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MATCHING INTERNAL GOVERNANCE MECHANISMS TO STRATEGIC PROCESS: AN AGENCY THEORY PERSPECTIVE ON IMPLEMENTING STRATEGIC DECISIONS

by

Jonathan T. Down

A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

University of Washington

1998

Approved by 

~~Chairperson of Supervisory~~ Committee

Program Authorized
to Offer Degree School of Business Administration

Date February 9, 1998

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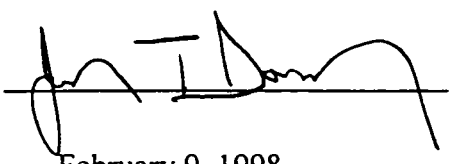
Signature 

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Abstract

MATCHING INTERNAL GOVERNANCE MECHANISMS TO STRATEGIC PROCESS: AN AGENCY THEORY PERSPECTIVE ON IMPLEMENTING STRATEGIC DECISIONS

by Jonathan T. Down

Chairperson of the Supervisory Committee
Professor Charles W. L. Hill
Department of Management and Organization

This dissertation describes theories, develops ideas and examines evidence relating to how strategy implementation is managed in business firms.

The relationship between an organization's strategic process orientation, its strategy implementation governance mechanisms, and its performance provide the central focus of my research. A contingency framework is developed which yields hypotheses predicting performance depending on the fit between the strategic process of the organization and the tools the organization uses to manage the implementation of its strategies.

Cross-sectional survey methodology is used to gather data on a sample of organizations. The survey assesses the strategic process orientation of each organization, the strategy implementation governance mechanisms used by each organization and the performance of each organization. The data are reduced using predicted item to construct loadings which are confirmed with factor analysis. Hypotheses testing and general data analysis are accomplished with moderated regression analysis.

The evidence does not support the central hypotheses of this research that the predicted fit between an organization's strategic management process and its management methods is

an important determinant of firm performance. However, many useful findings and insights into the management of strategies in organizations have emerged. The primary finding is that successful firms operate with a deliberate strategic process and employ interest aligning management methods. The implications of the findings are discussed along with limitations of the study and suggestions for future related research.

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ACKNOWLEDGMENTS

The author wishes to thank those faculty without whose guidance and encouragement this research would have been impossible. In particular I appreciate the help of Charles Hill who has chaired my committee, and the active participation of John Butler and Bud Saxberg, reading committee members. Also appreciated, is the time and effort of Dick Startz, who served dual roles as a helpful and supporting graduate school representative on my committee as well as my outside representative from the economics department.

Other faculty who indirectly played a role in helping me through this project are those people who taught doctoral courses and seminars which provided me a foundation of knowledge on which to build this dissertation. This people include Bill Scott, Martin Schulz, Gary Hansen, Andy Wicks, Tom Jones, Bob Jacobson, Pete Frost, Terry Mitchell, Tom Lee, Dick Startz, John Butler, and Charles Hill.

Lastly, I would also like to acknowledge the support of the membership of the Harvard Business School Club of Puget Sound for their willingness to participate in this research.

DEDICATION

I dedicate this dissertation to my family. To my wife Nada, who not only offered encouragement and patience, but also ideas for getting it done. To my children Monica and Emily, who are proud of their dad and happy that the Disneyland trip is on. And to my parents Derek and Heather, for planting the seeds that allowed me to conceive of a Ph.D. as a possible and fulfilling goal.

CHAPTER 1: INTRODUCTION

Some academic work and business management press have been dedicated to strategy implementation issues (Ansoff, 1984; Birnbaum, 1990; Covin, Slevin & Schultz, 1994; Dalziel & Schoonover, 1988; Ellis, 1988; Hrebiniak & Joyce, 1984; Judson, 1990; Kerr & Jackofsky, 1989; Nutt, 1989; Pinto & Prescott, 1990; Reger, Gustafuson, Demarie, & Mullane, 1994; Simons, 1995; Skivington & Daft, 1991; Stonich, 1982). However, the topic remains underdeveloped relative to other issues in the field of strategic management. Bob Simons typifies the introductory comments of many authors when he writes:

> Over the past two decades, management theorists and economists have devoted a great deal of energy to understanding strategy formation in competitive markets. They have developed techniques for analyzing the relative economic advantage of differentiated product and service offerings, but they have paid relatively little attention to understanding how to implement and control strategies. Yet the best-laid plans are worthless unless business managers understand the tools and techniques of strategy implementation (Simons, 1995: 3).

For additional examples of authors suggesting insufficient consideration of implementation issues in the field of strategic management see Birnbaum (1990: 4,195), Ellis (1988: xiii), Judson (1990: vii), Hrebiniak & Joyce (1984: 2), Kerr & Jackofsky (1989: 167), Skivington & Daft (1991: 53), and Stonich (1982: xiii). Strategy implementation has had greater prevalence in the fields of managerial accounting (Anthony & Govindarajan, 1995; Mariciariello & Kirby, 1994) and organization theory

(Barnard, 1938; Perrow, 1986; Ouchi, 1979; Burns & Stalker, 1961; Daft, 1995; Robey & Sales, 1996).

It is not surprising that formulation research has taken priority over implementation research in the field of strategic management. This has generally been the case throughout the history of strategic management. The origins of the field can be traced back to our roots in business policy, where policy formulation was seen as the central role of top management. Students of management were challenged with questions on *what* should the business do rather than *how* should business be done. Philip Arben's recent article documents the evolution of policy textbooks and course content which reflects this formulation over implementation emphasis (1997). Topics such as "control," "follow-up" and "day-to-day administrative problems" were only included in new editions of this literature.

This emphasis continues today. In a survey of six current strategic management textbooks, it was found that in every case the number of chapters devoted to formulation issues is at least twice the number of chapters devoted to implementation issues. Obviously this evidence begs the question of why is this the case and would a more balanced approach be preferred?

It is proper and desired that formulation issues are at the center of the field. The challenge of developing appropriate strategic direction should continue to be clearly recognized as within the jurisdiction of strategic management. The fact that strategy formulation topics are universally recognized as belonging to the field is important in establishing its position and credibility in academic environments. Sole ownership of strategy implementation issues would simply not be accepted by other fields where they

do have, and have had, significant prominence. Systems and structure issues are important, not only in the field of strategic management, but also in the fields of organization theory, organization behavior, human resource management, accounting, and finance.

Having said it is right that strategy formulation issues take a more prominent position than implementation issues, why is this research focused on improving how strategies become reality? The author believes that an important contribution can be made in improving our understanding of the interface between formulation and implementation. To that end, the general objective of this dissertation is to augment the literature in the field of strategic management on how the design of strategy implementation systems relates to strategy formulation.

Generally, strategy formulation involves setting goals and devising top level plans to achieve these goals. Strategy implementation is the collection of actions taken by members of the organization that result in significant changes in support of the organization's goals and strategies. Examples of these changes would include outcomes such as changes in how the company is organized, changes in how it competes, new means of production of goods and services, and changes in the types of products it offers and the markets it competes in.

For the purposes of this research the distinction is made between strategy formulation and strategy implementation by defining the goal setting and plan development activities lead by the organization's top management team as strategy formulation and the actions taken toward accomplishing the formulated goals by middle and lower level management and employees as strategy implementation.

For example, the strategic decision by top management of an industrial organization to diversify into consumer markets is an outcome of a strategy formulation process, whereas the detailed plans and actions that actually result in the fulfillment of the goal is strategy implementation.

A variety of methods are used by organizations to control and manage the process of implementing their strategies. Some organizations use tight, rigid methods to closely control the activities of those involved in implementing strategies to a predetermined course of action. Whereas, others allow greater decision making authority and flexibility on the part of the strategy implementers. In broad terms, this dissertation surveys the methods, or management tools, that organizations *are actually* using to manage the implementation of their strategies and provides insight into what tools they *ought to be* using for organizational effectiveness.

In order to establish hypotheses prescribing the type of management methods for organizations, a contingency model built on agency theory ideas is developed. The variables of interest in this model are strategy management methods, strategic process, and performance, all assessed at the organization level.

Strategic process refers to the activity of formulating and developing strategy. Different companies have different strategic processes, varying from deliberate to emergent (Mintzberg, 1973; 1987; 1994; Mintzberg & McHugh, 1985). A deliberate strategic process is one in which all strategies that are actually implemented are clearly laid out in formal strategic plans. Whereas, an emergent strategic process is one where the strategies that are actually implemented were never planned or intended, either

because no strategic planning was done or the intended strategy was displaced by another strategy which emerged over time.

Now that the nature of this dissertation and the primary variables of study have generally been described, the specific research question of interest may be stated as:

> Does empirical evidence support agency theory arguments suggesting the importance of fit between an organization's strategic process orientation and the management tools used by the organization to manage the implementation of its strategies, in order to optimize performance?

Pictorially this research question may be represented as shown in Figure 1.

In addition to obvious important academic implications (research and pedagogical), this research question has clear practical implications for "real world" managers involved in designing organization systems. It would be useful for firm executives to understand the relationship between strategic process orientation and strategy implementation tools - therefore a further objective is to provide practical counsel to managers on whether or not fit between these variables is important, and if so, how it should be arranged.

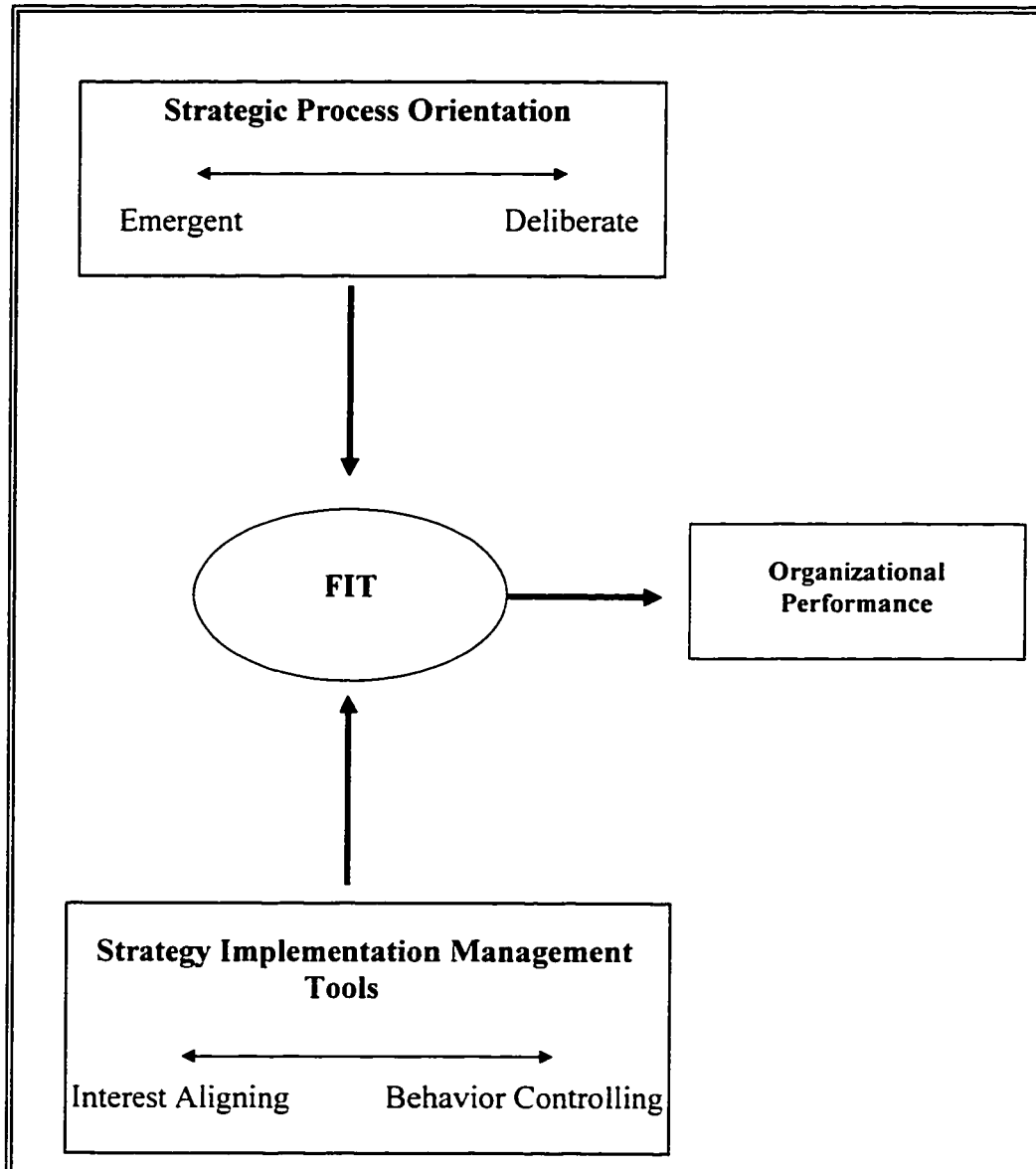

Figure 1. Dissertation Model Framework

CHAPTER 2: LITERATURE REVIEW

The model developed in this dissertation research is built on contingency theory and agency theory ideas. These two theoretical areas are discussed below.

Contingency Theory

Contingency theory suggests the effectiveness of the organization is contingent upon the goodness of fit between important structural and contextual variables (Drazin & Van de Ven, 1985; Lawrence & Lorsch, 1967; Milgrom & Roberts, 1995; Pennings, 1992; Van de Ven & Drazin, 1985). In the case of this research, the argument is made that distinctly different management tools are required in order to realize the economic benefits associated with different strategic process orientations. The choice of management tools must *fit* the strategic process orientation. Using agency theory, I will develop the contingency argument that firms attempting to realize the benefits of an emergent strategic process require strategy implementation management tools that emphasize alignment of interests between top management and others lower in the organization. In contrast, firms attempting to realize the benefits of a deliberate strategic process need management methods that emphasize controlling and monitoring the behavior of those mid and low level people in the organization who are doing the strategy implementation.

In a general way, contingency theory applied to leadership and management of organizations has been around for thousands of years. A strong case could be made that the ancient Chinese military strategist Sun Tzu is the "father" of contingency theory. He

was writing his ideas on military strategy about 350 years BC, suggesting that the appropriate choice of strategic action should only be made after you "know the enemy and know yourself (Griffith, 1971: 84)." He also discusses the importance of understanding the "terrain" (environment). His ideas are summed up nicely in the following passage from his chapter on weaknesses and strengths:

> 26. Therefore, when I have won a victory I do not repeat my tactics but respond to circumstances in an infinite variety of ways.
> 27. Now an army may be likened to water, for just as flowing water avoids the heights and hastens to the lowlands, so an army avoids strength and strikes weakness.
> 28. And as water shapes its flow in accordance with the ground, so an army manages its victory in accordance with the situation of the enemy.
> 29. And as water has no constant form, there are in war no constant conditions.
> 30. Thus, one able to gain the victory by modifying his tactics in accordance with the enemy situation may be said to be divine (Griffith, 1971: 100-101).

It is only after doing this analysis that the appropriate strategy may be chosen to fit with the unique situation in which the organization exists.

Early modern contingency arguments were developed and presented by Lawrence and Lorsch nearly 30 years ago in their management classic, Organization and Environment: Managing Differentiation and Integration (1967). They provided case study empirical evidence to support contingency theory ideas that moved the field of organization theory away from the search for universal management principles toward questions surrounding how firms should organize given their unique environment:

> In essence, much of the current organizational literature is directed at a fundamental question quite different from our own. Instead of seeking relationships between organizational states and processes and external environmental demands, as we are doing, most organizational research and theory has implicitly, if not explicitly, focused on *the one best way to organize in all situations.* We believe that seeking an answer to our question -- What kind of organization does it take to deal with different environmental conditions? -- may help to bring some order out of the current confusion about organization theory (Lawrence & Lorsch, 1967: 3).

More recently, leading scholars have called for a fresh look at the importance to organizations for their internal systems to complement each other for effective and long lasting organizational performance. In his recent Harvard Business Review article, Michael Porter expressed his high regard for the contingency theory idea of fit:

> The importance of fit among functional policies is one of the oldest ideas in strategy. Gradually, however, it has been supplanted on the management agenda. Rather than seeing the company as a whole, managers have turned to "core" competencies, "critical" resources, and "key" success factors. In fact, fit is a far more central component of competitive advantage than most realize (Porter, 1996: 70).

Agency Theory

A fundamental idea of agency theory is that of an agency relationship where two parties voluntarily commit to an agreement in which the agent will work in the interests of the principal (Fama, 1980; Demsetz, 1983).

While most research on agency theory has focused on the analysis of agency relationships and arrangements between the owners (principals) and top management (agents) of corporations (Fama & Jensen, 1983; Berle & Means, 1932), the theory is applicable to different types of organizations and to different levels within organizations. In their defining article on agency theory Jensen and Meckling discuss its generality:

> The problem of inducing an "agent" to behave as if he were maximizing the "principal's" welfare is quite general. It exists in all organizations and in all cooperative efforts - at every level of management in firms, in universities, in mutual companies, in cooperatives, in governmental authorities and bureaus, in unions, and in relationships normally classified as agency relationships such as are common in the performing arts and the market for real estate (Jensen & Meckling 1976: 309).

Even though organizational scholars have been writing about agency theory for only a relatively short time, other writers have unknowingly described agency theory much earlier. A wonderfully rich example of an agency relationship (and agency problems) can be found in classic Russian literature written over a hundred years ago. In Leo Tolstoy's epic, Anna Karenina, he develops a character named Levin, who is a member of the land owning gentry. Levin is a good man and spends a great deal of time contemplating how arrangements in society could be improved such that all members of society are better off. An observation he makes that completely baffles him, is when he secretly spies his farm workers taking shortcuts that significantly reduce the output of the farm. It seems to him so obvious that if his workers put forth a minimal amount of extra effort and care, they could have a significant impact on the productivity of the farm. This situation perplexes him until one day when "the light goes on" as he realizes:

> It was for his interests (the farm owner Levin) that every labourer should work as hard as possible, and that while doing so he should keep his wits about him, so as to try not to break the winnowing-machines, the horse-rakes, the thrashing-machines, that he should attend to what he was doing. What the labourer wanted was to work as pleasantly as possible, with rests, and above all carelessly and heedlessly, without thinking. All this happened, not because anyone felt ill-will to Levin or his farm; on the contrary, he knew that they liked him, thought him a simple gentlemen (their highest praise); but it happened simply because all they wanted was to work merrily and carelessly, and his interests were not only remote and incomprehensible to them, but fatally opposed to their own (Tolstoy, 1966: 356).

This example is particularly remarkable in the light of the fact that Tolstoy wrote Anna Karenina in the 1870s.

A more abstract example of the generalizability of agency theory is the idea of compressing the roles of principal and agent into a single individual. In this abstraction, the principal is the source of rational action plans that would serve the best interest of the person, whereas, the agent controls what actions are actually taken. While most of us don't think of this type of situation in agency theory terms, in effect we create governance mechanisms to ensure our "agent" self does indeed act in the interest of our "principal" self. For instance, people often set rewards for themselves for acting out their "rational" plans rather than engaging in unproductive or harmful behavior (e.g. the promise to oneself the reward of watching a basketball game later today if one spends two more hours writing).

An enlightening illustration of this idea can also be found in classic literature. In The Odyssey, Ulysses knows his ship must sail past the enchanting cries of the Sirens who will try to call him to his downfall. Concerned that his internal agent will decide to follow the Sirens' calls, contrary to the interests of his rational principal, he arranges for his crew to implement a "binding" governance mechanism:

> but you must bind me hard and fast, so that I cannot stir from the spot where you will stand me...and if I beg you to release me, you must tighten and add to my bonds (Elster, 1979: 36).

Prior to any agreement or arrangement, agency theory assumes the principal and agent may have divergent interests, such that the agent does not *naturally* want to give his or her all for the interests of the principal, but would rather pursue his or her own interests as illustrated in the above examples, i.e. behave opportunistically. However, this divergence of interests will only lead to problems if the mechanisms designed to govern the relationship do not adequately deal with it. Therefore, agency problems manifest themselves when *both* of the following conditions occur:

1. The agent's interests are not in alignment with the principal's interests, therefore the agent would like to behave opportunistically, and,

2. The level of control and monitoring capability which the principal has over the agent is low such that the agent can "get away" with opportunistic behavior.

To avoid opportunistic behavior, it is important to structure the relationship between the principal and agent so that the interests of the agent are brought in line with those of the principal *or* in a way that allows the principal to closely monitor and control the behavior of the agent so that any opportunistic behavior will be immediately discovered and a penalty extracted from the agent. In other words, the solution to the agency problem is to *either* provide incentives so the agent's interests are aligned with the principal *or* set up the means to monitor and control the behavior of the agent so that even though the agent would like to behave opportunistically because he or she has different interests, he or she cannot without being discovered and paying a penalty, *or both*.

In the context of strategy implementation, an agency relationship exists between top management (the principals), who were described earlier as the "strategy setters," and those lower in the organization who are the "strategy implementers" (the agents). In this case, the principals delegate authority to their agents who are responsible for implementing the organization's strategies. It is the management systems (or tools or methods) which provide structure to the relationship designed to preclude or minimize agency problems. In agency theory parlance these management tools are known as "governance mechanisms." In order to explicitly convey the idea that the strategy implementation management tools discussed in this research are mechanisms used to govern relationships inside the organization, they are referred to as *internal governance mechanisms* in this dissertation. The agency relationship in the context of strategy implementation is shown in Figure 2.

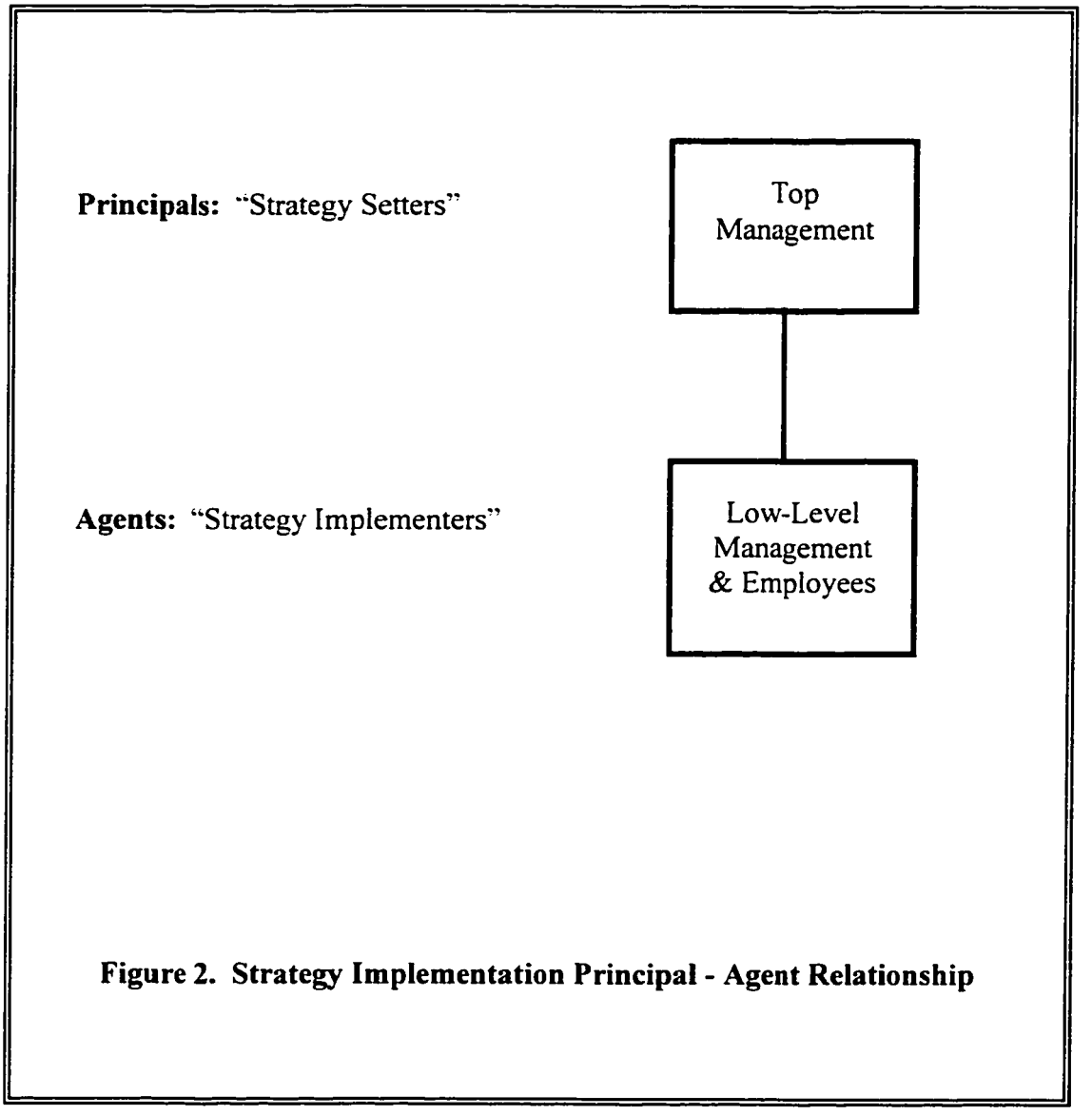

Figure 2. Strategy Implementation Principal - Agent Relationship

Agency problems could manifest themselves in several ways in the strategy setter - strategy implementer relationship described here. Strategy implementing managers could simply shirk their job responsibilities and not put forth a reasonable effort. Alternatively, they may implement changes resulting in benefits coming directly to them at the expense of the organization, such as projects increasing their power or status.

