate similarities to the three types of myopia.

This paper builds on the structure suggested by Levinthal and March's (1993) myopia of learning, by identifying, defining and operationalizing spatial myopia, temporal myopia and hubris. This is the first study that incorporates all three types of myopia, establishes three differentiated definitions and tests relationships with important firm performance outcomes.

The definitions for temporal and spatial myopia drew heavily on the conceptual work of Miller (2002) and Coff and Laverty (2001) to clearly differentiate the concepts. This study employed Hayward and Hambrick's (1997) definition and operationalization of hubris, which itself is based on the work of Roll's (1986) hubris hypothesis. This paper makes strides in developing the definitions, and linking the myopia concepts to multiple, relevant literature streams (e.g., strategic decision-making biases, financial myopia, short-termism, inertia, strategic persistence and escalation of commitment).

The operationalization of the three myopia constructs was not as successful as anticipated. The operationalizations of the constructs were built from theoretical definitions of the myopia types, and incorporated existing variables that reflected myopic behavior or acted as proxies for cognitive limits very similar in description to the myopias. This research approach selected variables from different "lenses", reflecting upper echelons, learning, cognitive and finance/accounting perspectives. Theoretical and practical arguments from these disparate perspectives suggested that these variables would act with some consistency relative to each other and to the outcomes of interest.

The lack of agreement among the sets of variables selected for each construct does not suggest, however, that they are not real or meaningful. Instead, it suggests that more work needs to be done in finding measures for managerial cognitions, including

bias and myopia. These results should encourage debate and discussion about the types of biases and myopias relevant to strategic processes and decisions, issues associated with different perspectives (lenses), and the difficult measurement issues associated with capturing managerial beliefs and intentions.

The study introduces four new variables derived from CEO statements that may be useful in assessing the thinking and intentions of the firm's primary leaders. Two variables, strategic focus orientation and defensive internal attribution, seek to capture the CEO's emphasis on the core business, maintaining and building upon the current business model. Under certain conditions this emphasis is critical to the success of the firm; however, under different conditions (or when taken to the extreme), this emphasis on the core business can lead to destructive and ineffective decision-making. The significant findings for interaction effects of these two variables with industry growth rates provides some evidence of their potential relationship with firm profitability, and their potential usefulness in exploring executive cognitions. The tension between "helpful heuristics" and destructive myopia is difficult to capture, especially in secondary data sources.

Two new variables developed to represent temporal myopia (short-term orientation and financial emphasis) taken from letters to shareholders yielded little empirical evidence of relevance. Only financial emphasis yielded a significant relationship, but only with one of three dependent variables, ROA change. Moreover, the relationship was contrary to that hypothesized. The overall dearth of significant relationships for the four temporal myopia variables, suggest the need to re-evaluate the concept, its measures and the measurement approach.

The study also incorporated established measures associated with inertia, commitment to the status quo, and escalation of commitment, which by definition are consistent with either spatial or temporal myopia. The expectation was that there would be strong correlations among these variables and the new variables discussed in the previous paragraphs. The findings do not support consistent relationships among either set of variables. This is particularly the case for TMT characteristics that have been associated with inertia, commitment to the status quo, irrational escalation of commitment and strategic persistence. The lack of agreement among these variables suggests that TMT characteristics may have multiple, and even contradictory effects on managerial decision-making and firm level outcomes. This study suggests that the use of TMT variables as proxies for managerial cognitions may be less direct than some of the literature suggests. Additionally, there is evidence that TMT characteristics may impact profitability differently than growth, an important tension in strategic decision-making.

The study also provides support for the continued study of media praise, representing hubris. The positive relationship with sales growth was balanced by a negative relationship to ROA change in high growth industries. This provides evidence that this variable could be important in explaining the tension between a CEO's ability to drive sales increases, but at the expense of profitability.

The second implication for researchers is support for contextual differences relative to industry growth rates. This was evident in the interaction results for spatial myopia and hubris variables in the ROA change regression analyses. These results support previous theory and research by reinforcing the contextual impact of industry

characteristics. The study contributes to this body of work by exploring the impact of cognitive factors on firm performance under different industry contexts.

The outcomes were not, however, consistent either among the variables believed to act as proxies for the constructs studied, nor consistent with relationships hypothesized. The relationships among structural, behavioral and cognitive variables appear to be complex and contextually influenced, indicating a need for more in-depth and fine-grained evaluations. The results of the study should encourage greater exploration of the three types of myopia, as well as other biases not captured by the three types of myopia.

A third implication for researchers is the differences noted between the relationships of the independent variables and two important firm outcome variables, sales change and ROA change. Firm tenure (spatial myopia) and media praise (hubris) yielded significant relationships with sales change, while their relationships with ROA change in higher and lower growth industries were non-significant or produced a significant, opposite result. This suggests a need to evaluate multiple outcome variables in strategic management research and to explore contradictory outcomes relative to the form of outcome variable employed to represent firm performance or value creation/destruction. When and why do firms increase sales but suffer in profitability? To what extent do is there a trade-off between growth and profitability? To what extent is this trade-off driven by self-interest as contrasted with decision error?

