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**CONFIGURATIONS AMONG
HEALTH SERVICES ORGANIZATIONS**

by

TERRIE C. REEVES

A DISSERTATION

**Submitted in partial fulfillment of the requirements for the degree of Doctor
of Philosophy in the Department of Administration--Health Services
in the School of Health Related Professions, The Graduate
School, The University of Alabama at Birmingham**

BIRMINGHAM, ALABAMA

1996

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1996

ABSTRACT OF DISSERTATION
GRADUATE SCHOOL, UNIVERSITY OF ALABAMA AT BIRMINGHAM

Degree Ph.D. Major Subject Administration-Health Services
Name of Candidate Terrie C. Reeves
Title Configurations Among Health Services Organizations

Which health services organizations are likely to follow strategies that lead to greater success and financial viability? Why are some health services organizations more successful than others? What types of environment, organization, and strategy tend to be associated with more successful organizations? What are the attributes of less successful organizations? Can more and less successful health services organizations be categorized based on their attributes? Are there an infinite number of categories or only a few? Are the categories different for more successful than they are for less successful organizations?

These questions were the impetus for this study. The hypotheses for the research were (a) there exist a relatively small number of configurations of environment, structure/organization, and strategy which characterize health services organizations, and (b) of these configurations, or "archetypes," those of more successful health services organizations will differ from those of less successful health services organizations. Data were obtained either from organizational documents filed with the Securities and Exchange Commission or from published case studies for 77 health services organizations across all sectors of the health services industry. Twenty-one success, environmental, structural/organizational, and strategy-making variables were scored for each

organization. Using obverse (Q-methodology) factor analysis, more successful and less successful organizational configurations were identified with part of the data set and confirmed with the remainder of the data.

Five more successful archetypes and five less successful archetypes were found. Archetypes occurred among organizations with statistically greater probability than would be expected by chance. Scores on the variables of the more successful archetypes were different than those for less successful archetypes. The findings show that there are relatively few configurations of environmental, structural/organizational, and strategy-making variables associated with more successful health organizations and with less successful organizations. They also show that bivariate or other more simplistic analyses may not be able to capture the richness of detail and nuance needed by managers. This study provides a new basis from which health services managers can evaluate the strategies of their organizations in today's environment.

Abstract Approved by: Committee Chairman *M. J. Surt*
Program Director *Raymond D. Fattler*
Date *8/28/96* Dean of Graduate School *John Hodu*

DEDICATION

This dissertation is dedicated with love to my Dad, who would have been so proud.

ACKNOWLEDGEMENTS

My committee members could not have begun to fathom the depths into which they would soon be plunged when they agreed to serve. All of them have provided service far beyond that required of a dissertation committee in helping me navigate the murky waters of this study. To all of them I offer my most sincere gratitude. My co-chairs, Jack Duncan and Pete Ginter, have forbore with stoicism while I tried out ideas on them. They always offered sound advice and encouragement despite my tendencies toward hyperbole and fixations on certain words. Kudos to them, and many, many thanks. Gail McGee bucked me up on several occasions when I most needed a boost and taught me to look at things in a different way. Rick Shewchuk believed me when I said I liked quantitative work, and helped me to see just how much I really did love it. He always pointed me in the right direction. Myron Fottler always “told it like it really was” and pushed “his” students to strive for the best.

Any work of the length this one has attained could only have been finished with the help and support of others. In this case, it would not even have been started without help and encouragement from others. The first acknowledgement must, therefore, go to those who believed in me at the start and who encouraged me to keep on--my husband, Wil, my family, and my friends, especially Nick and Gloria. Then, I must salute the anonymous raters who devoted hours each week for many weeks to scoring my data; without them, the work could not have continued. I would have been stymied at the production phase

without both the friendship and the graphics and typing help of Alice Adams. In the final push, the “committee” tried to keep me from taking myself too seriously, Infer and Ghier actually made me laugh, and Wil made sure I ate occasionally, but then, he was always there.