This application of agency theory to a supervisor - subordinate relationship within an organizational setting is not new. Research analyzing principal-agent relationships in the case of multiple agents (subordinates) has been done in the field of economics using mathematical models to examine the structure of incentives within an organization to overcome the problem of opportunistic behavior (Holmstrom, 1982; Gaynor & Kleindorfer, 1987; Beckman, 1987). These papers develop interesting, but difficult to test models that draw on a narrow selection of management tools (financial incentives) to serve as governance mechanisms designed to preclude the opportunistic behavior. The contribution of this research is to report on the broader range of governance mechanisms actually being used in organizations and to develop and test theory with greater generalizability, practicality and usefulness with respect to organizational management systems.

CHAPTER 3: THEORETICAL MODEL AND HYPOTHESES

Strategic Process

The idea of firms having different strategic process persuasions, consisting of deliberate types and emergent types, comes from the work of Henry Mintzberg (1973; 1978; 1987; 1994; Mintzberg & McHugh, 1985). A deliberate strategy is one in which intended strategies are indeed realized. And an emergent strategy is one where the realized strategies were never intended, either because no strategy was intended or the intended strategy was displaced by a strategy which emerged over time (Mintzberg, 1978: 945). Extending these ideas leads to the concept of a strategic process continuum, where the strategic process for an organization could vary from completely emergent to completely deliberate, or any mix in between.

Robert Burgelman has also written a great deal on strategic process (1983; 1991; 1994; Burgelman & Grove, 1996). A major contribution of both authors is to break the paradigm that all strategic processes *should* be deliberate, rational and systematic. Through rigorous case studies they illuminate the value of an emergent strategic process. Both these authors describe the importance for certain types of organizations to have strategic processes that allow new strategies to emerge and the organizational flexibility to adapt to, and to adopt, these strategies. However, both authors also recognize the importance of having some mix in an organization's strategic process. Mintzberg writes:

> In practice, of course, all strategy making walks on two feet, one deliberate, the other emergent. For just as purely deliberate strategy

> making precludes learning, so purely emergent strategy making precludes control. Pushed to the limit, neither approach makes much sense (Mintzberg, 1987: 69).

And Burgelman suggests:

> The internal selection environment that we are describing is one in which there are both strong bottom-up and top-down forces. If the company is dominated by the top-down force, chances are that it will efficiently march in lockstep toward an important strategic intent, but the strategic intent better continue to be the right one. If the bottom-up force dominates, chances are that the company will drift aimlessly from one limited strategic intent to another and dissipate its resources (Burgelman & Grove, 1996: 23).

Neither author explicitly claims that competitive environment is the sole determinant of strategic process type. However, both clearly suggest that it is more important that firms have more strategic flexibility in rapidly changing, dynamic environments than in stable, predictable environments. Generally, firms that compete in rapidly changing, dynamic environments should embody a more emergent process type in order to recognize and quickly confront the opportunities and threats that frequently, and unpredictably, present themselves. Whereas, in more stable and predictable competitive environments an organization's strategic process is likely to be deliberate, where greater importance is placed on the formal strategy development process and intended strategies do indeed get implemented.

The degree to which the organization relies on intended versus emergent strategies has significant implications for how those strategies will be most effectively realized. In all cases it is generally the role of top management to set, or at least sign-off on, the strategy and the role of other members lower in the organization to do the bulk of the implementation. However, while these different groups involved in strategy setting and implementation maintain their roles, the relationships between the groups change with different strategic process orientations.

Relationships within firms oriented to an *emergent* strategic process type will be characterized by higher levels of uncertainty surrounding the specific behaviors of the middle and lower level managers implementing the strategy that will be best for the organization. Whereas, *deliberate* strategic process type organizations more closely plan the actions of the middle and lower level managers and therefore top management have more knowledge about the way they would like their "implementers" to behave.

Kathy Eisenhardt draws on the earlier work of March and Simon (1958) in coming up with a definition of *programmability* as "the degree to which appropriate behavior by the agent can be specified in advance" (1989: 62). Using this definition, it can be said that strategy implementation in emergent strategic process type organizations is characterized by lower behavior programmability than relationships in organizations with a more deliberate strategic process orientation.

In addition to task programmability, other characteristics to consider in this strategy implementation agency relationship include delegation of authority, information flow requirements, uncertainty, risk sharing, and the ability to monitor behavior. Table 1

characterizes the agency relationships that exist at the opposite ends of the strategic process orientation spectrum.

Table 1. Agency Relationship Characteristics for Different Strategic Process Orientations

Strategic Process Orientation	
EMERGENT ⟷	DELIBERATE
low task programmability	high task programmability
difficult to monitor	easy to monitor
broad decision boundaries	narrow decision boundaries
principals need information on opportunities and threats	principals need information on progress to plan
general behavior guidelines	specific behavior directions
high uncertainty	low uncertainty
greater delegation of decision making authority	less delegation of decision making authority
greater need for simultaneous information flows	less need for simultaneous information flows

As noted in the previous chapter, agency problems of opportunistic behavior by the agent are a concern in agency relationships. This problem can be solved through the use of mechanisms to govern the relationship between principal and agent that either control and monitor the agent's behavior or align the interests of the agent with those of the principal, or both. Having now established that major characteristics of the strategy implementation agency relationship will vary depending on the type of strategic process subscribed to by the organization, it is appropriate to consider the question of association between type of strategic process and the choice of agency problem solution.

The implications of how these different strategy implementation relationships should be governed, or managed, are significant. Because of the high uncertainty associated with low task programmability in emergent strategy environments, the availability and effectiveness of mechanisms designed to control and monitor is limited, therefore in this case agency problem solutions need to emphasize alignment of the "strategy implementer's" interests with the interests of the "strategy setter." In the case of deliberate strategic process type firms, with higher levels of certainty about the agent's behavior, the use of controlling and monitoring mechanisms is available as a viable option and may indeed be emphasized as the primary solution to the agency problem.

While interest aligning solutions are available for all types of strategic process environments, emphasizing them over controlling mechanisms in a deliberate strategic process environment would result in a sub-optimal solution due to poor control of the agent to the intended strategy – even though the agent may have internalized the principal's interests.

Internal Governance Mechanisms – Solution to the Agency Problem

As discussed earlier, internal governance mechanisms are the management methods used to control the transformation of strategic ideas into reality and to preclude agency problems. Examples of common management methods include the use of budgets, rules, management supervision, reliance on trust, activity reports, performance measures, reward systems, etc. For a more detailed discussion of specific management methods please see the survey development section of the next chapter on methodology. The important point to make here is that a variety of management methods are available and used by different organizations, some of which emphasize alignment of individual interests to the organization's interests and others which emphasize control and monitoring of the individual members of the organization.

The idea of grouping management methods into category types is not new. In his 1979 paper William Ouchi raised and addressed the question, "What are the mechanisms through which an organization can be managed so that it moves toward its objectives?" (1979: 833). His analysis resulted in the development of three groups of mechanisms: markets, bureaucracies, and clans. He also notes that no organization would actually rely solely on any one type of management system, rather, "real organizations will each contain some features of each of the modes of control" (1979: 840). Finally, he suggests that the challenge then is to determine the most suitable organization design based on the social and information characteristics of the work being done.

Ouchi's categories of management methods are related to the categories created in this research. In this case, the model requires that mechanisms be grouped into categories

of "monitoring and controlling" or "interest aligning." Ouchi's bureaucracies category matches with "monitoring and controlling", and both his markets and clans groupings would be included in the "interest aligning" category here. Ouchi describes how internalized commitment is necessary for both market and clan controls due to their limited capabilities to monitor and police behavior (1979).

Distinguishing Between Behavior Based and Interest Aligning Governance Mechanisms

On one level it may be said that the objective of all governance mechanisms is to get the agent to act in the best interest of the principal, that is, in such a way that results in benefit for the principal. For example, a sales commission based compensation governance mechanism creates a situation where the agent takes actions to create sales in order earn a commission and is thereby acting in the best interest of the principal. However, the case of a behavior controlling governance mechanism that requires fixed working hours regulated by a time clock also creates a situation where the agent takes actions to adhere to the work hour rules in order to earn his or her wages without penalty and is thereby acting in the best interest of the principal. Therefore, all governance mechanisms are, in the limit, interest aligning.

While both of the above examples are indeed ultimately interest aligning, a distinction between behavior controlling and interest aligning can be made along the lines of the previous discussion and is obviously important in any attempt to operationalize the theory developed here. This distinction should be made based on the following question: "What is the primary basis for getting to the ultimate condition of interest alignment?" In other words, does the governance mechanism tie the reward (or penalty) that accrues to

the agent directly to the agent's behavior or not? If it does, then it is a behavior based governance mechanism, and if not, it is an interest aligning governance mechanism. In the sales commission compensation case no constraints are placed on the agent's behavior, the governance mechanism allows the agent the freedom to act as he or she chooses without any consequence as to the reward or penalty that will accrue to the agent (here the reward is tied to the agent's output). Whereas, in the situation where fixed working hours are required, the agent is rewarded or penalized directly as a result of his or her behavior. See Figure 3 for a pictorial representation of how the distinction between the two types of governance mechanisms is made.

Hypotheses

The ideas expressed above may be summarized and presented as two hypotheses in the following way.

Mechanisms in an Emergent Strategic Process Environment

Due to of the high level of uncertainty in an emergent strategic process type of organization it is difficult to control and monitor behavior since it is not clear exactly what the behavior should be, therefore in this type of environment the management tools should be designed so they foster an alignment of interests. Attempting to tightly control behavior will result in sub-optimal performance due to uncertainties surrounding the implementer's optimal actions. Thus, the first hypothesis:

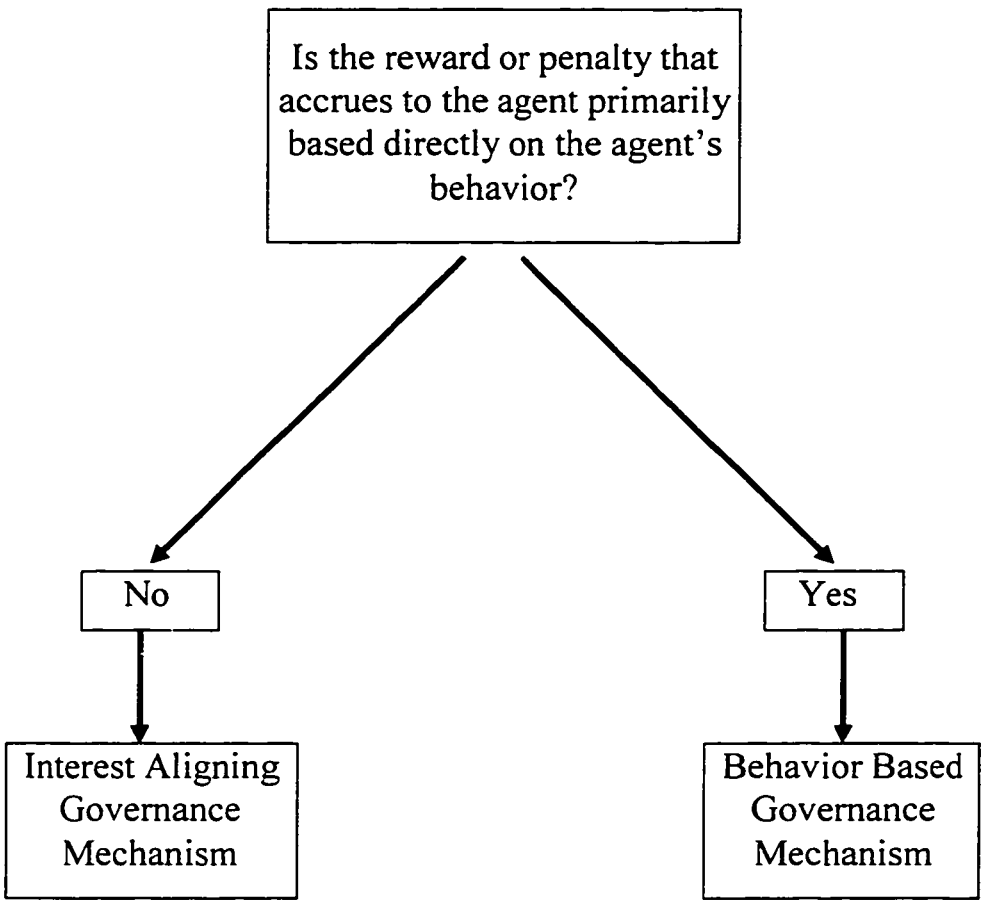

Figure 3. Distinguishing Between Types of Governance Mechanisms

H1: Firms operating primarily with an emergent strategic process will be more successful when they rely on interest aligning management methods than when they rely on behavior controlling management methods.

Mechanisms in a Deliberate Strategic Process Environment

In the deliberate strategic process type environment, the desired behavior is more precisely known and therefore it is possible to use management tools that are designed to control and monitor behavior to ensure the desired behavior is indeed realized. Kathy Eisenhardt develops this argument in her review article on agency theory:

> The argument is that the behavior of agents engaged in more programmed jobs is easier to observe and evaluate. Therefore, the more programmed the task, the more attractive are behavior-based contracts because information about the agent's behavior is more readily determined (Eisenhardt, 1989: 62).

In this case relying on interest aligning governance mechanisms would result in poor performance due to lack of control to the intended strategies. Therefore,

H2: Firms operating primarily with a deliberate strategic process will be more successful when they rely on behavior controlling management methods than when they rely on interest aligning management methods.

In order to test the above hypotheses, three categories of variables assessed at the organization level are required. These are a measure of organizational performance, an assessment of the organization's strategic process, and a measure of the management

methods, or tools, used by the organization to manage the implementation of their strategy. The next chapter describes the methodology used to accomplish these tasks.

CHAPTER 4: METHODS

Research Approach

In the previous chapter the central hypothesis of this dissertation was developed - that organizational performance is dependent upon the fit between a firm's strategic process orientation and the management methods it uses to implement its strategies. That chapter concluded with the observation that in order to test this model of organization performance it is necessary to measure performance, strategic process orientation and management methods.

This chapter has two objectives. One is to explain the methods used for data collection and the other is to describe how the data is analyzed.

Survey Instrument Development

A questionnaire survey instrument was developed to gather data on each organization's strategic process orientation, strategy implementation governance mechanisms, and performance. The survey instrument developed is central, not only this dissertation, but also to follow-on research which the author expects to do. The process took a great deal of time and effort and has resulted in an excellent instrument that will continue to evolve and serve as a strong organizational research tool for many years. The instrument development procedure followed was in accordance with established psychometric principals (Hinkin, 1995; Nunnally, 1976; Schwab, 1980; Spector, 1992). The complete survey is shown in Appendix A.

The performance measure is set up as a single dimension from low performance to high. The strategic process measure is also set up as a single dimension, in this case a low value represents an emergent strategic process and a high value a deliberate strategic process.

In contrast to performance and strategic process, the management methods assessment is set up in multiple dimensions. The rationale here is that by constructing the instrument such that it provides an assessment of individual types of management methods, measurement reliability and validity, along with analytical flexibility will be improved. Having several management methods constructs will allow for a greater number of items to be used in the analysis without overloading a single construct, and will improve the potential for selecting items which load on each, more precisely defined, construct. Having several types of management method constructs will also allow for the investigation of the role of each type of management method, as well as a consolidated analysis. The determination of what specific types, or categories, of management methods should be represented by the survey items depended on several factors: a variety of academic literature, input from current working managers, the author's interests, and practical research design considerations.

The two aspects of the literature that were reviewed are previous studies that involved survey methodology to assess organizational management methods and "textbook" literature presenting the range of management methods being taught. The primary survey assessment literature drawn on included Andrew Van de Ven and Diane Ferry's book (1980), Measuring and Assessing Organizations, Rick Mowday, Lyman Porter, and Richard Steers' book (1982), Employee-Organization Linkages, and a book

by Luis Gomez-Mejia and David Balkin (1992), entitled Compensation, Organizational Strategy, and Firm Performance. Other research on assessment which was found useful were papers by Skivington and Daft (1991) and by Snodgrass and Szewczak (1990). This work was helpful in illustrating how survey questions might be structured and provided a range of possible management methods constructs. However, despite any sanguine desires, none of these instruments were found to be directly useable for the survey required here. Several management textbooks were examined to ensure considered had been given for possible constructs to the types of management methods being promoted in organization design and management classes (see for example Daft, 1995; Hill & Jones, 1992; Narayanan & Nath, 1993; Robey & Sales, 1996) as well as classes more specifically focused on management control systems (Anthony & Govindarajan, 1995; Maciariello & Kirby, 1994).

Information from the literature described above was filtered and supplemented through interviews with practicing business professionals. These individuals included both the strategy "setters" and the "implementers," or in other words, people who have a significant role in determining management methods and other people who are managed by them. In addition, the choice of management methods constructs was influenced by the author's interest in the use of trust and empowerment in organizations. And lastly, after going through the process described above, a judgement was made that the appropriate number of management method constructs for the scope of this dissertation be a total of four, with two constructs representing interest aligning mechanisms and two constructs representing behavior controlling and monitoring mechanisms.

The survey constructs are shown in Table 2. Variables two through five represent fundamental categories of management methods. The compensation and empowerment constructs represent interest aligning methods and the bureaucracy and budgets constructs represent behavior controlling and monitoring methods.

Table 2. Survey Constructs

Dependent Variable:

1. Performance: Organization performance (5 – high, 1 – low)

Independent Variables:

2. Compensation: Use of performance contingent compensation (5 – high, 1 – low)
3. Empowerment: Use of employee empowerment (5 – high, 1 – low)
4. Bureaucracy: Reliance on bureaucracy and organization structure (5 – high, 1 – low)
5. Budgets: Use of fixed, specific budgets (5 – high, 1 – low)
6. Strategic Process: Strategic process orientation (5 – deliberate, 1 – emergent)

Multiple items were developed for each. In developing the items in the survey, it was important to not only identify those items necessary to adequately capture the constructs, but also include other items for information for a more complete picture of workplace descriptions and strategy implementing management methods. Therefore not all items on the survey were predicted to load on one of the constructs. Table 3 shows the definition of each survey item and the construct on which the item is predicted to load. The construct reference number shown in column B of the table corresponds to the construct number from Table 2 on the previous page. The survey code shown in column A refers to the item number on the survey. It is set up so that the first digit refers to the survey question number and the other digits refer to the item number under that question. For example, Q123 identifies the 23rd item listed for question number one.

The decisions about which specific items to include or not to include on the survey were made based a review of the literature reporting on other survey research attempting to assess management methods as described above. As indicated, none of these studies were directly usable for my survey, however, in some cases it was possible to adapt them to a useable form. Preliminary versions of the survey were supplemented with information from discussions with practicing business professionals and a pilot study preliminary survey administered to two sections of a senior level organization theory class of undergraduate business school students.

Table 3. Survey Item Definitions and Ex Ante Construct Loading Predictions

Question 1: How well do each of the following characteristics describe the workplace in your company?

A	B	C	D	E
Q101	4	N	Bureaucratic	Many fixed rules and procedures.
Q102	4	Y	Flexible	Capable of responding to changing or new situations.
Q103			Competitive	Level of competition among and between individuals within the firm.
Q104			Political	Objectives accomplished through shrewd maneuvering or deal making.
Q105	3	N	Trusting	Reliance on the character, ability and truthfulness of individuals in the firm.
Q106			Individualistic	Work is primarily done independently from one another.
Q107			Chaotic	Marked by confusion and disorder.
Q108			Predictable	Short term and long term events can be accurately forecast.
Q109	3	Y	Centralized	Decision making tends to occurs in a small core of the firm.
Q110			Negative	A widely shared sense of skepticism or pessimism about the organization.
Q111			Formal	Characterized by punctilious respect for protocol (e.g. dress codes).
Q112			Efficient	Emphasis on maximizing outputs for a given level of inputs. i.e. cost control.
Q113	1	N	Successful	Attainment of goals.
Q114	3	N	Empowered	The delegation power and authority to all members of the organization.
Q115			Non-Routine	High level of variety in the day to day activities of individuals in the firm.
Q116	5	N	Budget Driven	Development and adherence to budgets.
Q117	4	N	Regimented	Organized rigidly to facilitate control.
Q118	4	N	Mechanistic	Marked by rules, procedures, and a clear hierarchy of authority.
Q119			Friendly	Showing kindly interest and goodwill among employees.
Q120			Teamwork	High levels of constructive interaction among employees.
Q121			Conflict	Antagonistic state within the organization.
Q122	1	Y	Declining	A gradual reduction in the level of success of the firm.
Q123	2	N	Performance Bonuses	Additional compensation is awarded as a result of good or excellent performance.
Q124	1	N	Effective	Demonstrated capability of the firm to meet its objectives.
Q125			Innovative	High level of successful new product or process ideas.
Q126			Rational	Reliance on reason and detailed analysis in decision making.
Q127			Fun	An enjoyable and playful work environment.
Q128			Specialized Jobs	Narrowly defined task responsibilities.

Column Descriptions: A – Survey code, B – Construct reference number, C – Is item reverse scored? D – Survey item, and E – Item definition.

Table 3 (Continued). Survey Item Definitions and Ex Ante Construct Loading Predictions

Question 1: How well do each of the following characteristics describe the workplace in your company?

A	B	C	D	E
Q129	4	N	Hierarchical	Multiple levels which are clearly defined of management authority.
Q130			Positive	Supportive and affirming.
Q131			Organic	Free-flowing, adaptive processes, an unclear hierarchy of authority, and decentralized decision making.
Q132	1	N	Profitable	Strong levels of income.
Q133	4	N	Rules Oriented	Reliance on rules and procedures.

Question 2: Please assess the strategic process for both your department and your company.

General Definition: A deliberate strategic process is one in which all strategies that are actually implemented are clearly laid out in formal strategic plans. Whereas, an emergent strategic process is one where the strategies that are actually implemented were never planned or intended, either because no strategic planning was done or the intended strategy was displaced by another strategy which emerged over time. Scale goes from 1 (emergent) to 5 (deliberate).

A	B	C	D	E
Q201	6	N	Department Strategic Process	Assessment of the strategic process for of the department you work in.
Q202	6	N	Company Strategic Process	Assessment of the strategic process for of the company as a whole.

Column Descriptions: A – Survey code, B – Construct reference number, C – Is item reverse scored?, D – Survey item, and E – Item definition.

Table 3 (Continued). Survey Item Definitions and Ex Ante Construct Loading Predictions

Question 3: Please indicate the frequency of use of each management tool at your company.

A	B	C	D	E
Q301			Face to Face Meetings	In person, one-on-one, meetings between supervisor and subordinate.
Q302			Staff Meetings	All subordinates meet together with their supervisor.
Q303			Audits	Work is reviewed by someone outside the department.
Q304	3	N	Trust	No monitoring of behavior or output is done.
Q305			Flexible Work Hours	Employees are allowed to work on their own schedule.
Q306	2	N	Profit Sharing	Profit based bonuses are given.
Q307	5	N	Budget Development	Involvement in the development of budgets.
Q308			Bottom Up Activity Reports	Regular activity reports written by subordinates for supervisors.
Q309			Top Down Activity Reports	Regular reports distributed by management to employees.
Q310			Management Visibility	Management operates in a way highly visible to all employees.
Q311			Performance Reviews	Employee performance is regularly reviewed.
Q312	4	N	Clear Rules	Employees are share the same understanding of the firm's rules.
Q313			Team Building Activities	Teams are supported with activities that foster cohesiveness.
Q314	2	N	Good Performance Rewards	Individual salary increases or bonuses are contingent upon good individual performance.
Q315			Poor Performance Penalties	Poor performance results in reduced compensation or other penalty, such as disciplinary action or firing.
Q316			Progress Review Meetings	Regular meetings reporting on progress toward the accomplishment of goals to higher levels of management.
Q317	5	N	Budget Reviews	Budgets are regularly reviewed and variances must be explained.
Q318	4	N	Written Procedures	Employee behavior directed by written operating procedures.
Q319	4	N	Close Management Supervision	Supervisors closely monitor the day-to-day activities of their subordinates.
Q320			Presentations by Management	Regular meetings are held where management presents information and plans on the organization.