The contradictory results also suggest that some of the key independent variables should be tested in their relationships to intermediate factors, such as commitment to the

status quo, strategic persistence, acquisition performance, turnaround efforts, and strategic change.

Implications for Practitioners

The lack of clear agreement among the sets of spatial and temporal myopia variables must be taken into consideration before suggesting implications for practitioners. What does it really mean when average tenure in low and high growth industries relate to future sales growth, while tenure homogeneity may contribute to the opposite effect? Why does commitment to the core business (focus orientation) coincide with below average change in profit return in higher growth industries, but not lower growth?

As noted in the future research section below, additional evaluation of these relationships is essential before drawing conclusions for executives. That research should explore intermediate actions, investigate why TMT characteristics and cognitive attitudes do not coincide, and dig deeper into the relationships.

On the other hand, the investigation of hubris, particularly as represented by the media praise variable supports earlier studies that high-light the potential negative impact of over-confidence at the top of the organization (e.g., Hayward et al., 1997). In this study, hubris was related to higher than average growth overall, but lower than average ROA in higher growth industries. The message for senior executives and boards of directors is that executive celebrity may actually contribute to higher risk investments, exposing the firm to disappointing results. CEOs who are considered “stars” may over-reach the capabilities of their organizations, and take on sub-optimal expansion. Boards

may be reluctant to reign-in, or question the initiatives of a highly praised, powerful CEOs – when that may be the most critical service they may offer to the firm for which they are responsible.

Limitations

Several important limitations of the research and findings are discussed. First, the use of secondary data to represent management beliefs and biases creates difficulties in assuring that the measures chosen actually represent the constructs intended. This is particularly challenging in identifying variables that represent a potentially related but distinct set of myopia variables. For example, TMT characteristics have been employed as proxies for cognitive attitudes of senior managers, but have also been criticized for lack of precision and potential for ambiguity (Carpenter, Geletkanycz, & Sanders, 2004). While there has been extensive study of TMT tenure and homogeneity linked to limitations in strategic decision-making, the research provides conflicting evidence. Moreover, how these limitations, represented by TMT characteristics, act in firm level outcomes is even more difficult to identify.

This study attempts to discover the cognitive states of senior executives by analyzing statements by the CEO in letters to shareholders. One criticism of previous uses of letters to shareholders is that they are screened and structured by media experts. While this cannot be denied, the importance of the annual report to the CEO, and the substantial difference in strategic emphasis and attributions observed in the letters supports their use as an indicator of CEO's beliefs and attitudes. The fact that it is

reviewed and polished may dampen the biases that are the focus of this research; however, it still provides insight to the thinking of the CEO and top management.

A related issue is that this research is not sufficiently sensitive to capture the differences between beneficial, established beliefs and attitudes versus the detrimental influence of myopia. When does it switch from being positive to negative? What is the impact on growth versus profitability? Although the identification of industry growth rate as a moderating factor provides some insight into the issue of contextual impact, it is just a beginning.

A second limitation of the study is the modest statistical power associated with the number of firms included in the study. While the ratio of variables to cases was adequate for the direct effects analyses (about 10:1), the number of firms within some of the industries was less than ideal (three industries included six or fewer firms). Moreover, the moderation analysis may not have found interactions that actually existed because of the limited sample size. A review of the higher growth and lower growth industries indicated some differences in results that were not identified in the regression analysis of interaction terms.

A third limitation is in the “distance” between the primary independent variables (representing the three myopias) and the outcome variables. It does not address how the variables act on decision-making and type of strategic decisions. An exploration of their impact on strategic persistence, restructuring, expansion within the core business concept, and other important intermediate actions would contribute substantially to this exploration of the concepts. There also may be contextual factors, not identified in this study, which impact the relationships as well.

Future Research

There is clearly a need for and potential benefit of additional research that would build on the exploratory nature of this study. The results also suggest the need for investigation of contradictory findings, and inconsistencies in the relationships among variables expected to represent similar concepts or contribute to similar outcomes.

The first area of future research is to address the operationalization of the three concepts of myopia. While this study represents a step toward capturing cognitive orientations of executives in their own statements and in media praise, there are a number of alternative approaches or enhancements possible. One enhancement is to re-evaluate the direct cognitive measures of spatial myopia and temporal myopia.

The most direct measure of spatial myopia employed in this study is focus orientation. A detailed evaluation of the focus statements in letters to shareholders indicates that the variable includes two types of focus, inertial strategic persistence and escalation of commitment. The nature of strategic actions and firm outcomes can be expected to be quite different between companies that pursue conservative strategies and those that invest heavily in the current business model. Inertial, low risk persistence may be more closely associated with the temporal myopia concept. A strategy that invests heavily in the current business model and core capabilities may provide clearer differences between these two types of myopia. Separating the measurement into two types of focus could increase the explanatory power.