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CHAPTER 1

INTRODUCTION

Which health services organizations are likely to follow strategies that lead to greater success and financial viability? What is it about those organizations that allows or forces them to follow the strategies? Why do they follow certain strategies and not others? Why are some health services organizations more successful, by any measure of success, than others? Are there common configurations of environment, organization, and strategy that tend to be found in more successful organizations and certain configurations found in less successful organizations? What are the attributes of the more successful organizations, and what are those of the less successful organizations? Or is it possible that organizations cannot be categorized because there are an infinite number of ways in which environment, organization, and strategy can be found in both more and less successful organizations?

These questions provided the impetus for this study. The aim of this dissertation was to discover if health services organizations that are more successful fall into a limited number of configurations and if less successful health services organizations similarly fall into a limited, but possibly different, set of configurations. The study did not focus on single characteristics of organizations. Rather, the configurations of many organizational characteristics and of the environment were important for this research. This study was designed to discover the configurations of organizational and environmental characteristics associated with more successful health services organizations and with less successful

health services organizations and to discover the differences in configurations between more and less successful organizations.

For the study, many health services organizations were evaluated either by studying cases written about them or by examining public documents filed by the organizations with the Securities and Exchange Commission (SEC). Then, these organizations were scored on 20 variables. Based on this evaluation, it appears that the more successful health services organizations exhibit a limited variety of responses to their environment and a limited number of approaches to making strategic decisions. That is, there are several, not infinitely many, configurations of organizational and environmental characteristics among more successful health services organizations. These configurations are different from the configurations found for the less successful organizations. The number of configurations for both more and less successful organizations is not large, 5 for more successful and 5 for less successful organizations.

Chapter 2 describes in detail the research problem, giving the rationale for the study, providing the general theoretical basis, stating the research hypotheses, and indicating delimitations of the study. This chapter also defines general terms that are used throughout the study.

Chapter 3 provides a review of the literature that is relevant to this research. Both the general background literature and the studies of specific importance for this research are discussed. Each variable used in this research which was identified in the literature is defined in this chapter. Finally, a critique denoting the relevant gaps in the literature is offered.

Chapter 4 describes the research design and methods. The data and data collection processes are described, and the scoring of the data is discussed in detail. The methods used to support the hypotheses are also discussed. This chapter describes the significance test for each configuration.

Chapter 5 begins the discussion of the research findings. The data are presented in aggregate using the means, standard deviations, ranges, and correlations of the variables. In addition, R-type factor analyses on the variables were performed, and the aggregate findings are discussed. Differences between more successful organizations and less successful organizations are highlighted.

Chapter 6 describes and discusses individual configurations, called archetypes. Examples taken from the written materials about each organization are used to illustrate characteristics that predominate in each configuration. There are 5 more successful archetypes: the Alert Artisans, the Conservative Controllers, the Adapting Professionals, the Technophilic Niche Players, and the Clear-Eyed Strategists. The 5 less successful archetypes are as follows: the Bloated Raptors, the Overwhelmed, the Broke Multispecialists, the Orderly Accountants, and the Overachievers.

The final chapter discusses the conclusions and the implications of this research. The relationships between the configurations and similar constructs in the literature are shown, and the differences and similarities among health services organizations and organizations in other industries are discussed. Methodological implications of the study are pointed out. The strategy implications of the configurations for practitioners and for future research are delineated. Finally, areas for future research are discussed.

CHAPTER 2

THE PROBLEM

Rationale: What is the Need for This Study?

Which organizations are likely to follow strategies that lead to greater success and financial viability? What allows those organizations to follow the strategies, or are they forced to follow the strategies? Why follow those particular strategies and not others? That is, why are some organizations more successful by any given measure of success, but often by some financial measurement, than others? What are the attributes of the more successful organizations, and what are those of the less successful organizations? Organizational scholars have tried to answer these questions for decades, but often it is difficult to distinguish the more successful organizations from the less successful organizations. In addition, organizations have myriad attributes, many of which are not so easily defined. Further, many scholars, most notably Henry Mintzberg and his colleagues (Mintzberg, 1989; Mintzberg, Quinn, & Voyer, 1995), have maintained that organizational attributes, organizational strategies, and organizational success are inextricably interwoven. The result of this scholarly activity is that, in the general management literature, several different configurations of attributes, strategies, and successes, described or measured in different ways, have been developed into typologies or have been used as the basis for the development of taxonomies (Miller & Friesen, 1984b; Miles & Snow, 1978; Mintzberg, 1979; Porter, 1980).