Column Descriptions: A – Survey code, B – Construct reference number, C – Is item reverse scored?, D – Survey item, and E – Item definition.

Table 3 (Continued). Survey Item Definitions and Ex Ante Construct Loading Predictions

Questions 4 & 5: Please indicate the degree to which you agree or disagree with the following statements.

A	B	C	D	E
Q401	3	N	Trust is important in my work environment.	Trust is important in my work environment.
Q402			I would feel comfortable talking to my supervisor about problems with my job.	I would feel comfortable talking to my supervisor about problems with my job.
Q403	3	N	Most people in this company are entrusted to get their work done.	Most people in this company are entrusted to get their work done.
Q404			Employees here could "get away with" not fulfilling their job responsibilities if they wanted to.	Employees here could "get away with" not fulfilling their job responsibilities if they wanted to.
Q405	4	N	People are watched closely.	People are watched closely.
Q406	5	N	Managers are held responsible for all budget variances.	Managers are held responsible for all budget variances.
Q407	5	N	Managers who do not meet their budgets would be in trouble.	Managers who do not meet their budgets would be in trouble.
Q408	5	N	Changes to budgets can only be made with approval from higher management.	Changes to budgets can only be made with approval from higher management.
Q409	5	N	The budgeting process in this company is a standardized process.	The budgeting process in this company is a standardized process.

Column Descriptions: A – Survey code, B – Construct reference number, C – Is item reverse scored?, D – Survey item, and E – Item definition.

Table 3 (Continued). Survey Item Definitions and Ex Ante Construct Loading Predictions

Questions 4 & 5: Please indicate the degree to which you agree or disagree with the following statements.

A	B	C	D	E
Q410	2	N	Employees are paid better when the company does well.	Employees are paid better when the company does well.
Q411	4	N	There are many rules and procedures at the company.	There are many rules and procedures at the company.
Q412	4	N	It is important to follow the rules and procedures.	It is important to follow the rules and procedures.
Q413			Management authority is well defined.	Management authority is well defined.
Q501	6	N	Significant actions are always planned for.	Significant actions are always planned for.
Q502	3	N	I have a significant amount of authority in deciding on my goals.	I have a significant amount of authority in deciding on my goals.
Q503			Most of the actual changes at my company happen rapidly.	Most of the actual changes at my company happen rapidly.
Q504	6	N	Formal strategic planning is very important.	Formal strategic planning is very important.
Q505	3	N	How I achieve my goals is up to me.	How I achieve my goals is up to me.

Column Descriptions: A – Survey code, B – Construct reference number, C – Is item reverse scored?, D – Survey item, and E – Item definition.

Ex Ante Construct Compositions

To summarize the linking of each construct with its items, the predicted computation of the constructs are shown in Table 4.

Table 4. Ex Ante Construct Compositions

1. **Performance** = [Successful(Q113) + DecliningRS(Q122RS) + Effective(Q124) + Profitable(Q132)] / 4

2. **Compensation** = [Performance Bonuses(Q123) + Profit Sharing(Q306) + Good Performance Rewards(Q314) + Employees are Paid Better When the Company Does Well(Q410)] / 4

3. **Empowerment** = [Trusting(Q105) + CentralizedRS(Q109RS) + Empowered(Q114) + Trust(Q304) + Trust is Important in My Work Environment(Q401) + Most People In This Company Are Entrusted To Get Their Work Done(Q403) + I Have A Significant Amount Of Authority In Deciding On My Goals(Q502) + How I Achieve My Goals Is Up To Me(Q505)] / 8

4. **Bureaucracy** = [Bureaucratic(Q101) + FlexibleRS(Q102RS) + Regimented(Q117) + Mechanistic(Q118) + Hierarchical(Q129) + Rules Oriented(Q133) + Clear Rules(Q312) + Written Procedures(Q318) + Close Management Supervision(Q319) + People are Watched Closely(Q405) + There Are Many Rules And Procedures At The Company(Q411) + It Is Important To Follow The Rules And Procedures(Q412)] / 12

Table 4 (Continued). Ex Ante Construct Compositions

5. **Budgets** = [Budget Driven(Q116) + Budget Development(Q307) + Budget Reviews(Q317) + Managers Are Held Responsible For All Budget Variances(Q406) + Managers Who Do Not Meet Their Budgets Would Be In Trouble(Q407) + Changes To Budgets Can Only Be Made With Approval From Higher Management(Q408) + The Budgeting Process In This Company Is A Standardized Process(Q409)] / 7

6. **Strategic Process** = [(Department Strategic Process(Q201) + Company Strategic Process(Q202) + Significant Actions Are Always Planned For(Q501) + Formal Strategic Planning is Very Important(Q504)] / 4

Data Sample

The survey was sent to the 170 members of the Harvard Business School Club of Puget Sound (HBSCPS). These individuals work in a variety of organizations throughout the Puget Sound region. Several factors were considered in the selection of this sample. A primary consideration was the practical tradeoff between breadth of study (collection of some data from a wide variety of organizations) and depth of study (collection of a lot of data from a small number of organizations). This sample provides a look at the strategic management process and the management methods of many types of organizations but does not provide much insight into consideration of industry factors, and variance of responses across individual organizations. Given that one of the

objectives of this dissertation is to conduct a general survey of the management methods actually used in organizations, breadth was opted for over depth. Another practical consideration was the expectation that the individuals making up the sample would willingly, honestly and actively participate in the study. Further deliberation on sample selection is presented in the discussion chapter.

Survey Procedure

The general form and administration of the survey was completed following the guidelines developed and presented by Dillman (1978) and Salant and Dillman, (1994).

An initial announcement of the research project and impending survey was made to the target participants in the Harvard Business School Club of Puget Sound (HBSCPS) monthly newsletter. Several weeks later the surveys were mailed, along with a cover letter explaining the project and signed by the HBSCPS president and the author. A follow-up letter was sent to all individuals who had not responded to the initial mailing within 15 days. Figure 4 shows the initial cover letter that went out with the survey and Figure 5 shows the non-respondent follow-up letter.

HARVARD CLUB LETTERHEAD

May 27, 1997

Dear Harvard Business School Club of Puget Sound Member:

We are sending you this letter regarding a business strategy research program sponsored by the University of Washington Business School and supported by the Harvard Business School Club of Puget Sound. The purpose of the letter is to briefly explain the research and to ask for your help.

The broad purpose of this research is to improve the understanding of how business firms implement their strategies. The goal is to translate this improved understanding into lessons leading to more effective strategy implementation for a variety of organizations.

Enclosed you will find a questionnaire on the topic of strategy implementation in organizations. It has been sent to all members of the HBS Club of Puget Sound. It would be greatly appreciated if you would take 10 to 15 minutes to complete the survey and return it in the reply envelope provided. If you are not currently working in an organization, please answer the questions based of your most recent experience.

You may be assured of complete confidentiality. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off of the mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire or in any way matched with the information you provide.

The results of the survey will be presented and discussed as part of a future HBS Club meeting on the topic of formulating and implementing corporate strategy (tentatively set for Wednesday, November 12, 1997). This should be an exciting and interactive program, in the tradition of Harvard case method learning. Even if you don't think you will be able to attend the program, please take the time to complete and return the survey, as your input is extremely important. If you would like a written summary of the results, please print your name and address on the back of the return envelope.

If you have any questions or comments please note them on the questionnaire, or contact Jonathan Down directly via E-mail (jtdown@u.washington.edu) or the telephone (206-543-4367).

Thank you for your assistance.

Sincerely,

James Moore
HBS Club of Puget Sound President

Jonathan Down
Research Project Director

Figure 4. Cover Letter Mailed with Survey

UNIVERSITY OF WASHINGTON LETTERHEAD

June 12, 1997

«Title» «FirstName» «LastName»«Suffix»
«Company»
«Address1»
«Address2»
«City», «State»

Dear «Title» «LastName»:

Two weeks ago a survey questionnaire was mailed to you asking about your experience managing the implementation of business strategies. This survey was sent to all members of the Harvard Business School Club of Puget Sound who, along with the University of Washington, are cosponsoring this important management research.

To date we have received back 30% of the surveys. If you have already returned yours to us please accept our sincere thanks. If not, please consider doing so today. Because it has been sent to a relatively small, but informed, sample it is extremely important that your response also be included in the study.

If by some chance you did not receive the survey, or it is misplaced, please contact me and I will get another one in the mail to you today. My e-mail is jtdown@u.washington.edu, the office phone is 206-543-4367, or I can be reached at home on 206-672-9103.

Sincerely,

Jonathan Down

Figure 5. Non-Respondent Follow-up Letter.

Construct Reliability and Validity

The reliability and validity of each construct must be assessed in order to create confidence in any findings that result from the data analysis. High reliability means that the instrument is consistent and stable. Whereas a scale with high validity is a scale that actually measures what it is that the scale is suppose to measure. Strong reliability is a necessary condition for validity. Reliability and validity issues are addressed in this research by calculating a coefficient alpha for each construct and using confirmatory factor analysis. The results of these analyses are presented along with other results in chapter five.

Data Analysis Procedure

The data collected for this study is analyzed both qualitatively and quantitatively. The qualitative analysis consists of a review of the raw data collected and descriptive statistics for reasonableness and for surprising findings. Also, the findings will be discussed in a general way with practicing business professionals in an attempt to gain a greater insight into how organizations manage the implementation of their strategies. As stated in the introductory chapter, an objective of this dissertation is to develop a deeper understanding of the management methods organizations are actually using, a qualitative analysis is an appropriate way to support the validity of the quantitative ways to address this issue.

The primary quantitative method of data analysis is OLS regression. The hypotheses suggest the relationship between strategic process type and firm performance is moderated by the firm's choice of internal governance mechanisms. Following Hill,

Hitt and Hoskisson (1992) and Venkatraman (1989), conventional moderated regression analysis is used to test these hypotheses. The general form of the regression model in this case is:

$$Y = a + b_1 \cdot X + b_2 \cdot Z + b_3 \cdot XZ + e$$

where Y is firm performance, X is strategic process type, and Z is management methods. The hypotheses suggest that the impact of strategic process type (X) on performance (Y) is moderated by the effects of the management methods (Z). The ideal result would be for coefficient b_3 to be the only significant coefficient. This would say that management methods alone, or type of strategic process by itself, do not determine performance but it is the interaction between management methods and strategic process that influences performance. However, as long as b_3 is significant, then the hypotheses would still be supported – even if one or more of the other coefficients were also significant.

Secondary quantitative data analysis methods will include efforts to ferret out more subtle significant effects hidden in the data as deemed appropriate based on the results of the primary analysis. These methods, and all results, are presented in the next chapter.

CHAPTER 5: RESULTS

Survey Response Rate

Of the 170 surveys that were mailed out, 69 useable responses were returned for an overall response rate of 41%. Table 4 breaks down the responses into greater detail. Of the 69 useable responses most were filled in completely and all appear to be responded to in a thoughtful manner (e.g. there were no returned surveys with only one response circled for all items on a question). As can be seen from the data in Table 5, the follow-up mailing had an important effect on the final, summary response rate.

Table 5. Survey Response Rates

		Percent of Initial Mailing
Initial Mailing	170	100 %
Initial Responses	37	22 %
Not Deliverable	17	10 %
Follow-Up Mailing	116	68 %
Additional Responses	32	19 %
Total Responses	**69**	**41 %**

Descriptive Statistics

Survey responses were returned from a very diverse set of companies. This diversity is along lines of number of employees, ownership structure and industry type. Table 6 lists the companies represented in the survey responses. The value of this diversity is that it provides a wide range of organizations from which to draw inferences about the type of management methods actually used in organizations in general – supporting a fundamental objective of this research.

There is much less diversity among respondents in the type of work they do and at the level where they work in the organization. Most respondents identified the type of work they do as general management (69%) and their position in the company as top management (71%). So the perspective of the responses will be skewed toward that of those individuals who make decisions about which management methods are used, rather than the perspective of those individuals who are being managed by those methods.

In addition, due to the homogeneity of the type of work being done (general management) by the respondents, these results do not allow for findings that are dependent on different types of functional work being done in organizations. This is an interesting question, worthy of further study, as is discussed in the final chapter.

Table 6. Companies Represented in Survey Responses

1	ADIC	29	McKinsey & Co Inc
2	Allied Signal	30	Microserve Inc.
3	Ampex Corp	31	Mgmt Action Programs
4	Anvil Corporation	32	Modern. & Home Own C
5	ATP	33	MRC Bearings
6	Bank of America	34	NCR
7	Belshaw Bros, Inc	35	Nelson Properties
8	Bennion Company	36	Nuflo Corp.
9	Bio Preserve Med Corp	37	NW Cascade, Inc.
10	Boeing	38	Olympia Master Builders
11	Children's Hospital	39	Olympic Venture Partners
12	Crowley Marine Service	40	Penwest Ltd.
13	Darigold Inc.	41	Plum Creek Timber Co.
14	Data West Corporation	42	Precision Castparts
15	Direct Services	43	Real Time Data
16	Dow Chemical	44	Rho Company Inc.
17	Fluke Corporation	45	Seafirst Bank
18	Glacier Park Company	46	Seattle Sports Company
19	Green Crow	47	Skyway Luggage Company
20	HBS International	48	Smith-Western Co.
21	John L. Scott	49	Sun Precautions
22	Kodak/Qualex	50	Trammell Crow Co.
23	Kuhlman Technologies, Inc.	51	US Navy
24	Langly Associates, Inc.	52	Westin
25	Lanoga Corp	53	Westwood Shipping Lines
26	Lorig Associates LLC	54	Wizards of the Coast
27	Lortone, Inc.	55	World Marketing Alliance
28	Matrix Management Group		

Tables 7 through 10, presented over the next several pages shows the descriptive statistics for the responses to each of the items that make up the four major questions in the survey. For each question the responses have been sorted from the highest mean response to the lowest. It can be observed that the responses associated with a positive, effective and successful organization are near the top of the list, and that these items have a standard deviation of less than one. The implication here is that the sample consists of generally successful firms and therefore that the dependent variable of organizational performance has somewhat limited range. A complete correlation matrix is shown in Appendix B.

Table 7. Responses to Workplace Descriptive Characteristics
(Sorted by Mean, Scale: 5 – "Very Well" to 1 – "Not at All")

Survey Code	Description	Mean	S.D.	High	Low	N
Q119	Friendly	3.93	0.816	5	2	68
Q113	Successful	3.72	0.889	5	2	69
Q102	Flexible	3.70	0.975	5	2	69
Q120	Teamwork	3.70	0.975	5	1	69
Q126	Rational	3.65	0.703	5	2	69
Q130	Positive	3.58	0.793	5	2	69
Q124	Effective	3.57	0.848	5	2	69
Q103	Competitive	3.49	1.158	5	1	69
Q105	Trusting	3.46	1.085	5	1	68
Q114	Empowered	3.43	1.030	5	1	65
Q125	Innovative	3.42	0.930	5	1	69
Q106	Individualistic	3.39	1.154	5	1	67
Q115	Non-Routine	3.33	1.093	5	1	67
Q127	Fun	3.32	1.007	5	1	69
Q132	Profitable	3.31	1.188	5	1	68
Q123	Performance Bonuses	3.30	1.281	5	1	64
Q128	Specialized Jobs	3.24	0.906	5	1	67
Q112	Efficient	3.14	0.896	5	1	69
Q116	Budget Driven	3.06	1.022	5	1	64
Q109	Centralized	2.93	1.142	5	1	69
Q108	Predictable	2.88	0.978	5	1	69
Q129	Hierarchical	2.72	1.195	5	1	68
Q133	Rules Oriented	2.71	1.037	5	1	68
Q104	Political	2.67	1.172	5	1	69
Q107	Chaotic	2.62	1.126	5	1	69
Q121	Conflict	2.58	0.898	4	1	69
Q131	Organic	2.57	1.094	5	1	37
Q101	Bureaucratic	2.20	1.079	5	1	69
Q118	Mechanistic	2.18	0.959	4	1	66
Q117	Regimented	2.14	1.019	5	1	69
Q111	Formal	2.04	0.992	4	1	69
Q110	Negative	2.00	0.955	4	1	69
Q122	Declining	1.85	1.014	4	1	61

Table 8. Responses to Strategic Process Assessment
(Sorted by Mean, Scale: 5 – "Deliberate" to 1 – "Emergent")

Survey Code	Description	Mean	S.D.	High	Low	N
Q201	Department Strategic Process	3.28	1.011	5	1	62
Q202	Company Strategic Process	3.27	1.038	5	1	69

Table 9. Responses to Use of Management Methods
(Sorted by Mean, Scale: 5 – "Used Extensively" to 1 – "Never Used")

Survey Code	Description	Mean	S.D.	High	Low	N
Q301	Face to Face Meetings	4.17	0.766	5	2	69
Q310	Management Visibility	3.98	0.832	5	2	66
Q304	Trust	3.94	0.839	5	2	66
Q307	Budget Development	3.58	1.190	5	1	66
Q305	Flexible Work Hours	3.56	1.111	5	1	68
Q302	Staff Meetings	3.46	0.917	5	1	69
Q314	Good Performance Rewards	3.46	0.999	5	1	68
Q316	Progress Review Meetings	3.31	0.935	5	1	68
Q311	Performance Reviews	3.26	1.074	5	1	68
Q312	Clear Rules	3.15	0.803	5	1	67
Q317	Budget Reviews	3.12	1.031	5	1	66
Q306	Profit Sharing	3.11	1.382	5	1	65
Q320	Presentations by Management	3.07	1.105	5	1	67
Q313	Team Building Activities	3.00	1.087	5	1	67
Q308	Bottom Up Activity Reports	2.98	1.184	5	1	63
Q318	Written Procedures	2.93	0.975	5	1	69
Q319	Close Management Supervision	2.90	0.956	5	1	67
Q309	Top Down Activity Reports	2.61	1.135	5	1	66
Q315	Poor Performance Penalties	2.36	0.829	5	1	67
Q303	Audits	2.29	1.023	5	1	68

Table 10. Responses to Degree of Agreement
(Sorted by Mean, Scale: 5 – "Strongly Agree" to 1 – "Strongly Disagree")

Survey Code	Description	Mean	S.D.	High	Low	N
Q401	Trust is important	4.62	0.754	5	1	68
Q403	Entrusted to get work done	4.52	0.740	5	2	69
Q502	I decide on my goals	4.39	0.943	5	1	69
Q402	Talk to supervisor about problems	4.31	1.038	5	1	59
Q505	How I achieve my goals up to me	4.23	0.825	5	2	69
Q410	Better pay when company does well	3.88	1.175	5	1	67
Q501	Significant actions are planned	3.77	0.957	5	1	69
Q413	Mgmt authority is well defined	3.65	1.076	5	1	68
Q408	Changes to budgets require approval	3.49	1.247	5	1	61
Q503	Most changes happen rapidly	3.41	1.180	5	1	69
Q409	Budgeting process is standardized	3.36	1.367	5	1	67
Q406	Managers resp. for budget variances	3.24	1.266	5	1	63
Q504	Formal strategic planning important	3.22	1.270	5	1	69
Q412	Important to follow the rules	3.15	1.188	5	1	68
Q407	In trouble if don't meet budget	2.84	1.130	5	1	64
Q404	Could get away with not working	2.84	1.290	5	1	69
Q411	Many rules and procedures	2.79	1.276	5	1	68
Q405	People are watched closely	2.40	0.970	4	1	67

Missing Data Adjustments

Another issue that shows up in the tables of descriptive statistics is that many of the items have a few less than the maximum of 69 valid responses. Because each construct is a multi-item scale, this relatively minor missing data problem could significantly reduce the number of valid cases at the construct level. The actions taken to account for this problem for each construct are as follows:

Strategic Process. The only missing data for any of the items making up this construct were seven responses that did not specifically respond to the question asking for an assessment of the department's strategic process (Q201). In each of these cases the response to the company's strategic process item was used.

Performance. The "declining" item (Q122) had eight cases of missing data. The only other item making up this construct with any missing values is profitability. The missing data in this case was replaced with the average of the responses to the two other items in the construct. The "declining" item was not used.

Compensation. When combined, the four items making up this construct had enough missing items to reduce the number of complete cases to 57. However, none of the items had more than five missing values. Also, all surveys with any missing values for these items had responses to three of the four total items. Therefore, the missing values were replaced with an average of the responses to the other items in this construct for each survey.

Empowerment. When combined, the eight items making up this construct had enough missing items to reduce the number of complete cases to 63. However, none of the items had more than four missing values. Also, all surveys with any missing values for these items had responses to at least six of the eight total items. Therefore, the missing values were replaced with an average of the responses to the other items in this construct for each survey.

Bureaucracy. When combined, the twelve items making up this construct had enough missing items to reduce the number of complete cases to 63. However, none of the items had more than three missing values. Also, all surveys with any missing values for these items had responses to at least six of the twelve total items. In this case, the missing values were replaced with an average of the responses to the other items in this construct for each survey.

Budgets. When combined, the seven items making up this construct had enough missing items to reduce the number of complete cases to 54. However, none of the items had more than eight missing values. Three surveys had four or five missing items for this construct, however, the included responses to the other items were consistent. The other 13 surveys with missing items had responses to at least four of the seven total items. Therefore, the missing values were replaced with an average of the responses to the other items in this construct for each survey.

After replacing the missing values as described above, the reliability alpha coefficients were rerun. The results obtained were consistent to those before addressing the missing data issue. In all cases alpha exceeded the generally accepted cutoff of .70 (Nunnally, 1976), as shown in Table 11. The outcome is that there is now a full set of valid responses for all items that make up each construct, and the only change in the specific items that make up the constructs is the deletion of the reverse scored "declining" item (Q122) in the performance construct.

Table 11. Reliability Coefficient Alpha

Construct	N of Items	Final N of Cases	Alpha Prelim	Alpha Final
1. Performance	3	69	.808	.809
2. Compensation	4	69	.797	.780
3. Empowerment	8	69	.839	.826
4. Bureaucracy	12	69	.881	.879
5. Budgets	7	69	.872	.884
6. Strategic Process	4	69	.723	.713

Note: Alpha Prelim refers to alpha calculated prior to making the missing data adjustments.

Confirmatory Factor Analysis

Confirmatory factor analysis is a commonly used and acceptable method to ensure construct validity (Hinkin, 1995). The procedure here is to factor analyze all the items that together make up the six constructs and examine the degree to which the items load on the constructs as predicted. The specific method of factor analysis used here is the most commonly used method of principal components analysis with varimax rotation.

The initial factor structure is shown in Table 12. Factor scores for those items grouped to a construct are shown as shaded in this table. In order to assert that an item is correctly loading onto the predicted factor a two stage rule is employed (Nunnally, 1978). The first stage is that the factor loading weight should be at least .30 in order to make sure that the given item does indeed represent the given construct. And the second stage is to ensure that the item loads only on one primary factor, so the difference between the loading weight of the item to its primary factor must be at least .10 more than its next highest factor loading.

An examination of Table 12 reveals that some items do not load as prescribed in the two stage test. All items correctly loaded for the performance, compensation, and budgets constructs. However, several of the items did not adequately load, as predicted, for the remaining three constructs. The reverse scored item "Centralized" (Q109RS) did not load on the empowerment construct. The bureaucracy construct had three of twelve items not load adequately ("Clear Rules," "Close Management Supervision," and "People are watched closely"). And finally, two of the four items in the strategic process construct did not load significantly. All the above items were then dropped from their

respective constructs and a new confirmatory factor analysis was run. The results of this second run are shown in Table 13.

The second analysis resulted in only two items not meeting both rules of significance. Item "Employees are paid better when the company does well" did load at the .44 level on the compensation construct but it also loaded heavily on the strategic process construct. Also, the factor loading of the "Empowered" item dropped to .275, which is below the .30 cutoff. A final analysis without the "Empowered" item resulted in all items meeting both rules of satisfactory loading. In fact, in this definitive the lowest loading value for any of the 31 items is .469. The results of this final analysis are shown in Table 14.