Splitting the spatial myopia concept may also provide an alternative to capturing temporal myopia, in that executives and firms that evidence inertial tendencies are likely

to take more conservative financial actions and restrict investment even in core capabilities and strategies.

Additionally, survey and interview data may be more meaningful and relevant in identifying the extremes inherent in the definitions of the three types of myopia. This is the approach that Hiller and Hambrick (2005) suggest in a recent conceptual article, where they propose employing a self-evaluation instrument (core self-evaluation or CSE, which incorporates self-esteem, self-efficacy, locus of control, and emotional stability) to capture the hubris concept in the cognitions of senior executives. The complexity of this measure is further evidence of the difficulty in capturing cognitive orientations of senior executives, and it addresses only one of the three myopias of interest. Yet, developing and testing primary research data directly from executives is essential in advancing the disciplines ability to relate cognitive states to firm level strategies and outcomes.

A second critical area of research is to investigate the current variables and evaluate additional ones in relationship to intermediate outcomes, such as strategic persistence, inertia, irrational escalation of commitment and restructuring processes. This may provide a better understanding of how cognitive concepts act on specific types of strategic decisions, and may help explain the inconsistent or contradictory relationships found in this study. It is not fully clear that the measures employed here really represent myopia concepts. This exploration should be considered a beginning point for further development and understanding of myopia, and consider whether or not there are other types of biases that are not captured in the current approach to the constructs.

A third area for future research is to expand the target sample to include industries that experience different patterns of growth, and to integrate other measures of

munificence in the research. This study was restricted to industries that experienced a consistent, but not extreme, level of growth. The majority of the firms in the sample are from service industries, with limited manufacturing representation. Moreover, the sample was restricted to industries with consistent growth. Firms from industries experiencing decline or very high growth would provide an even greater contrast to that undertaken in the current study. Additionally, the moderation variable structure could be expanded to incorporate other measures of munificence (dynamism & complexity). Increasing the number and type of industries would also help overcome some of the power issues identified in the discussions of limitations.

A fourth area of study is to employ a more fine-grained review and analysis of companies that have experienced value destruction. What were the attitudes presented by the CEO, and how did it change over time, as strategic direction was altered and adjusted? This information would be invaluable in providing complementary, qualitative information on the relationship among CEO statements, TMT characteristics and firm behavior at a more detailed level that could be compared to empirical results. Qualitative information would provide insight into conditions that lead to value destruction, and could provide important information in developing measures and research instruments in a survey/interview structure.

Finally, this study focused on firm outcomes and myopia, but did not address the potential causes of managerial beliefs and attitudes that are expressed in letters to shareholders, and represented by external articles. To what extent do firm and personal experiences influence the strategic emphasis of the CEO, and the kind of media attention

they receive? How do executive beliefs and intentions change over time, and what is the result of those changes relative to firm level strategy and performance?

Conclusions

There is abundant evidence in a wide range of academic and practical management literature that executives can become short-sighted or myopic in the way they view the world. This study draws substantially on learning and cognitive literature, which associates management bias and myopia with decision-making errors, such as inertia, irrational escalation of commitment, arrogance and trading the future for the short-term. The basic hypothesis tested is that each of the three forms of management myopia will contribute to value destruction (lower performance). Moreover, the strategic management literature suggests that conditions (e.g., Porter 1980, 1985), and, therefore, managerial cognitions (and biases) will vary across industries in different growth stages.

Although this study did not find consistent support for the hypotheses developed from a careful and thorough review of a broad spectrum of relevant literature, the results provide insight into important relationships, and suggest opportunities for future research.

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VITA

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Candidate for the Degree of

Doctor of Philosophy

Thesis: A MATTER OF STRATEGIC MIS-FIT: MANAGEMENT MYOPIA AND
VALUE DESTRUCTION

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Scope and Method of Study: The purpose of this study was to examine relationships between three forms of management myopia (spatial, temporal and hubris) and value destruction, incorporating industry context as a moderating influence. Spatial myopia, temporal myopia and hubris are operationalized in terms of variables from three research perspectives – managerial cognitions, top management team (TMT) characteristics, and financial behavior. Value destruction was measured in terms of below average sales, net income and return-on-asset changes. The study involved 103 firms from 10 different industries. Approximately half of the firms were from higher growth industries and half from lower growth industries. Relationships were evaluated with regression analysis.

Findings and Conclusions: The results of the study support the relevance of TMT characteristics and managerial cognitions; however, variables from the different research perspectives yielded inconsistent and even conflicting relationships with firm outcome variables. The lack of agreement suggests that the influence of TMT characteristics and managerial cognitions may be more complex, and less direct than theory suggests. Consistent with theory, the moderating influence of industry growth rate was supported. Relationships between a number of TMT and cognitive variables and ROA change differed between high growth and low growth industries. The results also indicate that hubris (e.g., media praise) may encourage higher sales growth, but depress profitability. This finding is consistent with the results of prior studies addressing value-destroying strategic decisions of highly praised CEOs (e.g., Hayward & Hambrick, 1997).

ADVISOR'S APPROVAL Margaret White