As long as health services organizations were paid on a fee-for-service basis, health services researchers seldom needed to look beyond measurements such as mortality or morbidity when examining health services organizations for more or less success. However, since the advent of prospective payments and diagnostic related groups (DRGs), health services researchers have begun to examine health services organizations in ways similar to those used by students of other organizations. In the current political climate, financial viability now matters to health services organizations. However, the empirical studies that attempted to examine more successful and less successful health services organizations in terms of financial viability have usually been based on typologies developed by context-free scholars. Little has been done to find taxonomies unique to the health services industry. The foremost rationale for this study is, then, that it provides descriptions of more successful and less successful health services organizations based on an empirical examination of health services organizations. It is hoped that such a description will (a) prove useful for health services managers and policy makers and (b) provide a basis for future research about health services organizational change.

Second, much of the health services literature has tended to study one or two aspects of an organization, (e.g., Cleverley's [1985; 1988; 1992a; 1992b] studies of health care financial matters and the Conrad, Mick, Madden, & Hoare [1988] study of structure) or has tended to study one or two organizations in greater depth (e.g., Meyer, 1982). This study attempts to integrate these approaches, studying numerous health

services organizations across the continuum of care and studying numerous aspects of each organization.

The final rationale for the study is that it may help to encourage the use of methods normally not found in health services research. Despite wide-spread criticism concerning the methodologies used most often in health services research, few scholars have deviated far from cross-sectional studies in which linear relationships are assumed to exist between the accepted bivariate or very circumscribed multivariate data. It is hoped that the calls from management scholars for exploration of more complicated relationships among variables, for portrayals of organizations in greater depth and richness using relatively broad samples (Miller & Friesen, 1982; Venkatraman, 1989; Venkatraman & Grant, 1986), have been partially met in this study. By so doing, the study shows that health services research is amenable to research methods beyond those most frequently used. Such methods can contribute to a broader understanding of the complete organization in its environment, thereby avoiding the fragmented approach to problems of which Senge (1990) warns us. In addition, the study demonstrates that unusual research methods can produce findings useful to both theoreticians and practitioners.

Theoretical Underpinning for the Study

Since Chandler's classic study (1962), contingency theory and its characteristic assumptions have provided a basis for much of organizational research, including health services organizational research. Contingency theory asserts that there is no one best way of organizing an organization. Any given way of organizing will be effective only

under given conditions and not under any others (Galbraith, 1973), but no organization will be in exactly the same conditions as any other organization. Beginning with Hofer and Schendel (1978, 1979), this theory was extended in the management literature to include the idea that an organization should use its resources to match its strengths with opportunities available in the environment. This implied that any one set of strategic choices or patterns would prove optimal for only one particular organization with one set of resources, strengths, and environmental contexts, and that Gilbreth's (1973/1954) search, for the "one best way" for each set of all organizations doing the same task, could never be fulfilled.

Taken to its logical end, the contingency perspective could mean different behavior for each organization because the conditions in any two organizations could never be identical nor could the organizational contexts be the same. Organizational managers could conclude that the attributes or strategies needed to succeed in any organization were unique to that one organization. However, rather than accepting the conclusions which could be drawn from contingency theory carried to the extreme, in the research on health services organizations, Shortell, Morrison, & Freedman (1992) and others (Luke & Begun, 1988; Morlock & Alexander, 1986; Morlock, Alexander & Hunter, 1985) looked at one kind of health care organization: hospitals. Other researchers examined one variety of strategy (Clement, 1987). These studies were implicitly based on a contingency perspective, that is, a perspective which posits that the behavior of any one organization differs "according to differences in the conditions under which [that organization's] behavior takes place" (Ansoff & McDonnell, 1990, p. 488). Thus, these

scholars, and others studying different industries, usually made no claims for the generalizability of their study results beyond the particular kind of organization or beyond the strategy being studied. Instead, they opted for research results that would hold true in a particular kind of organization or in a particular context.