Table 12. Factor Components Matrix – First Analysis

	Component					
	Bureau.	Budgets	Empower.	Comp.	Perf.	Strat. P.
Q113	7.119E-03	-2.177E-02	.285	.153	.767	2.820E-02
Q124	-.199	5.456E-02	.470	.218	.560	1.336E-02
Q132	.125	-2.875E-02	.167	.384	.648	5.315E-02
Q123	-.130	.145	4.012E-02	.630	.371	-4.291E-04
Q306	-.182	-6.502E-02	.308	.758	9.129E-02	-2.960E-02
Q314	-.154	7.471E-02	.271	.672	.251	5.146E-04
Q410	-.322	.130	.231	.569	-.183	.223
Q105	-.252	-2.897E-02	.718	.162	.151	.139
Q109RS	-.430	.125	7.217E-02	-9.006E-02	.478	-8.837E-02
Q114	-.455	6.089E-02	.477	.211	.237	8.938E-02
Q304	-.311	-1.090E-02	.624	6.055E-02	.298	-.110
Q401	-6.513E-02	-9.025E-02	.801	.110	2.029E-02	-2.781E-02
Q403	-.135	-3.144E-04	.810	9.872E-02	.125	2.988E-02
Q502	-.117	5.037E-02	.613	.121	.106	-.422
Q505	-1.097E-02	-4.238E-02	.644	8.087E-02	3.692E-02	-.246
Q101	.636	.158	-.152	-.345	-.164	4.935E-02
Q102RS	.547	.191	-.273	-.446	-7.495E-02	5.849E-02
Q117	.784	.132	-.185	.125	-9.155E-02	.261
Q118	.817	1.351E-02	-.261	7.939E-02	-7.926E-02	1.753E-02
Q129	.850	7.868E-02	-.199	-.104	3.486E-02	-1.529E-02
Q133	.736	.109	-.121	-.282	.148	-4.273E-02
Q312	.249	.448	.180	-.440	.314	.208
Q318	.436	.351	-4.078E-02	-.224	-3.797E-02	.131
Q319	.168	.135	-7.267E-02	2.162E-02	.275	.632
Q405	1.101E-02	6.586E-02	-.240	2.521E-02	-.232	.766
Q411	.686	.283	-9.505E-02	-.250	-.144	.328
Q412	.623	.268	.155	-7.184E-02	.154	4.675E-02
Q116	.174	.756	-.113	-3.477E-02	-.141	.203
Q307	5.709E-02	.785	-2.614E-02	-9.015E-02	-8.169E-02	-4.111E-02
Q317	-6.919E-02	.800	-.123	-4.097E-02	2.465E-02	4.215E-02
Q406	-9.307E-02	.823	.121	.149	3.838E-02	-4.964E-02
Q407	.222	.633	4.188E-02	.263	.175	2.458E-03
Q408	.153	.665	-3.696E-02	6.696E-02	-.439	4.159E-02
Q409	.301	.767	-7.622E-02	-4.834E-02	3.640E-02	.149
Q201	.289	.345	-.276	.330	.173	1.375E-02
Q202	.221	.383	1.230E-02	.322	.308	.336
Q501	.195	.319	.294	3.759E-02	.110	.370
Q504	.156	.712	5.865E-02	4.908E-03	.242	9.921E-02

Table 13. Factor Components Matrix – Second Analysis

	Component					
	Bureau.	Budgets	Empower.	Comp.	Perf.	Strat. P.
Q113	1.809E-02	-5.334E-02	.172	.139	.879	4.479E-02
Q124	-.221	4.376E-02	.361	.153	.720	.137
Q132	.148	-3.778E-02	8.912E-02	.383	.719	-2.886E-02
Q123	-7.722E-02	.104	-2.359E-02	.718	.294	.121
Q306	-.213	-8.599E-02	.213	.663	.199	.224
Q314	-9.812E-02	3.133E-02	.264	.756	.165	.110
Q410	-.367	.119	2.694E-02	.440	-1.741E-03	.452
Q105	-.251	-7.921E-02	.583	.189	.182	.427
Q114	-.484	1.848E-02	.275	.141	.411	.414
Q304	-.333	-8.265E-03	.597	2.990E-02	.419	6.224E-02
Q401	-.113	-.114	.735	2.302E-02	.137	.310
Q403	-.160	-2.369E-02	.695	9.547E-02	.235	.311
Q502	-.102	1.992E-02	.756	.203	3.981E-02	-.155
Q505	-6.205E-03	-4.338E-02	.763	.133	4.709E-02	-.197
Q101	.578	.154	-.223	-.476	-4.028E-02	.124
Q102RS	.526	.192	-.305	-.533	-7.763E-03	7.481E-02
Q117	.794	.102	-.245	9.718E-02	-.121	.189
Q118	.820	2.865E-03	-.212	5.354E-02	-.127	-8.991E-02
Q129	.859	4.993E-02	-.153	-.117	-1.751E-03	-.108
Q133	.733	8.590E-02	-.111	-.308	.159	-6.010E-02
Q318	.490	.346	2.991E-02	-.129	-.156	-2.923E-02
Q411	.678	.273	-.220	-.337	-4.143E-02	.314
Q412	.654	.207	.177	-3.019E-02	7.982E-02	9.041E-02
Q116	.202	.768	-.133	-4.953E-02	-9.607E-02	.144
Q307	7.316E-02	.788	-1.806E-02	-.115	-1.096E-02	8.120E-02
Q317	-3.944E-02	.817	-.105	-4.030E-02	5.733E-02	3.391E-02
Q406	-4.708E-02	.825	.151	.203	7.557E-02	-8.839E-03
Q407	.306	.624	7.919E-02	.377	.135	-5.936E-02
Q408	.126	.707	-2.105E-02	-3.637E-02	-.275	3.439E-02
Q409	.320	.748	-.146	-6.664E-02	.119	.168
Q202	.249	.287	-.116	.272	.233	.535
Q501	.264	.226	.221	.107	-3.830E-02	.516

Table 14. Factor Components Matrix – Third and Final Analysis

	Component					
	Bureau.	Budgets	Empower.	Comp.	Perf.	Strat. P.
Q113	2.285E-02	-4.855E-02	.181	.138	.867	1.925E-02
Q124	-.236	4.387E-02	.360	.159	.718	.149
Q132	.148	-3.127E-02	9.188E-02	.357	.739	-3.783E-02
Q123	-6.703E-02	.101	-2.872E-02	.714	.313	9.574E-02
Q306	-.183	-8.003E-02	.224	.698	.200	.107
Q314	-7.827E-02	2.394E-02	.256	.752	.173	7.971E-02
Q410	-.326	.132	5.515E-02	.535	-2.743E-02	.257
Q105	-.260	-8.015E-02	.588	.242	.170	.384
Q304	-.354	-7.011E-03	.594	3.530E-02	.421	8.256E-02
Q401	-.133	-.116	.734	5.219E-02	.133	.310
Q403	-.176	-2.495E-02	.696	.126	.230	.303
Q502	-8.260E-02	2.321E-02	.756	.189	4.070E-02	-.187
Q505	2.301E-02	-3.059E-02	.775	.126	4.843E-02	-.273
Q101	.560	.153	-.217	-.476	-4.910E-02	.166
Q102RS	.488	.188	-.310	-.550	-4.081E-03	.176
Q117	.807	.102	-.234	9.657E-02	-.118	.161
Q118	.838	7.850E-03	-.204	2.124E-02	-.113	-.105
Q129	.849	4.836E-02	-.156	-.170	1.874E-02	-4.025E-02
Q133	.741	8.983E-02	-9.859E-02	-.328	.148	-5.584E-02
Q318	.469	.335	1.586E-02	-.167	-.145	7.382E-02
Q411	.664	.270	-.213	-.319	-5.648E-02	.337
Q412	.639	.199	.172	-5.770E-02	8.590E-02	.158
Q116	.181	.764	-.140	-5.241E-02	-8.782E-02	.200
Q307	7.521E-02	.792	-1.173E-02	-.101	-1.912E-02	6.899E-02
Q317	-4.608E-02	.818	-.106	-3.790E-02	5.878E-02	5.090E-02
Q406	-3.688E-02	.824	.149	.200	7.348E-02	-1.175E-02
Q407	.323	.620	7.478E-02	.348	.141	-4.766E-02
Q408	.150	.710	-1.095E-02	-1.701E-02	-.292	-1.208E-02
Q409	.311	.746	-.144	-6.230E-02	.114	.193
Q202	.220	.277	-.121	.299	.238	.568
Q501	.230	.207	.207	.129	-4.278E-02	.592

Final Construct Compositions

The final assignments of items to constructs are shown in Table 15.

Table 15. Final Construct Compositions

1. **Performance** = [Successful(Q113) + Effective(Q124) + Profitable(Q132)] / 3

2. **Compensation** = [Performance Bonuses(Q123) + Profit Sharing(Q306) + Good Performance Rewards(Q314) + Employees are Paid Better When the Company Does Well(Q410)] / 4

3. **Empowerment** = [Trusting(Q105) + Trust(Q304) + Trust is Important in My Work Environment(Q401) + Most People In This Company Are Entrusted To Get Their Work Done(Q403) + I Have A Significant Amount Of Authority In Deciding On My Goals(Q502) + How I Achieve My Goals Is Up To Me(Q505)] / 6

4. **Bureaucracy** = [Bureaucratic(Q101) + FlexibleRS(Q102RS) + Regimented(Q117) + Mechanistic(Q118) + Hierarchical(Q129) + Rules Oriented(Q133) + Written Procedures(Q318) + There Are Many Rules And Procedures At The Company(Q411) + It Is Important To Follow The Rules And Procedures(Q412)] / 9

Table 15 (Continued). Final Construct Compositions

5. **Budgets** = [Budget Driven(Q116) + Budget Development(Q307) + Budget Reviews(Q317) + Managers Are Held Responsible For All Budget Variances(Q406) + Managers Who Do Not Meet Their Budgets Would Be In Trouble(Q407) + Changes To Budgets Can Only Be Made With Approval From Higher Management(Q408) + The Budgeting Process In This Company Is A Standardized Process(Q409)] / 7

6. **Strategic Process** = [Company Strategic Process(Q202) + Significant Actions Are Always Planned For(Q501)] / 2

Reliability coefficients were recalculated for each of the constructs and found to be above .70 in all cases except for the strategic process construct: Performance - .809, Compensation -.780, Empowerment - .846, Bureaucracy - .903, Budgets - .884, and Strategic Process - .632.

The relatively low value of the alpha coefficient for the strategic process construct is not a major concern. The construct now has only two items and a low alpha value for a construct with only a few items is of less concern than if the construct had many items (Cortina, 1993). Also, the items did load strongly on the construct in the confirmatory factor analysis.

Construct Level Descriptive Statistics

Now that the construct computation development is complete, it is appropriate to move on to testing the hypotheses with regression analysis. In order to run a variety of regression models several variables will be combined in order to draw out meaning from the data. Shown in Table 16 is the construction of all the variables that are used in the regression analyses that follow:

Table 16. Construction of Data Analysis Variables

(performance)
ZPERFORM = (Q113 + Q124 + Q132) / 3

(strategic process)
ZSTRATEG = (Q202 + Q501) / 2

(budgets)
ZBUDGETS = (Q116 + Q307 + Q317 + Q406 + Q407 + Q408 + Q409) / 7

(bureaucracy)
ZBUREAUC = (Q101 + Q102RS + Q117 + Q118 + Q129 + Q133 + Q318 + Q411 + Q412) / 9

(compensation)
ZCOMPENS = (Q123 + Q306 + Q314 + Q410) / 4

(empowerment)
ZEMPOWER = (Q105 + Q304 + Q401 + Q403 + Q502 + Q505) / 6

(combined monitoring and control)
ZCONTROL = (ZBUDGETS + ZBUREAUC) / 2

(combined interest aligning)
ZINTERES = (ZCOMPENS + ZEMPOWER) / 2

Table 16 (Continued). Construction of Data Analysis Variables

(combined management methods)
MANMETH = ZCONTROL - ZINTERES

(transformed strategic process)
SPTRAN = ZSTRATEG – 3

(management methods and strategic process interaction)
SPXMM = MANMETH * SPTRAN

(transformed management methods)
POSMANM = MANMETH + 3

(measurement of the fit between management methods and strategic process)
FITDIST = Absolute Value (POSMAN – ZSTRATEG)

(transformed monitoring and control management methods)
ZCONTRAN = ZCONTROL – 3

(monitoring and control management methods and strategic process interaction)
SPXZCON = SPTRAN * ZCONTRAN

(measurement of the fit between monitoring and control management methods and strategic process)
FITDIST2 = Absolute Value (ZCONTROL – ZSTRATEGIC)

Descriptive statistics for these variables are presented in Table 17. A correlation matrix is shown in Table 18.

Table 17. Regression Analyses Variables Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ZPERFORM	69	1.67	5.00	3.5314	.8369
ZSTRATEG	69	1.50	5.00	3.5181	.8535
ZBUDGETS	69	1.00	5.00	3.2050	.9063
ZBUREAUC	69	1.11	4.56	2.5668	.8121
ZCOMPENS	69	1.00	5.00	3.4348	.9321
ZEMPOWER	69	2.00	5.00	4.1932	.6559
ZCONTROL	69	1.66	4.51	2.8859	.7099
ZINTERES	69	2.25	5.00	3.8140	.6752
MANMETH	69	-3.14	1.75	-.9281	1.1059
SPTRAN	69	-1.50	2.00	.5181	.8535
SPXMM	69	-3.33	3.06	-.3652	1.2811
POSMANM	69	-.14	4.75	2.0719	1.1059
FITDIST	69	.10	4.14	1.6272	1.0735
ZCONTRAN	69	-1.34	1.51	-.1141	.7099
SPXZCON	69	-1.22	2.26	.1692	.6903
FITDIST2	69	.00	2.22	.8876	.6126

Table 18. Regression Analyses Variables Correlation Matrix

	ZPERFOR	ZSTRATE	ZBUDGET	ZBUREAU	ZCOMPEN	ZEMPOW
ZPERFORM	1.000	.213	-.004	-.157	.443(**)	.453(**)
ZSTRATEG	.213	1.000	.378(**)	.247(*)	.207	.114
ZBUDGETS	-.004	.378(**)	1.000	.363(**)	.060	-.099
ZBUREAUC	-.157	.247(*)	.363(**)	1.000	-.400(**)	-.404(**)
ZCOMPENS	.443(**)	.207	.060	-.400(**)	1.000	.429(**)
ZEMPOWER	.453(**)	.114	-.099	-.404(**)	.429(**)	1.000
ZCONTROL	-.092	.382(**)	.846(**)	.804(**)	-.191	-.294(*)
ZINTERES	.526(**)	.198	-.007	-.472(**)	.899(**)	.782(**)
MANMETH	-.380(**)	.124	.547(**)	.804(**)	-.671(**)	-.666(**)
SPTRAN	.213	1.000(**)	.378(**)	.247(*)	.207	.114
SPXMM	-.236	-.589(**)	.000	.286(*)	-.427(**)	-.452(**)
POSMANM	-.380(**)	.124	.547(**)	.804(**)	-.671(**)	-.666(**)
FITDIST	.425(**)	.430(**)	-.257(*)	-.493(**)	.642(**)	.568(**)
ZCONTRAN	-.092	.382(**)	.846(**)	.804(**)	-.191	-.294(*)
SPXZCON	-.035	-.053	.332(**)	.481(**)	-.060	-.409(**)
FITDIST2	.175	.363(**)	-.306(*)	-.316(**)	.230	.346(**)

	ZCONTROL	ZINTERES	MANMETH	SPTRAN	SPXMM
ZPERFORM	-.092	.526(**)	-.380(**)	.213	-.236
ZSTRATEG	.382(**)	.198	.124	1.000(**)	-.589(**)
ZBUDGETS	.846(**)	-.007	.547(**)	.378(**)	.000
ZBUREAUC	.804(**)	-.472(**)	.804(**)	.247(*)	.286(*)
ZCOMPENS	-.191	.899(**)	-.671(**)	.207	-.427(**)
ZEMPOWER	-.294(*)	.782(**)	-.666(**)	.114	-.452(**)
ZCONTROL	1.000	-.275(*)	.810(**)	.382(**)	.164
ZINTERES	-.275(*)	1.000	-.787(**)	.198	-.514(**)
MANMETH	.810(**)	-.787(**)	1.000	.124	.419(**)
SPTRAN	.382(**)	.198	.124	1.000	-.589(**)
SPXMM	.164	-.514(**)	.419(**)	-.589(**)	1.000
POSMANM	.810(**)	-.787(**)	1.000(**)	.124	.419(**)
FITDIST	-.446(**)	.720(**)	-.726(**)	.430(**)	-.809(**)
ZCONTRAN	1.000(**)	-.275(*)	.810(**)	.382(**)	.164
SPXZCON	.487(**)	-.240(*)	.459(**)	-.053	.607(**)
FITDIST2	-.376(**)	.327(**)	-.441(**)	.363(**)	-.765(**)

Table 18 (continued). Regression Analyses Variables Correlation Matrix

	POSMANM	FITDIST	ZCONTRAN	SPXZCON	FITDIST2
ZPERFORM	-.380(**)	.425(**)	-.092	-.035	.175
ZSTRATEG	.124	.430(**)	.382(**)	-.053	.363(**)
ZBUDGETS	.547(**)	-.257(*)	.846(**)	.332(**)	-.306(*)
ZBUREAUC	.804(**)	-.493(**)	.804(**)	.481(**)	-.316(**)
ZCOMPENS	-.671(**)	.642(**)	-.191	-.060	.230
ZEMPOWER	-.666(**)	.568(**)	-.294(*)	-.409(**)	.346(**)
ZCONTROL	.810(**)	-.446(**)	1.000(**)	.487(**)	-.376(**)
ZINTERES	-.787(**)	.720(**)	-.275(*)	-.240(*)	.327(**)
MANMETH	1.000(**)	-.726(**)	.810(**)	.459(**)	-.441(**)
SPTRAN	.124	.430(**)	.382(**)	-.053	.363(**)
SPXMM	.419(**)	-.809(**)	.164	.607(**)	-.765(**)
POSMANM	1.000	-.726(**)	.810(**)	.459(**)	-.441(**)
FITDIST	-.726(**)	1.000	-.446(**)	-.466(**)	.753(**)
ZCONTRAN	.810(**)	-.446(**)	1.000	.487(**)	-.376(**)
SPXZCON	.459(**)	-.466(**)	.487(**)	1.000	-.669(**)
FITDIST2	-.441(**)	.753(**)	-.376(**)	-.669(**)	1.000

Regression Analyses Results

The first regression model is the base model which does not include an interaction term. This model regresses performance on the four management methods constructs and strategic process. It is not relevant to either of the hypotheses whether or not the independent variables in this model are significant, as the explicit hypotheses in this research only predict a relationship between the interaction of these independent variables and performance. However, as discussed in the data analysis section of the methods chapter, whether or not management methods matter in a universal sense is an interesting question. The answer to this question, inferred throughout this dissertation, is no, universal statements about management methods are not appropriate, particular management methods may only be prescribed for particular circumstances. However, the results (Table 19) do show both interest aligning management method constructs to be significant and positively related to performance. The implication of this result will be discussed throughout the remainder of this dissertation.

The next model regresses performance on the combined management methods variable (MANMETH) and strategic process. As expected, based on the results of the first regression, the management methods variable is significant and negatively related to performance on its own. This variable is constructed such that positive values correspond to more controlling and monitoring methods and negative values correspond to interest aligning methods. This model also results in the strategic process variable being significant and positive. It is constructed such that higher positive values represent a more deliberate strategic process environment. The results of this regression model are shown in Table 20.

Table 19. Base Regression Model Output

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.550(a)	.302	.247	.7262
a Predictors: (Constant), ZSTRATEG, ZEMPOWER, ZBUDGETS, ZCOMPENS, ZBUREAUC				

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.401	5	2.880	5.461	.000(a)
	Residual	33.226	63	.527		
	Total	47.626	68			
a Predictors: (Constant), ZSTRATEG, ZEMPOWER, ZBUDGETS, ZCOMPENS, ZBUREAUC						
b Dependent Variable: ZPERFORM						

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.273	.844		.324	.747
	ZBUDGETS	-6.326E-02	.111	-.069	-.567	.572
	ZBUREAUC	.110	.140	.107	.787	.435
	ZCOMPENS	.289	.115	.322	2.510	.015
	ZEMPOWE	.433	.157	.339	2.761	.008
	ZSTRATEG	.105	.119	.107	.881	.382
a Dependent Variable: ZPERFORM						

Table 20. Regression Model Two Output

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.462(a)	.213	.189	.7535
a Predictors: (Constant), ZSTRATEG, MANMETH				

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.150	2	5.075	8.938	.000(a)
	Residual	37.476	66	.568		
	Total	47.626	68			
a Predictors: (Constant), ZSTRATEG, MANMETH						
b Dependent Variable: ZPERFORM						

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.330	.407		5.727	.000
	MANMETH	-.312	.083	-.413	-3.752	.000
	ZSTRATEG	.259	.108	.264	2.400	.019
a Dependent Variable: ZPERFORM						

The third regression model includes the interaction term. In this case performance is regressed on management methods, strategic process and the interaction term. Both hypotheses would be supported if the interaction coefficient is positive and significant. As can be seen in the output shown in Table 21, this is not the case. Both the management methods and strategic process variables remain significant (as in regression model two) while the interaction term is not.

One of the difficulties in getting significance with the interaction term is the overwhelming significance in the management methods variable that is driven by the strong relationship between the interest aligning measures and performance. For the fourth regression model the management methods variable will use only the controlling and monitoring measures in an attempt to allow the significance of the interaction term to emerge. The results of this analysis are shown in Table 22. This model also doesn't yield significant results for the interaction term, or have much explanatory power with a very low adjusted R squared and an F value of only 2.134.

The next and final chapter of this dissertation explains the important significance and contribution of these results.

Table 21. Regression Model Three Output

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.484(a)	.234	.199	.7491
a Predictors: (Constant), SPXMM, MANMETH, ZSTRATEG				

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.147	3	3.716	6.621	.001(a)
	Residual	36.479	65	.561		
	Total	47.626	68			
a Predictors: (Constant), SPXMM, MANMETH, ZSTRATEG						
b Dependent Variable: ZPERFORM						

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.795	.570		3.147	.002
	MANMETH	-.398	.105	-.526	-3.797	.000
	ZSTRATEG	.404	.153	.412	2.644	.010
	SPXMM	.148	.111	.227	1.333	.187
a Dependent Variable: ZPERFORM						

Table 22. Regression Model Four Output

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.299(a)	.090	.048	.8167
a Predictors: (Constant), SPXZCON, ZSTRATEG, ZCONTROL				

ANOVA(b)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.269	3	1.423	2.134	.104(a)
	Residual	43.357	65	.667		
	Total	47.626	68			
a Predictors: (Constant), SPXZCON, ZSTRATEG, ZCONTROL						
b Dependent Variable: ZPERFORM						

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.318	.512		6.481	.000
	ZSTRATEG	.316	.131	.322	2.405	.019
	ZCONTRO	-.320	.181	-.271	-1.769	.082
	SPXZCON	.139	.172	.114	.806	.423
a Dependent Variable: ZPERFORM						

CHAPTER 6: DISCUSSION AND IMPLICATIONS

As the results have shown, the contribution of this research is not in presenting evidence which directly supports the developed hypotheses. Rather, the contribution of this dissertation is that it has provided evidence suggesting that management of the strategy implementation process is more complex than simply fitting interest aligning management methods to emergent strategic processes, or behavior controlling management methods to deliberate strategic processes. This chapter discusses how insights gained from this dissertation lead to an improved understanding of this complex implementation process. Also discussed here are limitations of the study and suggestions for future research.

Implications for Theory and Practice

As previously discussed, much has been written about the idea of firms having different types of strategic processes, yet this is the first work done attempting to assess the strategic process of many organizations using a survey instrument. The value of this type of assessment instrument is that it would allow organizations to establish a point of reference from which they could then make informed decisions about how they may want to change their strategic management process – if at all.

The data collected do support the idea that firms vary in the type of strategic process by which they operate. This concept of a strategic process continuum illuminates the possibility that Mintzberg's wonderful image of strategy making feet (one deliberate and one emergent) may be of unequal size (1987: 69). Armed with the understanding

that there is a continuum, and knowing their location on it, further strengthens an organization's ability to make enlightened decisions about where they think they should be and what they need to change in order to get there.

One of the stated objectives of this dissertation is to provide information about what management methods are actually being used in organizations. Those methods reported as being most relied upon include *face to face meetings, management visibility, trust, budget development, involvement in goal setting,* and *autonomy in how goals are achieved.* Management methods that were not reported as being used extensively included *poor performance penalties, audits, close management supervision, written procedures, watching people closely.* From these responses its appears that while the opportunity exists for the strategy setters to monitor and control the strategy implementers indicated by the high level of face to face meetings and management visibility, this is not what goes on during these interactions. If this was the case, then items such as audits, close management supervision, and watching people closely would also appear as near the top of the sorted list from most used to least used, rather than at the bottom. It is also interesting to note that the three management method items most highly and positively correlated with *successful* are reliance on trust, management visibility, and team building activities.

Regarding the results of the regression analyses testing the central hypotheses of this research, the evidence does not support the predicted fit between an organization's strategic management process and its management methods as an important determinant of firm performance. In none of the findings reported in the results chapter (including

other fit analysis techniques attempted but not reported) did the interaction between these variables show up as significant. However, an interesting finding has occurred. This somewhat surprising finding is that successful firms operate with a deliberate strategic process and employ interest aligning management methods. A visual representation of this finding is shown in the following two figures. Figure 6 shows the strategic management process and the management methods assessments plotted for those firms with the lowest performance ratings (less than or equal to 2.67). These firms are fairly randomly scattered about the plot. In contrast to Figure 6, Figure 7 plots the scores for the same variables for the best performing firms (performance greater than or equal to 4.00). This figure clearly shows the top performing firms grouped in the deliberate strategic process, interesting aligning management methods quadrant.

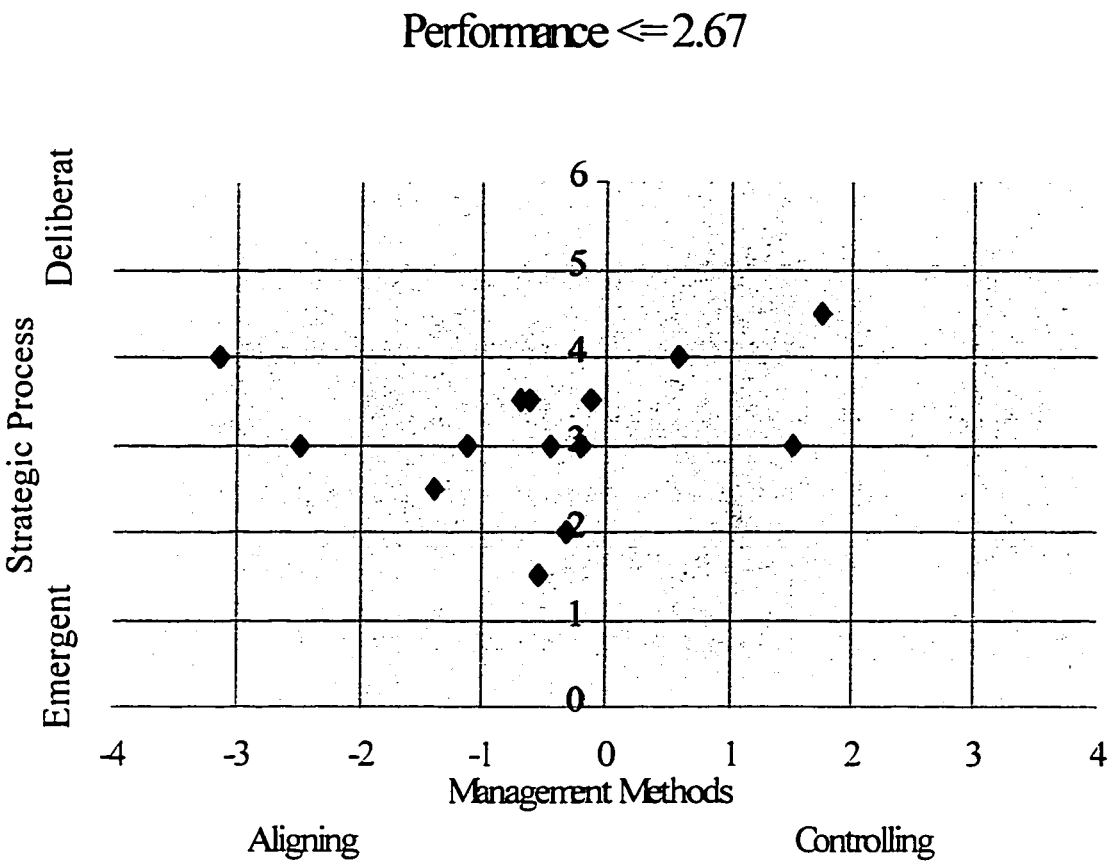

Figure 6. Firms with Poor Performance Ratings

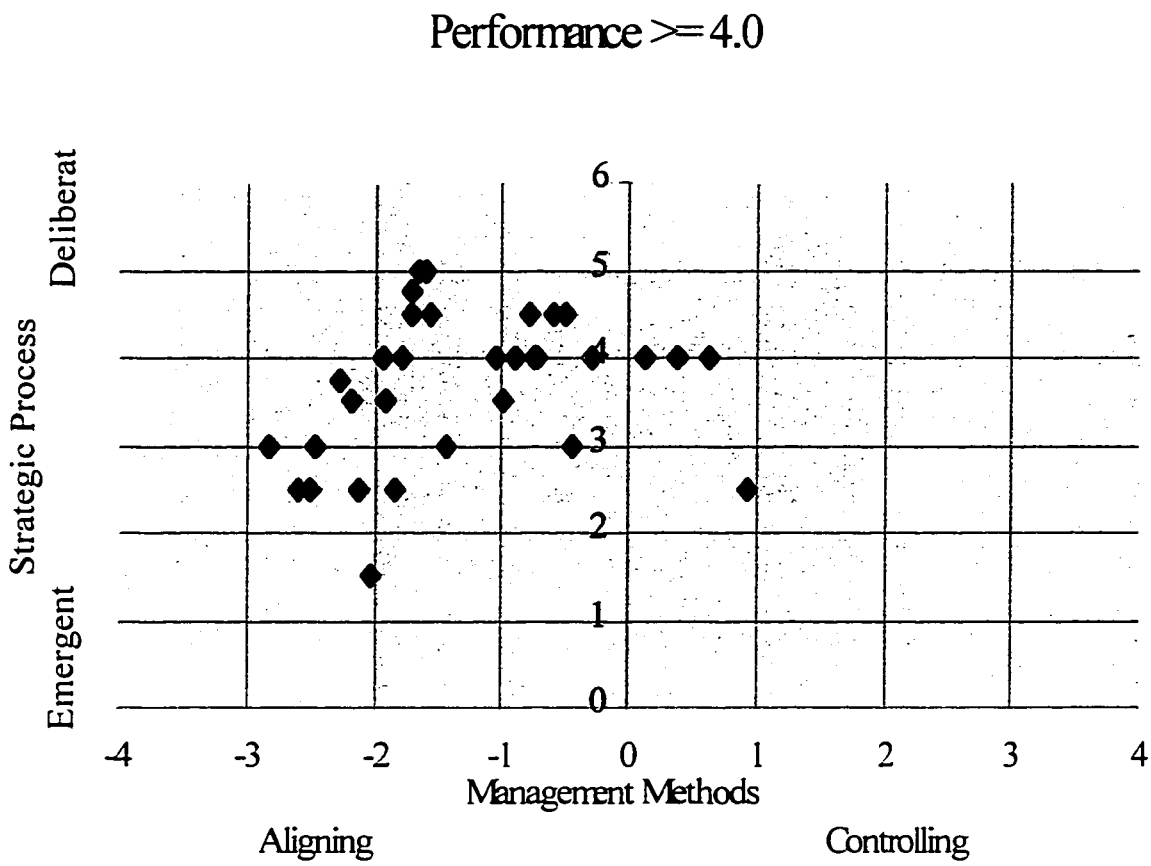

Figure 7. Firms with High Performance Ratings

The primary regression model three (shown as Table 21) reports a positive and significant strategic process coefficient. The interpretation of this result is that performance will be improved with a more deliberate strategic process. This is a rather contrarian and surprising outcome given the current popularity of promoting emergent strategic processes over those which are more deliberate and grounded in strategic planning (e.g. see Henry Mintzberg's 1994 book, The Rise and Fall of Strategic Planning).

The model developed in this dissertation would predict that firms should be using controlling and monitoring management methods in deliberate strategic process environments. So having said that deliberate strategic processes improve performance, one would expect (based on the theory) that the coefficients for controlling and monitoring variables would be significant and positive. However, we find that it is the *interest aligning variables that are positive and highly significant.* How can this be explained?

There are two factors on which the theory behind the idea that optimal performance in deliberate strategic process environments calls for controlling and monitoring management methods, and not interest aligning methods rests. The first is that interest aligning methods would allow the strategy implementing agents too much freedom in their decision making to the detriment of the organization. Even though these agents may have the organization's interests at heart, they may make good local decisions but poor global decisions because they don't see the big picture. The second factor is an

economic argument that interest aligning management methods have real costs and if these management methods are unnecessary in a deliberate strategic process environment then employing interest aligning methods results in the firm operating at a competitive disadvantage.

Some insight into the breakdown of the first factor can be made through an examination of the survey item correlation matrix (included as Appendix B). Several items attempt to get at the importance of trust in the organization and all these items are significantly positively correlated – except for one. Item Q404 "Employees here could 'get away with' not fulfilling their job responsibilities if they wanted to" is *negatively* correlated with the other trust items and with the interest aligning management methods variables (at the .01 level). The interpretation of this finding is that the concern of the first factor that employees will be running wild making local decisions which negatively impact the organization and which would not be noticed until damage has been done may be overstated. There is enough monitoring and interaction between members of most organizations that if employees do truly have the interests of the organization at heart they will make the right decisions or will seek out advice at appropriate times.

The economic argument for not employing interest aligning management methods may overstate the costs and understate the benefits. In other words, even in deliberate strategic process environments there may be significant benefits to having employees feel that their interests are aligned with those of the organization. This may reduce the degree of controlling and monitoring mechanisms needed and may inspire employees to exert their efforts on behalf of the organization to a greater degree than they would otherwise.

Organization Theory Explanation

A source for additional insight into the meaning of the findings of this dissertation is to draw on organization theory thinking. As noted earlier, organization theory has a long history of addressing similar problems to those explored here. For example, Charles Perrow has found that, "When the tasks people perform are well understood, predictable, routine, and repetitive, a bureaucratic structure is the most efficient" (1979: 162). In other words, firms with a deliberate strategic process should develop a rules based work environment. The two theories take different roads but end up in the same place. Comparisons can also be made with the work of other organization theorists such as William Ouchi and Daniel Robey.

The ideas discussed above are similar to those developed by William Ouchi in his papers on organization control (Ouchi, 1979; Ouchi & Maguire, 1975; Eisenhardt, 1985). He develops theory on control at both the organization level and at the individual level. At the organization level he suggests the major approaches to control are market, bureaucratic, and clan. These translate into three individual level approaches to control available to managers as output, behavior, and input. The relationship between Ouchi's individual level control approaches and the interest aligning versus behavior controlling governance mechanisms in this research is that both his output and input control approaches correspond to what is defined as interest aligning governance mechanisms. This becomes clear when the governance mechanism typing question shown in Figure 3 is put to Ouchi's methods of control. Neither output control nor input control explicitly tie the reward (or penalty) that accrues to the agent directly to the agent's behavior.

While both theories may seem to prescribe similar management systems for similar strategic process orientations there is an important difference to the rudimentary principles on which the prescriptions are based. In the case of strategy implementation, the focus of agency theory is to develop governance mechanisms that will ensure the agent effectively does his or her best for the principal, and does not behave opportunistically. Whereas, organization theory focuses on giving the agent what is needed to do the job well. This subtle distinction is significant. In a deliberate process environment, the agency theory argument for bureaucratic rules is based on the need to control and monitor to preclude opportunistic behavior, contrasted with the organization theory argument for bureaucratic rules because in this routine environment these rules have captured the most efficient way to get the job done (rather than having employees inefficiently "reinventing the wheel").

The results of this dissertation suggest that the organization theory models of organization systems design are more helpful than the agency theory models. The organizations in this study do not report extensive use of employee monitoring management methods yet they do report that employees could not get away with not doing their work. Therefore agency theory arguments suggesting extensive use of management methods to prevent employees from shirking their job responsibilities in deliberate strategic process environments seem flawed.

Personal Reflections

The findings presented in this dissertation have had a profound effect on my own thinking regarding management methods. As may be obvious from my writing, in general I prefer, and believe in, contingency theories over universal theories of management. One of the universal theories currently being promoted in academic management literature, as well as in the popular business press, is the idea that more employee empowerment, and actions by organizations demonstrating commitment to employees, is always a good thing as is a reduction in the monitoring and controlling aspect of an organization's management methods. It was my clandestine desire that with this research I would be able to report evidence refuting this universal idea, and supporting the idea that increased employee empowerment and commitment were only appropriate in certain situations, i.e. those that occurred in the context of an emergent strategic process. Furthermore, I expected to show that there are indeed times when organizations ought to increase the level of monitoring and controlling of their employees, i.e. in the context of a deliberate strategic process.

A specific example will help to illustrate this point further. In a recent Academy of Management Review article Tom Jones develops the following theory of competitive advantage:

> Given that the contracting process gives rise to agency problems, transaction cost problems, and team production problems (in general, commitment problems), efficient contracting will be profoundly affected by the costs of solving these commitment problems. Because these

> commitment problems (opportunism) abound, firms that solve commitment problems efficiently will have a competitive advantage over those that do not. Further, because ethical solutions to commitment problems are more efficient than mechanisms designed to curb opportunism, it follows that firms that contract (through their managers) with their stakeholders on the basis of mutual trust and cooperation will have a competitive advantage over firms that do not (Jones, 1995: 421).

Jones goes on to develop a series of propositions relating management decisions to a variety of stakeholder groups. For example, "Firms that provide close monitoring of employees (perhaps including surveillance) will perform less well than firms that do not engage in such monitoring" (1995: 428). It was my intention to refute his general theory, and his specific propositions, such as this one. My motivation for this objective is partially fueled by my own mapping of appropriate management systems, grounded in my economics background, which has resulted in a rather distasteful sense that pervades my reading of what I have believed to be a normative, rather than instrumental, theory. However, as has been reported here, not only have I not found support for my contingency theory arguments, but I have actually found support for this heretofore unrealistically idealized universal theory on how organizations should be managed.

In this way, my dissertation has had a significant effect on my thinking and beliefs, and therefore also on the influence I will have on others through my teaching, writing and consulting.

Limitations of the Study

As is the case in most research projects, tradeoffs in the design of this project allowed for some factors to be studied at the expense of others. Limitations of this research resulted from these tradeoffs, as well as from practical considerations, and will be discussed in the context of the sample, the model and the survey.

The fact that the sample consists of members of the Harvard Business School Club of Puget Sound has resulted in data that have come from a variety of organizations - which allows for some interesting comparisons and insights. This is an appropriate approach for this stage of research as it has provided a broad base of survey responses across a wide range of organizations, in terms of size, industry, competitive environment, histories, etc. However, it also limits the range of conclusions that may be drawn in some important ways. For example, information is not available on the variance in survey responses among different members of the same organization. This means questions about whether or not individuals working at different job functions within the same organization assess the variables differently, cannot be addressed by the data gathered here. An important implication that remains unappraised is whether or not it is appropriate to assess strategic process, management methods, and performance at the organization level, the business level, the department level, the team level, or even the individual level. Also, within organizations it would be interesting to examine whether

or not the principals (strategy setters) and agents (strategy implementers) see their organizations in the same light.

Other control variables also cannot be studied due to the tradeoff between gathering data from a variety of organizations versus restricting the study to fewer organizations in a single, or very limited number, of industries. This fact makes it more difficult to control for firm and industry effects, as well as to assess the role industry plays in the complex process of implementing strategies.

Again relating to the sample, all participants were involved in some type of educational program at the Harvard Business School, and therefore the results may be biased to specific training received there. In all likelihood, this is not a material problem due to the variety of educational programs offered and the significant time which has elapsed since the training was received for many of the study contributors.

Lastly, the sample size in this study was relatively small at 69 respondents. The small sample size makes the development of the survey scales a somewhat problematic process, as well as finding statistical significance in the data analysis more difficult.

Limitations of the model include the relatively small amount of explanatory power that the regression models represented as indicated by low R squared values. Ideally, the model should include other factors that would allow it to more completely explain performance. These factors could include industry effects as well as firm effects variables such as R & D intensity and advertising intensity used by Hill, Hitt and Hoskisson (1992) in their study examining how the relationship between structure and diversification strategy effects performance.

Another limitation of the study is the fact that all the data used in the analysis are generated via the survey instrument. Where possible, other data sources should be tapped to provide collaborating evidence on as many of the variables as possible. Clearly this can be done with the performance variable assuming all companies in the study are public.

The final area to discuss regarding limitations of this study is the survey instrument. As indicated in the methodology chapter, whenever survey research is done it is always best to use an existing, well testing, instrument if possible. This allows the researcher to cite validity and reliability evidence from the previous studies and precludes the necessity of actually having to create the instrument. Because no instrument meeting the requirements for this research was available, scales had to be developed for each of the constructs in the study. Therefore, the body of evidence to support claims of validity and reliability for the scale used here is still limited. This situation will be remedied as the instrument develops a more substantial history of application.

Future Research

Sources of areas for future research come from addressing the limitations of this research, as well as from interesting insights and questions that have materialized out of the study itself.

One of these interesting questions that has been alluded to in earlier chapters of this dissertation, although not addressed as it is beyond the scope of this work, is what are the determinants of an organization's strategic process orientation. Burgelman and

Mintzberg clearly suggest that it is a function of competitive environment. Could there also be other factors, and what sort of data should be collected in order to empirically address this question? This study found that a more deliberate strategic process seems to result in improved performance. is this the case under all conditions and does it remain constant throughout the life of an organization? In addition to competitive environment, other possible factors are shown in Figure 8.

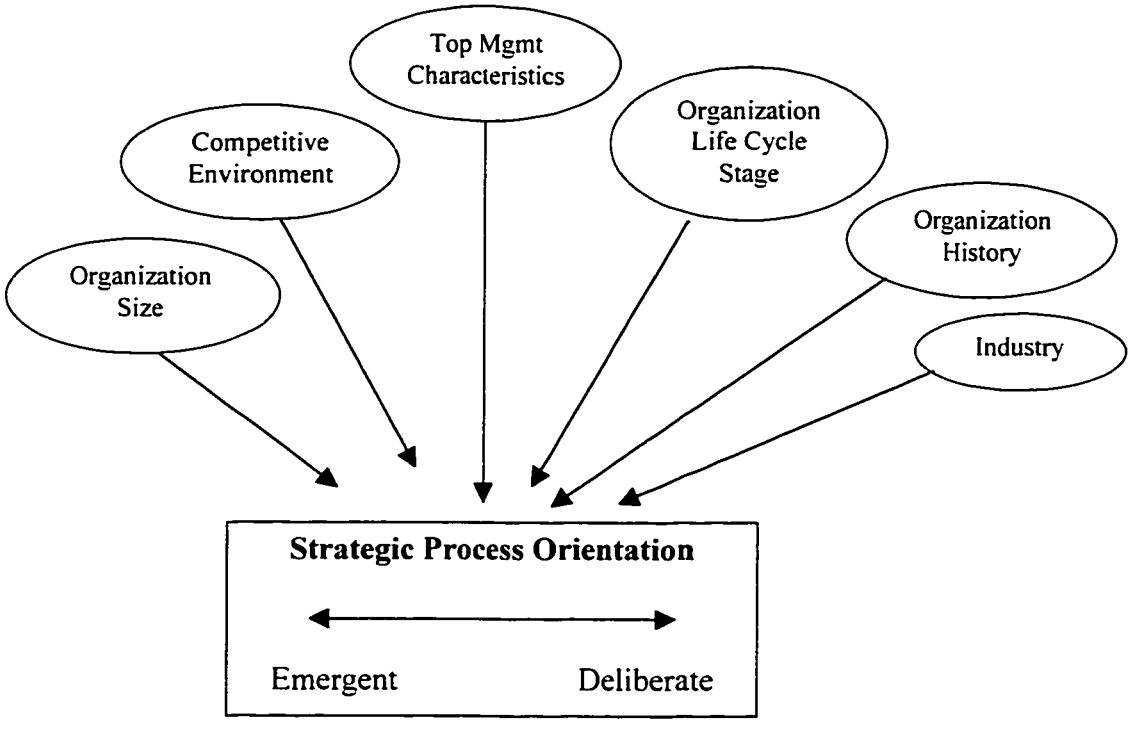

Figure 8. Possible Determinants of Strategic Process Orientation

A fundamental change in the design of the next phase of this research should be to shift from a broad study of many organizations as was done here to a more focused study going in-depth into fewer organizations and fewer industries. This will allow many of the limitations of this study to be addressed as well as the opportunity to get at some of the other interesting questions raised.

In this proposed study, it is recommended to select a limited number of industries which compete in different types of competitive environments. Then, within each industry firms might be selected that represent good performance and poor performance. Finally, within each firm multiple participants should be included that represent different functions as well as strategy setter and strategy implementer roles.

A further phase of research should reassess a sample studied earlier in time to investigate longitudinal changes in the variables. Do firms cycle over time between shifting toward one end of the strategic process orientation spectrum and back to the other? Do the type of strategy implementing management methods used in organizations remain constant over time? What factors influence the answers to these questions? Answers to these questions will improve the understanding of the complex strategy formulation and implementation process in organizations. And a greater understanding might then lead to insight into how to make the process more effective.

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APPENDIX A:

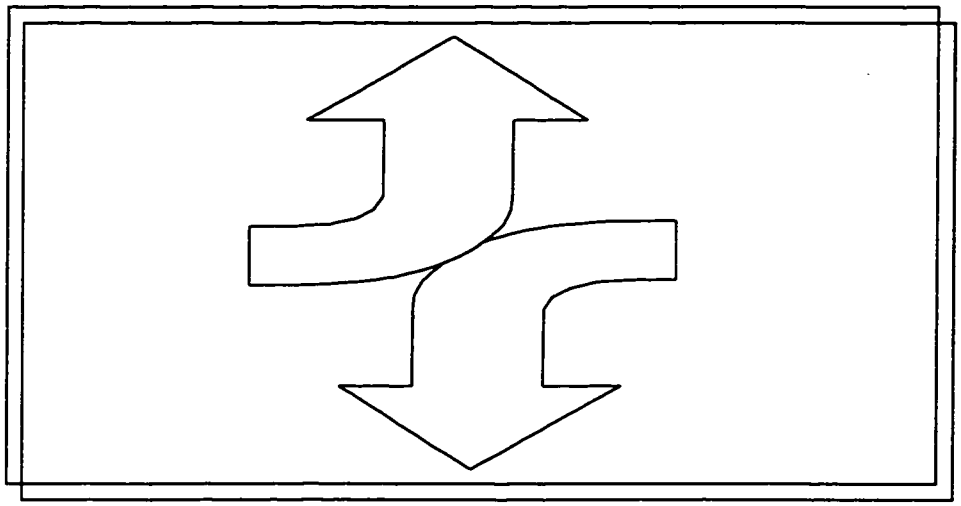
SURVEY QUESTIONNAIRE

UNIVERSITY OF WASHINGTON

DEPARTMENT OF MANAGEMENT AND ORGANIZATION
School of Business Administration

Survey of Strategy Management Tools

This survey is part of an ongoing effort to improve the understanding of how business firms manage and implement their strategies. The goal of this research is to help business professionals and academics understand the factors that underlie business success.



Please answer all the questions. If you wish to make any comments or to qualify your answers, we have tried to provide enough space on the questionnaire for such purposes. Your comments will be read and taken into account.

University of Washington
Department of Management
Box 353200
Seattle, WA 98195
Attn: Jonathan T. Down

jtdown@u.washington.edu
ph: (206) 543-4367

The Organization and Environment:

Q-1. How well do each of the following characteristics describe the workplace in your company?

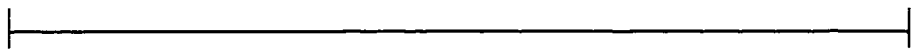
(Circle A Number For Each Item)

	VERY WELL	QUITE WELL	SOMEWHAT	ONLY A LITTLE	NOT AT ALL	NO OPINION
1. Bureaucratic	5	4	3	2	1	N/A
2. Flexible	5	4	3	2	1	N/A
3. Competitive	5	4	3	2	1	N/A
4. Political	5	4	3	2	1	N/A
5. Trusting	5	4	3	2	1	N/A
6. Individualistic	5	4	3	2	1	N/A
7. Chaotic	5	4	3	2	1	N/A
8. Predictable	5	4	3	2	1	N/A
9. Centralized	5	4	3	2	1	N/A
10. Negative	5	4	3	2	1	N/A
11. Formal	5	4	3	2	1	N/A
12. Efficient	5	4	3	2	1	N/A
13. Successful	5	4	3	2	1	N/A
14. Empowered	5	4	3	2	1	N/A
15. Non-Routine	5	4	3	2	1	N/A
16. Budget Driven	5	4	3	2	1	N/A
17. Regimented	5	4	3	2	1	N/A
18. Mechanistic	5	4	3	2	1	N/A
19. Friendly	5	4	3	2	1	N/A
20. Teamwork	5	4	3	2	1	N/A
21. Conflict	5	4	3	2	1	N/A
22. Declining	5	4	3	2	1	N/A
23. Performance Bonuses	5	4	3	2	1	N/A
24. Effective	5	4	3	2	1	N/A
25. Innovative	5	4	3	2	1	N/A
26. Rational	5	4	3	2	1	N/A
27. Fun	5	4	3	2	1	N/A
28. Specialized Jobs	5	4	3	2	1	N/A
29. Hierarchical	5	4	3	2	1	N/A
30. Positive	5	4	3	2	1	N/A
31. Organic	5	4	3	2	1	N/A
32. Profitable	5	4	3	2	1	N/A
33. Rules Oriented	5	4	3	2	1	N/A

Q-2. The activity of formulating and developing strategy is known as a "strategic process." Different companies have different strategic processes, varying from purely deliberate to purely emergent, and any mix in between. A deliberate strategic process is one in which all strategies that are actually implemented are clearly laid out in formal strategic plans. Whereas, an emergent strategic process is one where the strategies that are actually implemented were never planned or intended, either because no strategic planning was done or the intended strategy was displaced by another strategy which emerged over time.

Please do your best to assess the strategic process for both the department you work in and your company as a whole. Indicate your assessment by circling the appropriate number on the continuums shown:

Department Strategic Process



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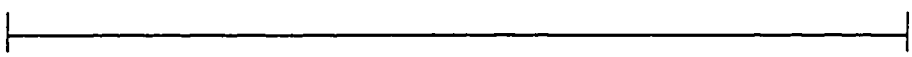
Deliberate Emergent

Company Strategic Process



5 4 3 2 1

Deliberate Emergent

Strategy Management and Implementation Methods:

Q-3. Listed below are a variety of methods used in managing the process of implementing strategies and changes in organizations. Please indicate the frequency of use of each management tool at your company.

(Circle A Number For Each Item)

	USED EXTENSIVELY	USED ROUTINELY	USED SOMEWHAT	USED RARELY	NEVER USED	NO INFORMATION
1. Face to Face Meetings	5	4	3	2	1	N/A
2. Staff Meetings	5	4	3	2	1	N/A
3. Audits	5	4	3	2	1	N/A
4. Trust	5	4	3	2	1	N/A
5. Flexible Work Hours	5	4	3	2	1	N/A
6. Profit Sharing	5	4	3	2	1	N/A
7. Budget Development	5	4	3	2	1	N/A
8. Bottom Up Activity Reports	5	4	3	2	1	N/A
9. Top Down Activity Reports	5	4	3	2	1	N/A
10. Management Visibility	5	4	3	2	1	N/A
11. Performance Reviews	5	4	3	2	1	N/A
12. Clear Rules	5	4	3	2	1	N/A
13. Team Building Activities	5	4	3	2	1	N/A
14. Good Performance Rewards	5	4	3	2	1	N/A
15. Poor Performance Penalties	5	4	3	2	1	N/A
16. Progress Review Meetings	5	4	3	2	1	N/A
17. Budget Reviews	5	4	3	2	1	N/A
18. Written Procedures	5	4	3	2	1	N/A
19. Close Management Supervision	5	4	3	2	1	N/A
20. Presentations by Management	5	4	3	2	1	N/A

Q-4. For each of the following, please indicate the degree to which you agree or disagree with the statements as they apply to your company.

(Circle A Number For Each Statement)

	STRONGLY AGREE	SOMEWHAT AGREE	NEUTRAL	SOMEWHAT DISAGREE	STRONGLY DISAGREE	NO INFORMATION
1. Trust is important in my work environment	5	4	3	2	1	N/A
2. I would feel comfortable talking to my supervisor about problems with my job	5	4	3	2	1	N/A
3. Most people in this company are entrusted to get their work done	5	4	3	2	1	N/A
4. Employees here could "get away with" not fulfilling their job responsibilities if they wanted to.	5	4	3	2	1	N/A
5. People are watched closely	5	4	3	2	1	N/A
6. Managers are held responsible for all budget variances	5	4	3	2	1	N/A
7. Managers who do not meet their budgets would be in trouble	5	4	3	2	1	N/A
8. Changes to budgets can only be made with approval from higher management	5	4	3	2	1	N/A
9. The budgeting process in this company is a standardized process	5	4	3	2	1	N/A
10. Employees are paid better when the company does well	5	4	3	2	1	N/A
11. There are many rules and procedures at the company	5	4	3	2	1	N/A
12. It is important to follow the rules and procedures	5	4	3	2	1	N/A
13. Management authority is well defined	5	4	3	2	1	N/A

Q-5. For each of the following, please indicate the degree to which you agree or disagree with the statements as they apply to your company.

(Circle A Number For Each Statement)

	STRONGLY AGREE	SOMEWHAT AGREE	NEUTRAL	SOMEWHAT DISAGREE	STRONGLY DISAGREE	NO INFORMATION
1. Significant actions are always planned for.	5	4	3	2	1	N/A
2. I have a significant amount of authority in deciding on my goals.	5	4	3	2	1	N/A
3. Most of the actual changes at my company happen rapidly.	5	4	3	2	1	N/A
4. Formal strategic planning is very important.	5	4	3	2	1	N/A
5. How I achieve my goals is up to me.	5	4	3	2	1	N/A

Background Information:

Q-6. What is the name of the company where you work?

COMPANY NAME: _____

Q-7. Approximately how many employees work at the company?

NUMBER OF EMPLOYEES AT YOUR BUSINESS UNIT: _____

TOTAL NUMBER OF EMPLOYEES AT THE COMPANY: _____

Q-8. Please specify the number of years you have worked at the company.

YEARS AT THE COMPANY: _____

Q-9. Which one of the following best describes the type of work you do at the company? *(Circle A Number)*

1. GENERAL MANAGEMENT
2. PROJECT MANAGEMENT
3. MANFACTURING/OPERATIONS
4. HUMAN RESOURCES
5. ACCOUNTING/FINANCE
6. MARKETING
7. SALES
8. CUSTOMER SERVICE
9. QUALITY
10. ENGINEERING
11. PLANNING
12. OTHER (PLEASE SPECIFY)

_____

Q-10. Your current position at the company is best described as: *(Circle A Number)*

1. TOP MANAGEMENT
2. MIDDLE MANAGEMENT
3. FIRST LINE MANAGEMENT
4. SENIOR STAFF
5. PROFESSIONAL, NONMANAGEMENT
6. NON-EXEMPT EMPLOYEE
7. OTHER (PLEASE SPECIFY)

_____

Conclusion:

Is there anything else you would like to tell us about your experiences in implementing changes and strategies in your company? If so, please use this space for that purpose.

Your contribution to this effort is very greatly appreciated. If you would like a summary of results, please print your name and address on the back of the return envelope (NOT on this questionnaire). We will see to it that you get it.

APPENDIX B:

ITEM CORRELATION MATRIX

Correlations

		Q101	Q102	Q103	Q104	Q105	Q106	Q107
Pearson Correlation	Q101	1.000	-.779**	-.140	.450**	-.309*	-.483**	-.081
	Q102	-.779**	1.000	.239*	-.425**	.387**	.491**	.149
	Q103	-.140	.239*	1.000	.079	.148	.275*	.144
	Q104	.450**	-.425**	.079	1.000	-.632**	-.168	.071
	Q105	-.309*	.387**	.148	-.632**	1 000	.170	-.222
	Q106	-.483**	.491**	.275*	-.168	.170	1.000	.292*
	Q107	-.081	.149	.144	.071	-.222	.292*	1.000
	Q108	.357**	-.346**	-.040	.120	.093	-.386**	-.494**
	Q109	.358**	-.232	-.162	.180	-.256*	-.256*	-.102
	Q110	.471**	-.506**	-.040	.552**	-.671**	-.143	.301*
	Q111	.486**	-.427**	-.147	.443**	-.177	-.341**	-.301*
	Q112	-.259*	.338**	.270*	-.304*	.428**	.138	-.208
	Q113	-.171	.173	.191	-.132	.328**	.080	-.193
	Q114	-.360**	.441**	.333**	-.415**	.551**	.170	.018
	Q115	-.421**	.462**	.341**	-.067	.176	.429**	.418**
	Q116	.339**	-.364**	.027	.373**	-.172	-.315*	-.103
	Q117	.495**	-.473**	.013	.472**	-.302*	-.362**	-.106
	Q118	.478**	-.396**	-.125	.418**	-.380**	-.306*	-.049
	Q119	-.236	.309*	.136	-.418**	.689**	.089	-.207
	Q120	-.178	.211	.122	-.258*	.540**	.058	-.320**
	Q121	.180	-.115	.032	.410**	-.346**	-.002	.394**
	Q122	.417**	-.418**	-.079	.329**	-.330**	-.294*	.175
	Q123	-.265*	.279*	.058	-.150	.262*	.216	-.053
	Q124	-.256*	.318**	.296*	-.340**	.520**	.249*	-.189
	Q125	-.321**	.370**	.269*	-.315**	.453**	.329**	-.001
	Q126	-.041	.208	.195	-.125	.427**	.036	-.298*
	Q127	-.412**	.400**	.241*	-.420**	.439**	.296*	-.126
	Q128	.198	-.241*	-.064	.195	-.083	-.108	-.186
	Q129	.630**	-.558**	-.185	.525**	-.392**	-.323**	-.273*
	Q130	-.414**	.460**	.117	-.469**	.609**	.176	-.229
	Q131	-.117	.231	-.023	-.467**	.251	.125	.151
	Q132	-.150	.155	.210	-.084	.182	.139	-.155
	Q133	.529**	-.574**	-.095	.308*	-.280*	-.372**	-.115
	Q201	.051	-.116	.051	.118	-.261*	-.147	-.070
	Q202	.036	-.093	.047	-.022	.172	-.191	-.271*
	Q301	-.097	.131	.134	.328**	-.062	.085	-.059
	Q302	.290*	-.284*	.003	.488**	-.226	-.241*	.172
	Q303	.272*	-.280*	.116	.266*	-.015	-.286*	-.326**
	Q304	-.320**	.330**	.037	-.518**	.583**	.119	-.141
	Q305	-.294*	.339**	.035	-.191	.323**	.129	-.059
	Q306	-.356**	.522**	.220	-.318**	.407**	.334**	.140
	Q307	.173	-.240	-.117	.245*	-.077	-.295*	-.203
	Q308	.233	-.171	.041	.201	-.002	-.366**	-.225
	Q309	.076	.024	.057	.151	.156	-.118	-.298*
	Q310	-.353**	.296*	.248*	-.225	.264*	.184	-.104
	Q311	.039	.084	.117	-.017	.090	-.084	-.029
	Q312	.173	-.211	.031	.161	.088	-.218	-.488**
	Q313	-.206	.300*	.325**	-.203	.363**	.195	-.012
	Q314	-.483**	.479**	.260*	-.263*	.345**	.322**	.058
	Q315	-.029	-.021	.002	.008	.123	-.057	-.193
	Q316	.005	-.102	.155	.172	-.173	.030	-.004
	Q317	.102	-.133	.066	.196	-.125	-.058	-.040
	Q318	.350**	-.271*	-.254*	.288*	-.256*	-.196	-.199
	Q319	.098	-.023	.066	.107	-.056	.000	-.034
	Q320	.063	.037	.317**	.264*	-.084	.041	.036
	Q401	-.220	.311**	.058	-.394**	.513**	.047	-.202

Correlations

		Q101	Q102	Q103	Q104	Q105	Q106	Q107
Pearson Correlation	Q402	-.240	.241	-.105	-.341**	.434**	-.010	-.268*
	Q403	-.319**	.325**	.142	-.305*	.519**	.141	-.325**
	Q404	.298*	-.285*	-.193	.295*	-.429**	-.162	.090
	Q405	.008	-.098	.007	.220	-.233	-.103	.275*
	Q406	-.052	-.063	.165	.014	.160	-.033	-.059
	Q407	.118	-.071	-.047	.222	-.028	-.152	-.195
	Q408	.241	-.210	-.003	.160	-.154	-.310*	.113
	Q409	.329**	-.364**	.070	.385**	-.178	-.301*	-.307*
	Q410	-.250*	.357**	.232	-.171	.294*	.071	.249*
	Q411	.674**	-.622**	-.292*	.419**	-.288*	-.565**	-.229
	Q412	.278*	-.230	-.100	.185	-.110	-.306*	-.281*
	Q413	.101	-.190	.088	.022	.150	-.159	-.254*
	Q501	.103	-.156	.025	-.004	.256*	-.227	-.410**
	Q502	-.253*	.292*	-.044	-.386**	.424**	.172	-.095
	Q503	-.470**	.493**	.185	-.326**	.263*	.360**	.228
	Q504	.225	-.148	.166	.326**	.001	-.235	-.219
	Q505	-.252*	.345**	-.060	-.238*	.436**	.086	-.079

Correlations

		Q108	Q109	Q110	Q111	Q112	Q113	Q114
Pearson Correlation	Q101	.357**	.358**	.471**	.486**	-.259*	-.171	-.360**
	Q102	-.346**	-.232	-.506**	-.427**	.338**	.173	.441**
	Q103	-.040	-.162	-.040	-.147	.270*	.191	.333**
	Q104	.120	.180	.552**	.443**	-.304*	-.132	-.415**
	Q105	.093	-.256*	-.671**	-.177	.428**	.328**	.551**
	Q106	-.386**	-.256*	-.143	-.341**	.138	.080	.170
	Q107	-.494**	-.102	.301*	-.301*	-.208	-.193	.018
	Q108	1.000	.190	.016	.384**	.221	.149	-.032
	Q109	.190	1.000	.202	.276*	-.119	-.237*	-.294*
	Q110	.016	.202	1.000	.295*	-.447**	-.381**	-.535**
	Q111	.384**	.276*	.295*	1.000	-.073	-.053	-.274*
	Q112	.221	-.119	-.447**	-.073	1.000	.494**	.526**
	Q113	.149	-.237*	-.381**	-.053	.494**	1.000	.522**
	Q114	-.032	-.294*	-.535**	-.274*	.526**	.522**	1.000
	Q115	-.403**	-.421**	-.154	-.324**	.104	.052	.462**
	Q116	.229	.083	.217	.317*	.008	-.184	-.128
	Q117	.342**	.325**	.408**	.649**	-.104	-.085	-.332**
	Q118	.284*	.355**	.527**	.613**	-.097	-.137	-.490**
	Q119	.138	-.074	-.554**	-.105	.381**	.404**	.472**
	Q120	.317**	-.232	-.474**	-.047	.354**	.547**	.485**
	Q121	-.140	-.030	.446**	.103	-.289*	-.055	-.196
	Q122	-.056	.209	.542**	.248	-.392**	-.448**	-.304*
	Q123	-.121	-.253*	-.235	-.286*	.155	.341**	.322*
	Q124	.062	-.170	-.563**	-.204	.626**	.619**	.573**
	Q125	-.075	-.317**	-.447**	-.164	.350**	.355**	.541**
	Q126	.154	-.215	-.306*	.064	.455**	.503**	.450**
	Q127	-.022	-.414**	-.489**	-.323**	.339**	.543**	.469**
	Q128	.266*	-.001	.143	.101	-.026	.077	-.111
	Q129	.256*	.304*	.441**	.670**	-.202	-.046	-.507**
	Q130	-.026	-.294*	-.718**	-.257*	.397**	.542**	.519**
	Q131	-.008	-.350*	-.152	-.157	.115	.540**	.339*
	Q132	.057	-.167	-.259*	.009	.403**	.642**	.257*
	Q133	.440**	.149	.374**	.453**	-.054	.071	-.301*
	Q201	.076	.179	.053	.151	.045	.046	-.115
	Q202	.227	-.008	-.252*	.146	.084	.217	.169
	Q301	.008	-.221	-.020	.067	-.037	.136	.019
	Q302	.077	-.024	.218	.204	-.262*	-.148	-.185
	Q303	.354**	.031	-.127	.338**	-.015	-.023	-.093
	Q304	.047	-.249*	-.586**	-.347**	.475**	.485**	.434**
	Q305	-.239*	-.197	-.419**	-.166	.140	.272*	.319**
	Q306	-.175	-.102	-.411**	-.325**	.308*	.309*	.452**
	Q307	.370**	-.057	.038	.382**	.168	.022	-.041
	Q308	.323**	-.086	.000	.136	.016	.010	.084
	Q309	.173	.019	-.201	.268*	-.066	.145	-.032
	Q310	-.002	-.267*	-.269*	-.110	.369**	.368**	.257*
	Q311	.176	-.163	-.106	.238	.273*	.230	.287*
	Q312	.572**	.003	-.062	.291*	.223	.120	.001
	Q313	-.043	-.372**	-.420**	-.028	.278*	.421**	.379**
	Q314	-.274*	-.224	-.414**	-.299*	.298*	.272*	.466**
	Q315	-.021	-.181	-.110	-.008	-.005	.099	.028
	Q316	-.069	-.197	.179	.045	-.014	.100	.047
	Q317	.257*	-.070	.027	.201	.179	.007	-.012
	Q318	.176	.114	.158	.368**	-.089	-.125	-.302*
	Q319	.121	-.009	.020	.121	.196	.108	-.203
	Q320	.050	-.226	-.044	.050	-.009	.097	-.098
	Q401	-.021	-.109	-.556**	-.136	.518**	.300*	.419**

Correlations

		Q108	Q109	Q110	Q111	Q112	Q113	Q114
Pearson Correlation	Q402	.153	-.228	-.427**	.097	.380**	.255	.332*
	Q403	.105	-.146	-.604**	-.132	.506**	.356**	.451**
	Q404	-.108	.232	.394**	.120	-.463**	-.193	-.430**
	Q405	-.044	.170	.249*	.084	.024	-.183	-.128
	Q406	.009	-.173	-.136	.033	.230	.133	.163
	Q407	-.046	-.140	-.086	.102	.173	.207	.033
	Q408	-.054	.255*	.272*	.300*	.038	-.193	-.071
	Q409	.420**	.037	.119	.390**	.194	.015	-.047
	Q410	-.116	-.041	-.243*	-.143	.173	.070	.450**
	Q411	.421**	.340**	.346**	.612**	-.093	-.088	-.269*
	Q412	.313**	.157	.024	.373**	.108	.094	-.165
	Q413	.305*	.135	-.078	.206	.331**	.156	.212
	Q501	.285*	-.029	-.209	.290*	.108	.045	.148
	Q502	.002	-.288*	-.261*	-.113	.280*	.183	.287*
	Q503	-.366**	-.251*	-.352**	-.405**	.208	.122	.346**
	Q504	.198	-.111	-.073	.296*	.127	.210	.112
	Q505	.070	-.138	-.355**	.005	.431**	.209	.175

Correlations

		Q115	Q116	Q117	Q118	Q119	Q120	Q121
Pearson Correlation	Q101	-.421**	.339**	.495**	.478**	-.236	-.178	.180
	Q102	.462**	-.364**	-.473**	-.396**	.309*	.211	-.115
	Q103	.341**	.027	.013	-.125	.136	.122	.032
	Q104	-.067	.373**	.472**	.418**	-.418**	-.258*	.410**
	Q105	.176	-.172	-.302*	-.380**	.689**	.540**	-.346**
	Q106	.429**	-.315*	-.362**	-.306*	.089	.058	-.002
	Q107	.418**	-.103	-.106	-.049	-.207	-.320**	.394**
	Q108	-.403**	.229	.342**	.284*	.138	.317**	-.140
	Q109	-.421**	.083	.325**	.355**	-.074	-.232	-.030
	Q110	-.154	.217	.408**	.527**	-.554**	-.474**	.446**
	Q111	-.324**	.317*	.649**	.613**	-.105	-.047	.103
	Q112	.104	.008	-.104	-.097	.381**	.354**	-.289*
	Q113	.052	-.184	-.085	-.137	.404**	.547**	-.055
	Q114	.462**	-.128	-.332**	-.490**	.472**	.485**	-.196
	Q115	1.000	-.089	-.375**	-.522**	.086	.114	.184
	Q116	-.089	1.000	.388**	.162	-.017	.017	.171
	Q117	-.375**	.388**	1.000	.773**	-.237	-.073	.228
	Q118	-.522**	.162	.773**	1.000	-.311*	-.281*	.224
	Q119	.086	-.017	-.237	-.311*	1.000	.627**	-.407**
	Q120	.114	.017	-.073	-.281*	.627**	1.000	-.165
	Q121	.184	.171	.228	.224	-.407**	-.165	1.000
	Q122	-.186	.368**	.264*	.369**	-.324*	-.448**	.257*
	Q123	.173	-.002	-.015	-.163	.198	.351**	.148
	Q124	.246*	-.062	-.300*	-.334**	.598**	.531**	-.108
	Q125	.437**	-.046	-.391**	-.510**	.433**	.468**	-.050
	Q126	.154	-.035	-.031	-.090	.320**	.422**	-.002
	Q127	.200	-.142	-.347**	-.388**	.516**	.640**	-.191
	Q128	-.015	.292*	.120	.108	.060	.321**	.082
	Q129	-.391**	.238	.640**	.681**	-.315**	-.176	.169
	Q130	.175	-.166	-.378**	-.397**	.550**	.574**	-.375**
	Q131	.019	-.338	-.062	-.046	.139	.440**	.041
	Q132	.059	-.066	.076	.056	.206	.400**	-.005
	Q133	-.441**	.195	.612**	.597**	-.167	.041	.012
	Q201	-.203	.238	.244	.253	-.034	-.016	-.140
	Q202	-.092	.322**	.269*	.140	.216	.278*	.020
	Q301	.195	.027	-.014	-.154	-.001	.170	-.106
	Q302	.047	.258*	.258*	.185	-.283*	-.087	.240*
	Q303	-.248*	.530**	.399**	.130	.101	.107	-.190
	Q304	.116	-.147	-.457**	-.468**	.509**	.482**	-.295*
	Q305	.265*	-.265*	-.293*	-.397**	.245*	.085	-.184
	Q306	.192	-.170	-.154	-.150	.365**	.182	-.123
	Q307	-.174	.571**	.196	.190	.091	.137	-.035
	Q308	.094	.464**	.028	-.008	-.090	.119	.099
	Q309	-.059	.067	.138	.017	.193	.275*	-.076
	Q310	.182	-.083	-.324**	-.256*	.181	.330**	-.174
	Q311	.158	.215	.179	.049	.210	.359**	.068
	Q312	-.122	.362**	.209	.069	.091	.326**	-.208
	Q313	.240	.016	-.069	-.175	.254*	.454**	-.046
	Q314	.318**	.000	-.103	-.214	.316**	.338**	-.070
	Q315	-.054	.311*	.144	.002	.195	.331**	.041
	Q316	.099	.299*	.057	.006	-.048	.182	.189
	Q317	.066	.590**	.125	.073	.064	.142	.119
	Q318	-.235	.315*	.351**	.276*	-.006	.100	-.136
	Q319	-.115	.271*	.281*	.122	-.029	.097	.184
	Q320	.060	.235	.150	.129	.006	.007	.242*
	Q401	.059	-.117	-.269*	-.300*	.404**	.311**	-.309*

Correlations

		Q115	Q116	Q117	Q118	Q119	Q120	Q121
Pearson Correlation	Q402	.048	.006	-.021	-.172	.461**	.386**	-.338**
	Q403	.047	-.089	-.238*	-.368**	.383**	.387**	-.374**
	Q404	-.186	-.017	.174	.203	-.281*	-.308*	.132
	Q405	.037	.228	.253*	.096	-.190	-.244*	.177
	Q406	-.022	.517**	.043	-.011	.317*	.191	-.078
	Q407	-.146	.410**	.260*	.219	.111	.129	.121
	Q408	-.154	.542**	.284*	.256*	.089	-.100	.091
	Q409	-.279*	.633**	.396**	.288*	.007	.219	-.045
	Q410	.204	.020	-.027	-.223	.151	.231	.111
	Q411	-.384**	.440**	.636**	.509**	-.101	.011	.003
	Q412	-.262*	.164	.376**	.350**	.011	.153	-.068
	Q413	-.044	.298*	.274*	.108	.182	.136	-.244*
	Q501	-.093	.271*	.216	.097	.186	.191	-.184
	Q502	.055	-.092	-.228	-.157	.269*	.228	-.029
	Q503	.279*	-.119	-.331**	-.529**	.170	.173	.025
	Q504	-.022	.521**	.180	.041	.204	.173	.017
	Q505	-.032	-.223	-.181	-.014	.379**	199	-.264*

Correlations

		Q122	Q123	Q124	Q125	Q126	Q127	Q128
Pearson Correlation	Q101	.417**	-.265*	-.256*	-.321**	-.041	-.412**	.198
	Q102	-.418**	.279*	.318**	.370**	.208	.400**	-.241*
	Q103	-.079	.058	.296*	.269*	.195	.241*	-.064
	Q104	.329**	-.150	-.340**	-.315**	-.125	-.420**	.195
	Q105	-.330**	.262*	.520**	.453**	.427**	.439**	-.083
	Q106	-.294*	.216	.249*	.329**	.036	.296*	-.108
	Q107	.175	-.053	-.189	-.001	-.298*	-.126	-.186
	Q108	-.056	-.121	.062	-.075	.154	-.022	.266*
	Q109	.209	-.253*	-.170	-.317**	-.215	-.414**	-.001
	Q110	.542**	-.235	-.563**	-.447**	-.306*	-.489**	.143
	Q111	.248	-.286*	-.204	-.164	.064	-.323**	.101
	Q112	-.392**	.155	.626**	.350**	.455**	.339**	-.026
	Q113	-.448**	.341**	.619**	.355**	.503**	.543**	.077
	Q114	-.304*	.322*	.573**	.541**	.450**	.469**	-.111
	Q115	-.186	.173	.246*	.437**	.154	.200	-.015
	Q116	.368**	-.002	-.062	-.046	-.035	-.142	.292*
	Q117	.264*	-.015	-.300*	-.391**	-.031	-.347**	.120
	Q118	.369**	-.163	-.334**	-.510**	-.090	-.388**	.108
	Q119	-.324*	.198	.598**	.433**	.320**	.516**	.060
	Q120	-.448**	.351**	.531**	.468**	.422**	.640**	.321**
	Q121	.257*	.148	-.108	-.050	-.002	-.191	.082
	Q122	1.000	-.224	-.460**	-.443**	-.306*	-.440**	.073
	Q123	-.224	1.000	.317*	.189	.423**	.423**	.058
	Q124	-.460**	.317*	1.000	.552**	.531**	.543**	.034
	Q125	-.443**	.189	.552**	1.000	.384**	.656**	.099
	Q126	-.306*	.423**	.531**	.384**	1.000	.449**	-.067
	Q127	-.440**	.423**	.543**	.656**	.449**	1.000	.148
	Q128	.073	.058	.034	.099	-.067	.148	1.000
	Q129	.302*	-.188	-.240*	-.350**	.023	-.323**	.255*
	Q130	-.521**	.289*	.642**	.522**	.446**	.649**	.098
	Q131	-.340*	.512**	.303	.216	.350*	.405*	-.155
	Q132	-.439**	.347**	.560**	.336**	.466**	.474**	-.064
	Q133	.157	-.251*	-.199	-.366**	.019	-.197	.298*
	Q201	-.095	.074	.041	-.002	-.125	.009	.208
	Q202	-.130	.314*	.218	.186	.230	.233	.182
	Q301	-.167	.159	.005	.226	.168	.175	.289*
	Q302	.138	.013	-.191	-.094	-.157	-.178	.241*
	Q303	.102	-.034	-.054	-.086	-.005	-.064	.129
	Q304	-.421**	.330**	.606**	.343**	.357**	.441**	.040
	Q305	-.180	.134	.145	.184	.016	.168	-.262*
	Q306	-.217	.509**	.413**	.205	.259*	.328**	-.225
	Q307	.212	.018	-.041	.006	.012	-.019	.231
	Q308	.291*	-.028	-.007	.021	.051	.004	.292*
	Q309	-.090	.123	.063	.258*	.108	.277*	.030
	Q310	-.349**	.131	.421**	.458**	.392**	.457**	-.053
	Q311	-.268*	.202	.256*	.302*	.357**	.222	.046
	Q312	-.098	-.068	.029	.077	.331**	.072	.291*
	Q313	-.350**	.310*	.326**	.400**	.257*	.519**	-.003
	Q314	-.215	.583**	.390**	.332**	.265*	.501**	-.094
	Q315	.162	.310*	.072	.174	.152	.296*	.159
	Q316	.134	.294*	.093	.240*	.161	.271*	.129
	Q317	.023	.132	.028	.201	.056	.067	.231
	Q318	.064	-.064	-.216	-.047	-.080	-.036	.356**
	Q319	-.148	.034	.057	.191	.170	.112	.082
	Q320	-.081	.251*	.083	.115	.149	.262*	-.020
	Q401	-.329*	.064	.477**	.248*	.219	.275*	-.110

Correlations

		Q122	Q123	Q124	Q125	Q126	Q127	Q128
Pearson Correlation	Q402	-.344*	.197	.297*	.371**	.192	.350**	.092
	Q403	-.283*	.213	.414**	.318**	.241*	.366**	-.115
	Q404	.225	-.116	-.373**	-.323**	-.192	-.288*	.035
	Q405	.151	-.155	-.243*	.095	-.158	-.130	.004
	Q406	.156	271*	.134	.123	.201	.186	.046
	Q407	.200	.458**	.126	.006	.360**	.137	.047
	Q408	.387**	-.069	-.178	-.053	-.023	-.183	.105
	Q409	.168	.059	.005	-.071	.127	-.002	.228
	Q410	-.060	.342**	.144	.320**	.114	.171	-.230
	Q411	.230	-.277*	-.315**	-.225	-.045	-.294*	.234
	Q412	.164	-.022	-.055	-.165	.203	.022	.163
	Q413	.184	.029	.126	.063	.205	.006	.132
	Q501	.006	.039	.146	.293*	.315**	.246*	.118
	Q502	-.095	.185	.326**	.179	.341**	.238*	-.233
	Q503	-.344**	.162	.252*	.338**	.031	.286*	-.269*
	Q504	-.010	074	.157	.170	.283*	.140	.189
	Q505	-.244	-.066	.293*	.101	.293*	122	-.236

Correlations

		Q129	Q130	Q131	Q132	Q133	Q201	Q202
Pearson Correlation	Q101	.630**	-.414**	-.117	-.150	.529**	.051	.036
	Q102	-.558**	.460**	.231	.155	-.574**	-.116	-.093
	Q103	-.185	.117	-.023	.210	-.095	.051	.047
	Q104	.525**	-.469**	-.467**	-.084	.308*	.118	-.022
	Q105	-.392**	.609**	.251	.182	-.280*	-.261*	.172
	Q106	-.323**	.176	.125	.139	-.372**	-.147	-.191
	Q107	-.273*	-.229	.151	-.155	-.115	-.070	-.271*
	Q108	.256*	-.026	-.008	.057	.440**	.076	.227
	Q109	.304*	-.294*	-.350*	-.167	.149	.179	-.008
	Q110	.441**	-.718**	-.152	-.259*	.374**	.053	-.252*
	Q111	.670**	-.257*	-.157	.009	.453**	.151	.146
	Q112	-.202	.397**	.115	.403**	-.054	.045	.084
	Q113	-.046	.542**	.540**	.642**	.071	.046	.217
	Q114	-.507**	.519**	.339*	.257*	-.301*	-.115	.169
	Q115	-.391**	.175	.019	.059	-.441**	-.203	-.092
	Q116	.238	-.166	-.338	-.066	.195	.238	.322**
	Q117	.640**	-.378**	-.062	.076	.612**	.244	.269*
	Q118	.681**	-.397**	-.046	.056	.597**	.253	.140
	Q119	-.315**	.550**	.139	.206	-.167	-.034	.216
	Q120	-.176	.574**	.440**	.400**	.041	-.016	.278*
	Q121	.169	-.375**	.041	-.005	.012	-.140	.020
	Q122	.302*	-.521**	-.340*	-.439**	.157	-.095	-.130
	Q123	-.188	.289*	.512**	.347**	-.251*	.074	.314*
	Q124	-.240*	.642**	.303	.560**	-.199	.041	.218
	Q125	-.350**	.522**	.216	.336**	-.366**	-.002	.188
	Q126	.023	.446**	.350*	.466**	.019	-.125	.230
	Q127	-.323**	.649**	.405*	.474**	-.197	.009	.233
	Q128	.255*	.098	-.155	-.064	.298*	.208	.182
	Q129	1.000	-.299*	-.188	.090	.619**	.207	.144
	Q130	-.299*	1.000	.285	.393**	-.172	.169	.308**
	Q131	-.188	.285	1.000	.566**	.064	.112	-.091
	Q132	.090	.393**	.566**	1.000	.007	.145	.190
	Q133	.619**	-.172	.064	.007	1.000	.163	.163
	Q201	.207	.169	.112	.145	.163	1.000	.435**
	Q202	.144	.308**	-.091	.190	.163	.435**	1.000
	Q301	.038	.267*	.024	.043	-.009	.140	-.023
	Q302	.253*	-.092	-.149	-.185	.111	.418**	.223
	Q303	.271*	.096	-.253	-.042	.295*	.366**	.376**
	Q304	-.405**	.582**	.312	.236	-.212	-.087	.057
	Q305	-.207	.247*	-.096	.025	-.371**	-.266*	-.025
	Q306	-.303*	.329**	.417*	.342**	-.351**	.045	.194
	Q307	.124	-.110	-.132	-.043	.196	.234	.249*
	Q308	.065	-.007	-.056	-.080	.048	.038	.200
	Q309	.128	.175	-.204	.061	-.056	.133	.297*
	Q310	-.377**	.520**	.235	.411**	-.220	.215	.153
	Q311	-.023	.234	.284	.302*	.103	.342**	.374**
	Q312	.164	.122	-.246	.029	.357**	.116	.232
	Q313	-.153	.436**	.387*	.387**	-.090	.106	.288*
	Q314	-.254*	.408**	.366*	.411**	-.321**	.087	.158
	Q315	.111	.138	.122	.131	.080	-.025	.313**
	Q316	.001	.053	.044	.104	.010	.306*	.165
	Q317	.005	-.067	-.171	.047	.061	.291*	.319**
	Q318	.415**	-.040	-.193	-.130	.388**	.255*	.063
	Q319	.156	.040	-.101	.249*	.112	.213	.300*
	Q320	.119	.070	.044	.222	.019	.315*	.317**
	Q401	-.255*	.494**	.155	.247*	-.257*	-.145	-.068

Correlations

		Q129	Q130	Q131	Q132	Q133	Q201	Q202
Pearson Correlation	Q402	-.174	.450**	.082	.193	-.058	.085	.073
	Q403	-.256*	.429**	-.027	.286*	-.227	-.233	.026
	Q404	.258*	-.267*	-.123	-.197	.139	.020	-.127
	Q405	.043	-.268*	-.259	-.113	.010	.031	.070
	Q406	-.044	.097	-.066	.195	-.006	.140	.230
	Q407	.273*	.103	-.060	.267*	.173	.112	.346**
	Q408	.210	-.262*	-.033	-.143	.184	.296*	.079
	Q409	.348**	-.055	-.124	.118	.370**	.259*	.318**
	Q410	-.358**	.186	.233	.177	-.290*	.016	.171
	Q411	.615**	-.276*	-.247	-.060	.604**	.114	.266*
	Q412	.507**	.097	-.113	.034	.519**	.217	.292*
	Q413	.177	.002	-.076	.133	.237	.148	.285*
	Q501	.136	.257*	-.280	.122	-.011	.215	.463**
	Q502	-.194	.282*	.254	.146	-.203	-.167	-.041
	Q503	-.495**	.263*	.283	.124	-.465**	-.167	-.066
	Q504	.293*	.180	-.331*	.131	.148	.331**	.457**
	Q505	-.118	.353**	.029	219	-.097	-.157	-.082

Correlations

		Q301	Q302	Q303	Q304	Q305	Q306	Q307
Pearson Correlation	Q101	-.097	.290*	.272*	-.320**	-.294*	-.356**	.173
	Q102	.131	-.284*	-.280*	.330**	.339**	.522**	-.240
	Q103	.134	.003	.116	.037	.035	.220	-.117
	Q104	.328**	.488**	.266*	-.518**	-.191	-.318**	.245*
	Q105	-.062	-.226	-.015	.583**	.323**	.407**	-.077
	Q106	.085	-.241*	-.286*	.119	.129	.334**	-.295*
	Q107	-.059	.172	-.326**	-.141	-.059	.140	-.203
	Q108	.008	.077	.354**	.047	-.239*	-.175	.370**
	Q109	-.221	-.024	.031	-.249*	-.197	-.102	-.057
	Q110	-.020	.218	-.127	-.586**	-.419**	-.411**	.038
	Q111	.067	.204	.338**	-.347**	-.166	-.325**	.382**
	Q112	-.037	-.262*	-.015	.475**	.140	.308*	.168
	Q113	.136	-.148	-.023	.485**	.272*	.309*	.022
	Q114	.019	-.185	-.093	.434**	.319**	.452**	-.041
	Q115	.195	.047	-.248*	.116	.265*	.192	-.174
	Q116	.027	.258*	.530**	-.147	-.265*	-.170	.571**
	Q117	-.014	.258*	.399**	-.457**	-.293*	-.154	.196
	Q118	-.154	.185	.130	-.468**	-.397**	-.150	.190
	Q119	-.001	-.283*	.101	.509**	.245*	.365**	.091
	Q120	.170	-.087	.107	.482**	.085	.182	.137
	Q121	-.106	.240*	-.190	-.295*	-.184	-.123	-.035
	Q122	-.167	.138	.102	-.421**	-.180	-.217	.212
	Q123	.159	.013	-.034	.330**	.134	.509**	.018
	Q124	.005	-.191	-.054	.606**	.145	.413**	-.041
	Q125	.226	-.094	-.086	.343**	.184	.205	.006
	Q126	.168	-.157	-.005	.357**	.016	.259*	.012
	Q127	.175	-.178	-.064	.441**	.168	.328**	-.019
	Q128	.269*	.241*	.129	.040	-.262*	-.225	.231
	Q129	.038	.253*	.271*	-.405**	-.207	-.303*	.124
	Q130	.267*	-.092	.096	.582**	.247*	.329**	-.110
	Q131	.024	-.149	-.253	.312	-.096	.417*	-.132
	Q132	.043	-.185	-.042	.236	.025	.342**	-.043
	Q133	-.009	.111	.295*	-.212	-.371**	-.351**	.196
	Q201	.140	.418**	.366**	-.087	-.266*	.045	.234
	Q202	-.023	.223	.376**	.057	-.025	.194	.249*
	Q301	1.000	.260*	.280*	.019	-.012	-.017	.087
	Q302	.260*	1.000	.220	-.293*	-.107	-.219	.185
	Q303	.280*	.220	1.000	-.104	-.203	-.119	.364**
	Q304	.019	-.293*	-.104	1.000	.217	.360**	-.122
	Q305	-.012	-.107	-.203	.217	1.000	.290*	-.062
	Q306	-.017	-.219	-.119	.360**	.290*	1.000	-.025
	Q307	.087	.185	.364**	-.122	-.062	-.025	1.000
	Q308	.058	.300*	.213	-.119	-.107	-.058	.389**
	Q309	.203	.196	.438**	-.009	.046	.016	.129
	Q310	.341**	-.031	-.019	.332**	.026	.113	.050
	Q311	.102	.143	.293*	.068	-.123	.125	.301*
	Q312	.273*	.083	.498**	.064	-.193	-.354**	.340**
	Q313	.073	.095	.162	.304*	.265*	.450**	.056
	Q314	.061	-.180	.034	.380**	.290*	.600**	-.112
	Q315	-.016	-.080	.262*	.057	-.101	.128	.099
	Q316	.189	.284*	.018	.005	-.092	-.079	.196
	Q317	.026	.200	.312*	-.101	-.261*	-.076	.732**
	Q318	.194	.236	.466**	-.193	-.162	-.232	.336**
	Q319	.110	.067	.233	-.065	-.108	-.009	.063
	Q320	.126	.227	.395**	-.161	-.140	.204	.264*
	Q401	-.027	-.124	-.043	.516**	.425**	.300*	-.116

Correlations

		Q301	Q302	Q303	Q304	Q305	Q306	Q307
Pearson Correlation	Q402	.235	-.112	.264*	.353**	.203	.180	.121
	Q403	.071	-.275*	.073	.540**	.460**	.367**	.000
	Q404	.014	.138	-.068	-.347**	-.160	-.276*	-.040
	Q405	.056	.226	.031	-.252*	-.164	-.058	.061
	Q406	-.010	-.093	.397**	.133	-.126	.065	.472**
	Q407	.159	.000	.443**	.009	-.077	.144	.316*
	Q408	-.206	.166	.232	-.088	-.277*	-.164	.357**
	Q409	.096	.274*	.531**	-.127	-.407**	-.202	.582**
	Q410	-.112	-.006	-.091	.152	.084	.460**	.089
	Q411	-.020	.241*	.358**	-.366**	-.246*	-.334**	.336**
	Q412	.101	.058	.427**	-.021	-.114	-.191	.221
	Q413	.040	-.113	.323**	.162	-.047	.027	.194
	Q501	.116	.141	.298*	.039	.117	.029	.228
	Q502	-.136	-.315**	-.118	.470**	.177	.252*	.002
	Q503	.067	-.204	-.110	.240	.235	.279*	-.108
	Q504	.172	.240*	.565**	-.028	-.025	-.030	.488**
	Q505	-.018	-.261*	-.078	.394**	.189	.266*	.055

Correlations

		Q308	Q309	Q310	Q311	Q312	Q313	Q314
Pearson Correlation	Q101	.233	.076	-.353**	.039	.173	-.206	-.483**
	Q102	-.171	.024	.296*	.084	-.211	.300*	.479**
	Q103	.041	.057	.248*	.117	.031	.325**	.260*
	Q104	.201	.151	-.225	-.017	.161	-.203	-.263*
	Q105	-.002	.156	.264*	.090	.088	.363**	.345**
	Q106	-.366**	-.118	.184	-.084	-.218	.195	.322**
	Q107	-.225	-.298*	-.104	-.029	-.488**	-.012	.058
	Q108	.323**	.173	-.002	.176	.572**	-.043	-.274*
	Q109	-.086	.019	-.267*	-.163	.003	-.372**	-.224
	Q110	.000	-.201	-.269*	-.106	-.062	-.420**	-.414**
	Q111	.136	.268*	-.110	.238	.291*	-.028	-.299*
	Q112	.016	-.066	.369**	.273*	.223	.278*	.298*
	Q113	.010	.145	.368**	.230	.120	.421**	.272*
	Q114	.084	-.032	.257*	.287*	.001	.379**	.466**
	Q115	.094	-.059	.182	.158	-.122	.240	.318**
	Q116	.464**	.067	-.083	.215	.362**	.016	.000
	Q117	.028	.138	-.324**	.179	.209	-.069	-.103
	Q118	-.008	.017	-.256*	.049	.069	-.175	-.214
	Q119	-.090	.193	.181	.210	.091	.254*	.316**
	Q120	.119	.275*	.330**	.359**	.326**	.454**	.338**
	Q121	.099	-.076	-.174	.068	-.208	-.046	-.070
	Q122	.291*	-.090	-.349**	-.268*	-.098	-.350**	-.215
	Q123	-.028	.123	.131	.202	-.068	.310*	.583**
	Q124	-.007	.063	.421**	.256*	.029	.326**	.390**
	Q125	.021	.258*	.458**	.302*	.077	.400**	.332**
	Q126	.051	.108	.392**	.357**	.331**	.257*	.265*
	Q127	.004	.277*	.457**	.222	.072	.519**	.501**
	Q128	.292*	.030	-.053	.046	.291*	-.003	-.094
	Q129	.065	.128	-.377**	-.023	.164	-.153	-.254*
	Q130	-.007	.175	.520**	.234	.122	.436**	.408**
	Q131	-.056	-.204	.235	.284	-.246	.387*	.366*
	Q132	-.080	.061	.411**	.302*	.029	.387**	.411**
	Q133	.048	-.056	-.220	.103	.357**	-.090	-.321**
	Q201	.038	.133	.215	.342**	.116	.106	.087
	Q202	.200	.297*	.153	.374**	.232	.288*	.158
	Q301	.058	.203	.341**	.102	.273*	.073	.061
	Q302	.300*	.196	-.031	.143	.083	.095	-.180
	Q303	.213	.438**	-.019	.293*	.498**	.162	.034
	Q304	-.119	-.009	.332**	.068	.064	.304*	.380**
	Q305	-.107	.046	.026	-.123	-.193	.265*	.290*
	Q306	-.058	.016	.113	.125	-.354**	.450**	.600**
	Q307	.389**	.129	.050	.301*	.340**	.056	-.112
	Q308	1.000	.247	-.034	.035	.281*	.264*	-.140
	Q309	.247	1.000	.159	.098	.247*	.392**	.045
	Q310	-.034	.159	1.000	.278*	.239	.329**	.173
	Q311	.035	.098	.278*	1.000	.407**	.335**	.150
	Q312	.281*	.247*	.239	.407**	1.000	.122	-.124
	Q313	.264*	.392**	.329**	.335**	.122	1.000	.465**
	Q314	-.140	.045	.173	.150	-.124	.465**	1.000
	Q315	.222	.288*	-.149	.120	.093	.223	.277*
	Q316	.330**	.159	.287*	.259*	.118	.252*	.151
	Q317	.369**	.165	.152	.442**	.341**	.129	-.081
	Q318	.027	.298*	-.039	.272*	.415**	.057	-.018
	Q319	-.135	.089	.269*	.411**	.240	.160	-.016
	Q320	.318*	.389**	.118	.204	.025	.418**	.123
	Q401	.098	.082	.308*	.000	-.026	.369**	.319**

Correlations

		Q308	Q309	Q310	Q311	Q312	Q313	Q314
Pearson Correlation	Q402	.066	.365**	.348**	.313*	.250	.383**	.276*
	Q403	.098	.271*	.334**	014	.175	411**	.363**
	Q404	- 148	.071	-.132	- 213	-.247*	-.336**	-.326**
	Q405	- 039	-.041	- 049	.014	- 030	-.072	-.064
	Q406	.160	.089	.019	.295*	.309*	.189	.301*
	Q407	.157	.187	- 084	294*	.274*	.145	.280*
	Q408	.185	.035	-.226	.123	.158	-.025	-.017
	Q409	.428**	.187	-.076	.299*	.473**	.171	-.030
	Q410	.115	.122	.029	.230	-.274*	.369**	.359**
	Q411	.265*	.205	-.291*	.160	.323**	-.109	-.347**
	Q412	.242	.305*	-.045	.156	.438**	.117	.018
	Q413	.193	.019	- 006	.170	.498**	.030	.219
	Q501	.180	.341**	.190	.220	.397**	.187	.206
	Q502	- 023	-.050	.220	.105	.045	.073	.318**
	Q503	-.277*	- 040	.160	-.017	-.301*	.130	.217
	Q504	352**	.335**	.033	.293*	.378**	.294*	.067
	Q505	- 210	-.040	.226	.135	.063	.017	.148

Correlations

		Q315	Q316	Q317	Q318	Q319	Q320	Q401
Pearson Correlation	Q101	-.029	.005	.102	.350**	.098	.063	-.220
	Q102	-.021	-.102	-.133	-.271*	-.023	.037	.311**
	Q103	.002	.155	.066	-.254*	.066	.317**	.058
	Q104	.008	.172	.196	.288*	.107	.264*	-.394**
	Q105	.123	-.173	-.125	-.256*	-.056	-.084	.513**
	Q106	-.057	.030	-.058	-.196	.000	.041	.047
	Q107	-.193	-.004	-.040	-.199	-.034	.036	-.202
	Q108	-.021	-.069	.257*	.176	.121	.050	-.021
	Q109	-.181	-.197	-.070	.114	-.009	-.226	-.109
	Q110	-.110	.179	.027	.158	.020	-.044	-.556**
	Q111	-.008	.045	.201	.368**	.121	.050	-.136
	Q112	-.005	-.014	.179	-.089	.196	-.009	.518**
	Q113	.099	.100	.007	-.125	.108	.097	.300*
	Q114	.028	.047	-.012	-.302*	-.203	-.098	.419**
	Q115	-.054	.099	.066	-.235	-.115	.060	.059
	Q116	.311*	.299*	.590**	.315*	.271*	.235	-.117
	Q117	.144	.057	.125	.351**	.281*	.150	-.269*
	Q118	.002	.006	.073	.276*	.122	.129	-.300*
	Q119	.195	-.048	.064	-.006	-.029	.006	.404**
	Q120	.331**	.182	.142	.100	.097	.007	.311**
	Q121	.041	.189	.119	-.136	.184	.242*	-.309*
	Q122	.162	.134	.023	.064	-.148	-.081	-.329*
	Q123	.310*	.294*	.132	-.064	.034	.251*	.064
	Q124	.072	.093	.028	-.216	.057	.083	.477**
	Q125	.174	.240*	.201	-.047	.191	.115	.248*
	Q126	.152	.161	.056	-.080	.170	.149	.219
	Q127	.296*	.271*	.067	-.036	.112	.262*	.275*
	Q128	.159	.129	.231	.356**	.082	-.020	-.110
	Q129	.111	.001	.005	.415**	.156	.119	-.255*
	Q130	.138	.053	-.067	-.040	.040	.070	.494**
	Q131	.122	.044	-.171	-.193	-.101	.044	.155
	Q132	.131	.104	.047	-.130	.249*	.222	.247*
	Q133	.080	.010	.061	.388**	.112	.019	-.257*
	Q201	-.025	.306*	.291*	.255*	.213	.315*	-.145
	Q202	.313**	.165	.319**	.063	.300*	.317**	-.068
	Q301	-.016	.189	.026	.194	.110	.126	-.027
	Q302	-.080	.284*	.200	.236	.067	.227	-.124
	Q303	.262*	.018	.312*	.466**	.233	.395**	-.043
	Q304	.057	.005	-.101	-.193	-.065	-.161	.516**
	Q305	-.101	-.092	-.261*	-.162	-.108	-.140	.425**
	Q306	.128	-.079	-.076	-.232	-.009	.204	.300*
	Q307	.099	.196	.732**	.336**	.063	.264*	-.116
	Q308	.222	.330**	.369**	.027	-.135	.318*	.098
	Q309	.288*	.159	.165	.298*	.089	.389**	.082
	Q310	-.149	.287*	.152	-.039	.269*	.118	.308*
	Q311	.120	.259*	.442**	.272*	.411**	.204	.000
	Q312	.093	.118	.341**	.415**	.240	.025	-.026
	Q313	.223	.252*	.129	.057	.160	.418**	.369**
	Q314	.277*	.151	-.061	-.018	-.016	.123	.319**
	Q315	1.000	.231	.154	.205	.176	.142	-.110
	Q316	.231	1.000	.370**	.053	.244*	.271*	-.061
	Q317	.154	.370**	1.000	.272*	.240	.416**	-.147
	Q318	.205	.053	.272*	1.000	.236	.062	-.059
	Q319	.176	.244*	.240	.236	1.000	.211	-.058
	Q320	.142	.271*	.416**	.062	.211	1.000	-.109
	Q401	-.110	-.061	-.147	-.059	-.058	-.109	1.000

Correlations

		Q315	Q316	Q317	Q318	Q319	Q320	Q401
Pearson Correlation	Q402	-.078	.113	.078	.196	.157	.089	.612**
	Q403	.020	-.017	-.040	-.028	-.010	-.047	.767**
	Q404	-.215	-.065	.010	.224	-.002	-.059	-.262*
	Q405	.138	.032	.109	.112	.444**	-.010	-.243*
	Q406	.335**	.360**	.532**	.088	.130	.265*	.017
	Q407	.542**	.242	.324**	.223	.230	.320*	-.039
	Q408	.274*	.171	.349**	.244	.032	.057	-.093
	Q409	.311*	.296*	.535**	.384**	.134	.320**	-.117
	Q410	.154	.115	.115	-.259*	.050	.114	.219
	Q411	.221	-.008	.243	.542**	.169	-.023	-.162
	Q412	.257*	.147	.205	.381**	.160	.222	.082
	Q413	.108	.058	.152	.108	-.001	-.032	.149
	Q501	.146	.214	.152	.155	.201	.087	.121
	Q502	.020	.033	.033	-.177	-.107	-.056	.445**
	Q503	.076	-.103	-.083	-.358**	.052	.068	.289*
	Q504	.132	.239*	.476**	.239*	.219	.525**	-.026
	Q505	-.045	-.244*	-.083	-.143	.028	-.100	.384**

Correlations

		Q402	Q403	Q404	Q405	Q406	Q407	Q408
Pearson Correlation	Q101	-.240	-.319**	.298*	.008	-.052	.118	.241
	Q102	.241	.325**	-.285*	-.098	-.063	-.071	-.210
	Q103	-.105	.142	-.193	.007	.165	-.047	-.003
	Q104	-.341**	-.305*	.295*	.220	.014	.222	.160
	Q105	.434**	.519**	-.429**	-.233	.160	-.028	-.154
	Q106	-.010	.141	-.162	-.103	-.033	-.152	-.310*
	Q107	-.268*	-.325**	.090	.275*	-.059	-.195	.113
	Q108	.153	.105	-.108	-.044	.009	-.046	-.054
	Q109	-.228	-.146	.232	.170	-.173	-.140	.255*
	Q110	-.427**	-.604**	.394**	.249*	-.136	-.086	.272*
	Q111	.097	-.132	.120	.084	.033	.102	.300*
	Q112	.380**	.506**	-.463**	.024	.230	.173	.038
	Q113	.255	.356**	-.193	-.183	.133	.207	-.193
	Q114	.332*	.451**	-.430**	-.128	.163	.033	-.071
	Q115	.048	.047	-.186	.037	-.022	-.146	-.154
	Q116	.006	-.089	-.017	.228	.517**	.410**	.542**
	Q117	-.021	-.238*	.174	.253*	.043	.260*	.284*
	Q118	-.172	-.368**	.203	.096	-.011	.219	.256*
	Q119	.461**	.383**	-.281*	-.190	.317*	.111	.089
	Q120	.386**	.387**	-.308*	-.244*	.191	.129	-.100
	Q121	-.338**	-.374**	.132	.177	-.078	.121	.091
	Q122	-.344*	-.283*	.225	.151	.156	.200	.387**
	Q123	.197	.213	-.116	-.155	.271*	.458**	-.069
	Q124	.297*	.414**	-.373**	-.243*	.134	.126	-.178
	Q125	.371**	.318**	-.323**	.095	.123	.006	-.053
	Q126	.192	.241*	-.192	-.158	.201	.360**	-.023
	Q127	.350**	.366**	-.288*	-.130	.186	.137	-.183
	Q128	.092	-.115	.035	.004	.046	.047	.105
	Q129	-.174	-.256*	.258*	.043	-.044	.273*	.210
	Q130	.450**	.429**	-.267*	-.268*	.097	.103	-.262*
	Q131	.082	-.027	-.123	-.259	-.066	-.060	-.033
	Q132	.193	.286*	-.197	-.113	.195	.267*	-.143
	Q133	-.058	-.227	.139	.010	-.006	.173	.184
	Q201	.085	-.233	.020	.031	.140	.112	.296*
	Q202	.073	.026	-.127	.070	.230	.346**	.079
	Q301	.235	.071	.014	.056	-.010	.159	-.206
	Q302	-.112	-.275*	.138	.226	-.093	.000	.166
	Q303	.264*	.073	-.068	.031	.397**	.443**	.232
	Q304	.353**	.540**	-.347**	-.252*	.133	.009	-.088
	Q305	.203	.460**	-.160	-.164	-.126	-.077	-.277*
	Q306	.180	.367**	-.276*	-.058	.065	.144	-.164
	Q307	.121	.000	-.040	.061	.472**	.316*	.357**
	Q308	.066	.098	-.148	-.039	.160	.157	.185
	Q309	.365**	.271*	.071	-.041	.089	.187	.035
	Q310	.348**	.334**	-.132	-.049	.019	-.084	-.226
	Q311	.313*	.014	-.213	.014	.295*	.294*	.123
	Q312	.250	.175	-.247*	-.030	.309*	.274*	.158
	Q313	.383**	.411**	-.336**	-.072	.189	.145	-.025
	Q314	.276*	.363**	-.326**	-.064	.301*	.280*	-.017
	Q315	-.078	.020	-.215	.138	.335**	.542**	.274*
	Q316	.113	-.017	-.065	.032	.360**	.242	.171
	Q317	.078	-.040	.010	.109	.532**	.324**	.349**
	Q318	.196	-.028	.224	.112	.088	.223	.244
	Q319	.157	-.010	-.002	.444**	.130	.230	.032
	Q320	.089	-.047	-.059	-.010	.265*	.320*	.057
	Q401	.612**	.767**	-.262*	-.243*	.017	-.039	-.093

Correlations

		Q402	Q403	Q404	Q405	Q406	Q407	Q408
Pearson Correlation	Q402	1.000	.632**	-.146	-.148	.132	.097	.021
	Q403	.632**	1.000	-.266*	-.245*	.157	.056	-.161
	Q404	-.146	-.266*	1.000	.015	-.301*	-.208	-.104
	Q405	-.148	-.245*	.015	1.000	-.015	.072	.303*
	Q406	.132	.157	-.301*	-.015	1.000	.608**	.514**
	Q407	.097	.056	-.208	.072	.608**	1.000	.371**
	Q408	.021	-.161	-.104	.303*	.514**	.371**	1.000
	Q409	-.034	-.018	-.118	.151	.528**	.467**	.471**
	Q410	.209	.297*	-.022	.126	.174	.045	.137
	Q411	-.091	-.201	.175	.282*	.021	.242	.337**
	Q412	.129	.082	-.115	.018	.188	.400**	.286*
	Q413	.210	.268*	-.360**	.127	.391**	.348**	.297*
	Q501	.276*	.132	-.233	.136	.246	.289*	.088
	Q502	.345**	.420**	-.214	-.379**	.184	.108	-.039
	Q503	.069	.226	-.208	.035	.050	-.047	-.092
	Q504	.140	.018	-.023	.019	.540**	.470**	.314*
	Q505	.398**	.401**	-.172	-.182	.108	.099	-.063

Correlations

		Q409	Q410	Q411	Q412	Q413	Q501	Q502
Pearson Correlation	Q101	.329**	-.250*	.674**	.278*	.101	.103	-.253*
	Q102	-.364**	.357**	-.622**	-.230	-.190	-.156	.292*
	Q103	.070	.232	-.292*	-.100	.088	.025	-.044
	Q104	.385**	-.171	.419**	.185	.022	-.004	-.386**
	Q105	-.178	.294*	-.288*	-.110	.150	.256*	.424**
	Q106	-.301*	.071	-.565**	-.306*	-.159	-.227	.172
	Q107	-.307*	.249*	-.229	-.281*	-.254*	-.410**	-.095
	Q108	.420**	-.116	.421**	.313**	.305*	.285*	.002
	Q109	.037	-.041	.340**	.157	.135	-.029	-.288*
	Q110	.119	-.243*	.346**	.024	-.078	-.209	-.261*
	Q111	.390**	-.143	.612**	.373**	.206	.290*	-.113
	Q112	.194	.173	-.093	.108	.331**	.108	.280*
	Q113	.015	.070	-.088	.094	.156	.045	.183
	Q114	-.047	.450**	-.269*	-.165	.212	.146	.287*
	Q115	-.279*	.204	-.384**	-.262*	-.044	-.093	.055
	Q116	.633**	.020	.440**	.164	.298*	.271*	-.092
	Q117	.396**	-.027	.636**	.376**	.274*	.216	-.228
	Q118	.288*	-.223	.509**	.350**	.108	.097	-.157
	Q119	.007	.151	-.101	.011	.182	.186	.269*
	Q120	.219	.231	.011	.153	.136	.191	.228
	Q121	-.045	.111	.003	-.068	-.244*	-.184	-.029
	Q122	.168	-.060	.230	.164	.184	.006	-.095
	Q123	.059	.342**	-.277*	-.022	.029	.039	.185
	Q124	.005	.144	-.315**	-.055	.126	.146	.328**
	Q125	-.071	.320**	-.225	-.165	.063	.293*	.179
	Q126	.127	.114	-.045	.203	.205	.315**	.341**
	Q127	-.002	.171	-.294*	.022	.006	.246*	.238*
	Q128	.228	-.230	.234	.163	.132	.118	-.233
	Q129	.348**	-.358**	.615**	.507**	.177	.136	-.194
	Q130	-.055	.186	-.276*	.097	.002	.257*	.282*
	Q131	-.124	.233	-.247	-.113	-.076	-.280	.254
	Q132	.118	.177	-.060	.034	.133	.122	.146
	Q133	.370**	-.290*	.604**	.519**	.237	-.011	-.203
	Q201	.259*	.016	.114	.217	.148	.215	-.167
	Q202	.318**	.171	.266*	.292*	.285*	.463**	-.041
	Q301	.096	-.112	-.020	.101	.040	.116	-.136
	Q302	.274*	-.006	.241*	.058	-.113	.141	-.315**
	Q303	.531**	-.091	.358**	.427**	.323**	.298*	-.118
	Q304	-.127	.152	-.366**	-.021	.162	.039	.470**
	Q305	-.407**	.084	-.246*	-.114	-.047	.117	.177
	Q306	-.202	.460**	-.334**	-.191	.027	.029	.252*
	Q307	.582**	.089	.336**	.221	.194	.228	.002
	Q308	.428**	.115	.265*	.242	.193	.180	-.023
	Q309	.187	.122	.205	.305*	.019	.341**	-.050
	Q310	-.076	.029	-.291*	-.045	-.006	.190	.220
	Q311	.299*	.230	.160	.156	.170	.220	.105
	Q312	.473**	-.274*	.323**	.438**	.498**	.397**	.045
	Q313	.171	.369**	-.109	.117	.030	.187	.073
	Q314	-.030	.359**	-.347**	.018	.219	.206	.318**
	Q315	.311*	.154	.221	.257*	.108	.146	.020
	Q316	.296*	.115	-.008	.147	.058	.214	.033
	Q317	.535**	.115	.243	.205	.152	.152	.033
	Q318	.384**	-.259*	.542**	.381**	.108	.155	-.177
	Q319	.134	.050	.169	.160	-.001	.201	-.107
	Q320	.320**	.114	-.023	.222	-.032	.087	-.056
	Q401	-.117	.219	-.162	.082	.149	.121	.445**

Correlations

		Q409	Q410	Q411	Q412	Q413	Q501	Q502
Pearson Correlation	Q402	-.034	.209	-.091	.129	.210	.276*	.345**
	Q403	-.018	.297*	-.201	.082	.268*	.132	.420**
	Q404	-.118	-.022	.175	-.115	-.360**	-.233	-.214
	Q405	.151	.126	.282*	.018	.127	.136	-.379**
	Q406	.528**	.174	.021	.188	.391**	.246	.184
	Q407	.467**	.045	.242	.400**	.348**	.289*	.108
	Q408	.471**	.137	.337**	.286*	.297*	.088	-.039
	Q409	1.000	.075	.552**	.490**	.293*	.176	-.233
	Q410	.075	1.000	-.132	-.163	-.024	.013	.122
	Q411	.552**	-.132	1.000	.473**	.261*	.215	-.379**
	Q412	.490**	-.163	.473**	1.000	.451**	.239*	.002
	Q413	.293*	-.024	.261*	.451**	1.000	.429**	.149
	Q501	.176	.013	.215	.239*	.429**	1.000	.135
	Q502	-.233	.122	-.379**	.002	.149	.135	1.000
	Q503	-.214	.417**	-.367**	-.276*	-.158	-.254*	.159
	Q504	.576**	.087	.260*	.352**	.266*	.381**	.038
	Q505	-.205	.167	-.240*	-.018	.094	.088	.619**

Correlations

		Q503	Q504	Q505
Pearson Correlation	Q101	-.470**	.225	-.252*
	Q102	.493**	-.148	.345**
	Q103	.185	.166	-.060
	Q104	-.326**	.326**	-.238*
	Q105	.263*	.001	.436**
	Q106	.360**	-.235	.086
	Q107	.228	-.219	-.079
	Q108	-.366**	.198	.070
	Q109	-.251*	-.111	-.138
	Q110	-.352**	-.073	-.355**
	Q111	-.405**	.296*	.005
	Q112	.208	.127	.431**
	Q113	.122	.210	.209
	Q114	.346**	.112	.175
	Q115	.279*	-.022	-.032
	Q116	-.119	.521**	-.223
	Q117	-.331**	.180	-.181
	Q118	-.529**	.041	-.014
	Q119	.170	204	.379**
	Q120	.173	.173	.199
	Q121	.025	.017	-.264*
	Q122	-.344**	-.010	-.244
	Q123	.162	.074	-.066
	Q124	.252*	.157	.293*
	Q125	.338**	.170	.101
	Q126	.031	.283*	.293*
	Q127	.286*	.140	.122
	Q128	-.269*	.189	-.236
	Q129	-.495**	.293*	-.118
	Q130	.263*	.180	.353**
	Q131	.283	-.331*	.029
	Q132	.124	.131	.219
	Q133	-.465**	.148	-.097
	Q201	-.167	.331**	-.157
	Q202	-.066	.457**	-.082
	Q301	.067	.172	-.018
	Q302	-.204	.240*	-.261*
	Q303	-.110	.565**	-.078
	Q304	.240	-.028	.394**
	Q305	.235	-.025	.189
	Q306	.279*	-.030	.266*
	Q307	-.108	.488**	.055
	Q308	-.277*	.352**	-.210
	Q309	-.040	.335**	-.040
	Q310	.160	.033	.226
	Q311	-.017	.293*	.135
	Q312	-.301*	.378**	.063
	Q313	.130	.294*	.017
	Q314	.217	.067	.148
	Q315	.076	.132	-.045
	Q316	-.103	.239*	-.244*
	Q317	-.083	.476**	-.083
	Q318	-.358**	.239*	-.143
	Q319	.052	.219	.028
	Q320	.068	.525**	-.100
	Q401	.289*	-.026	.384**

Correlations

		Q503	Q504	Q505
Pearson Correlation	Q402	.069	.140	.398**
	Q403	.226	.018	.401**
	Q404	-.208	-.023	-.172
	Q405	.035	.019	-.182
	Q406	.050	.540**	.108
	Q407	-.047	.470**	.099
	Q408	-.092	.314*	-.063
	Q409	-.214	.576**	-.205
	Q410	.417**	.087	.167
	Q411	-.367**	.260*	-.240*
	Q412	-.276*	.352**	-.018
	Q413	-.158	.266*	.094
	Q501	-.254*	.381**	.088
	Q502	.159	.038	.619**
	Q503	1.000	-.060	.189
	Q504	-.060	1.000	.049
	Q505	.189	.049	1.000

VITA

Jonathan T. Down

1998

JONATHAN TAYLOR DOWN

Oregon State University
College of Business
Department of Management, Marketing
& International Business
200 Bexell Hall
Corvallis, OR 97331
Ph: (541) 737-6061
Fax: (541) 737-4890
E-mail: down@bus.orst.edu

3276 NW Silktasssel Drive
Corvallis, OR 97330
(541) 758-6031

Education:

University of Washington, Strategic Management with minor areas in Economics and Research Methods, Ph.D., February 1998

Harvard University, MBA, June, 1987

Oregon State University, Mechanical Engineering, BS, June, 1983

Academic Experience:

9/97-present	Oregon State University	Corvallis, OR
	Assistant Professor of Strategic Management.	
9/93-6/97	University of Washington	Seattle, WA
	Teaching Assistant. Taught multiple sections of Strategic Management, Organization Theory & Design and Business, Government & Society.	

Professional Experience:

7/87-8/93	Precision Castparts Corporation	Portland, Oregon
	Account Manager Engineering Program Manager Manufacturing Area Manager	
7/83-7/85	Westinghouse Electric Corporation	Sunnyvale, California
	Maintainability Program Leader and Engineer.	

Working Papers:

"Matching Internal Governance Mechanisms to Strategic Process: An Agency Theory Perspective on Implementing Strategic Decisions." Dissertation topic.

"Internal Governance Mechanisms: Management Tools for Implementing Strategic Decisions."

"Tacit Knowledge as a Competitive Advantage in the National Basketball Association," with Shawn Berman and Charles Hill. Presented at the 1997 Western Academy of Management Conference.

"Management Power and Authority: Quo Vadis?" Presented at the 1994 Doctoral Student Conference.

"Reducing Employee Empowerment to Improve Quality: Management Methods in Deliberate Strategic Process Environments."

Honors:

1997 Edna Benson Fellowship Award

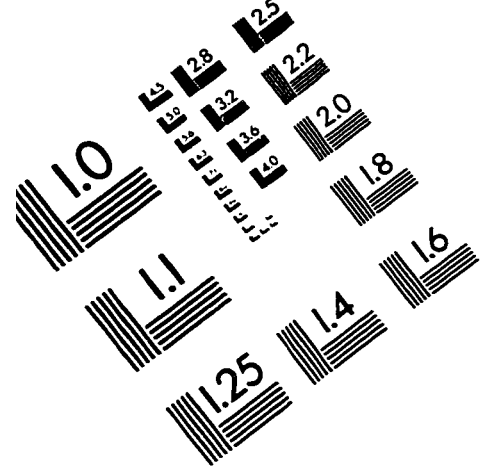
1997 Western Academy of Management Conference Best Paper Award for "Tacit Knowledge as a Competitive Advantage in the National Basketball Association," with Shawn Berman.

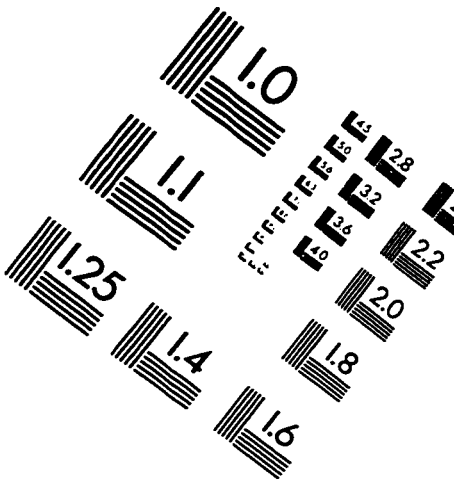
1996-97 Doctoral Program Outstanding Teaching Award, University of Washington.

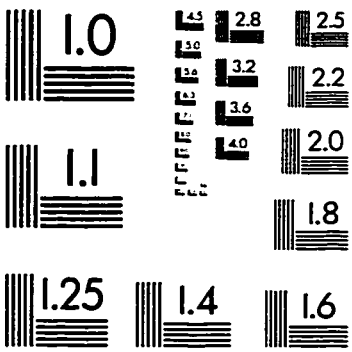
1996 Boeing Fellowship for Excellence

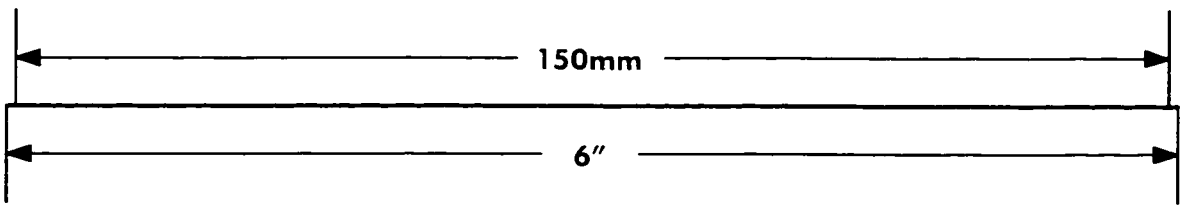
1994-95 Doctoral Program Certificate of Merit for Outstanding Teaching, University of Washington.

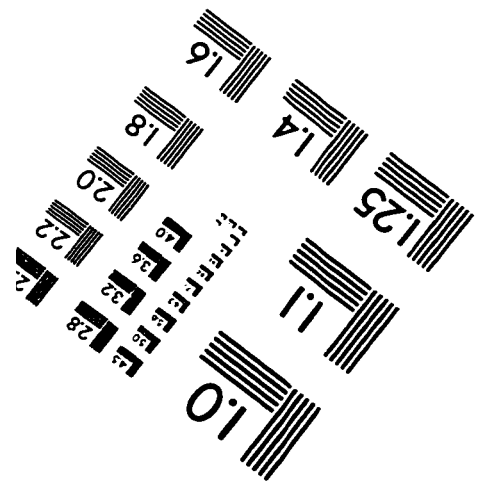
TEST TARGET (QA-3)

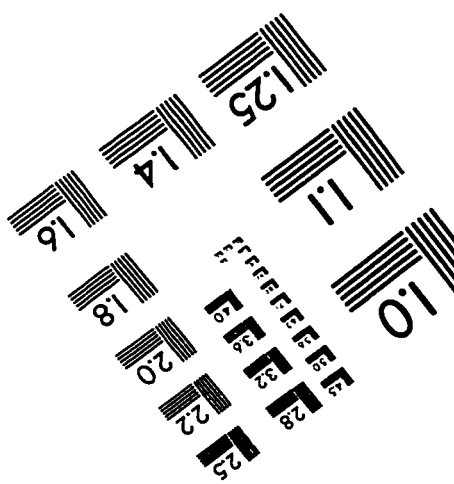












APPLIED IMAGE, Inc
1653 East Main Street
Rochester, NY 14609 USA
Phone: 716/482-0300
Fax: 716/288-5989