Other scholars, following a different theoretical perspective, grouped organizations into classifications based on the sociological and psychological research examining differences among organizations. However, the classifications usually relied upon characteristics of the organization (or of the people comprising the organization), without using characteristics of the environment in which the organization was found. Weber's classification of bureaucracies (1924/1947) is an early example based on the people in the organization. Examples using the structures of organizations as the basis for classification include Blau and Scott (1962), Burns (1963/1990), and Thompson (1990/1967), whereas the writings of Etzioni (1961), Katz and Kahn (1966), and Parsons (1954) represent a leaning toward sociological or psychological interpretation and classification of the organization.

Semantic confusion reigned in organizational classification by the mid 1970s (McKelvey, 1975, 1978), even as, at about the same time, strategic management theorists began to further classify organizations by strategy (Miles & Snow, 1978; Mintzberg, 1973). Since then, classifications according to organizational strategy have abounded. All these, like the sociological and psychological works which were their foundation, were based on the definition of differences among organizations on one or more dimensions. Often, the methodology used to determine the dimensions lacked

rigor. Most classifications of organizations were based on a case study approach in which a small number of organizations were examined in detail, and from these myriad details, a general classificatory scheme was derived. Many health services researchers, such as Shortell et al. (1992), have used these classificatory schemes to examine one kind of health services organization in various environments.

Beginning in the late 1970s, another approach was attempted which sought to combine the richness of case studies with the specificity of clearly defined organizational variables. Looking across a broad range of businesses, excluding health services organizations, Miller (1976) "concluded that there were several likely ways for successful firms to structure and make decisions in different environments rather than just one way.... The same held true for unsuccessful companies" (p. 6). This research found several archetypal configurations of specified variables, some more commonly found among successful organizations and some more commonly found among unsuccessful organizations (Miller & Friesen, 1984b). These studies are shown in Table 1.

The work described in this dissertation has revealed similar configurations for health services organizations. Using a combination of the case study and the empirical approach, it was found that there are several possible archetypes or configurations of internal and external organizational variables, of organizational resources and environmental contexts which tend to be associated with more successful health services organizations, and several different possible configurations which tend to be associated with less successful organizations. Those archetypes for both more successful and less

successful organizations are described. Descriptions are rich, in keeping with the case method approach, but are based on the observations of multiple environmental, structural/organizational, strategy-making, and success/performance variables.

The Problem and the Hypotheses

During the years since the introduction of the Prospective Payment System (PPS) in 1983, health care has undergone massive changes in method of delivery, philosophy, and organization. Especially during the 1990 to 1996 period, change has occurred at such a rapid rate that some health care organizations are failing. At the same time, some health care organizations appear to have succeeded and to be thriving. This implies that some health care organizations are more successful in a changing environment than others.¹ The problem is that there has, as yet, been no clear delineation of the array, or arrays, of characteristics found among or attributes of those health care organizations that are more successful as opposed to those that are less successful.

This dissertation identifies groups of health services organizations, from across the spectrum of care—from clinics and hospitals emphasizing prenatal care to nursing homes, whose organizational characteristics or attributes (variables) tend to classify them either as more successful or as less successful (see the sections *The Variables* in chapter 3 and *Scoring the Data* in chapter 4 for complete definitions of more successful and less successful). The research was built on the thesis that there exist a small number

¹ Because many consumers of health care (no matter what the definition of consumer) presently have at least some degree of freedom in choosing a health care providing organization and because more “customers” usually lead to higher revenues, successful health care organizations are seen as those with strong financial positions which allow them to grow or invest.

Table 1

Brief Summary of Theoretical Basis for Organizational Classifications

Researcher	Date	Perspective	Basis for categorizational classification
Weber	1927/ 1947	sociological functionalism, economic sociology, conflict theory	the people in the organization
Parsons	1954	sociology (structuralism)	structure
Etzioni	1961	social psychology	people and structure
Blau and Scott	1962	sociological structuralism	structure
Burns	1963	organizational theory	structure
Thompson	1967	organizational theory	structure
Katz and Kahn	1966	social psychology	people and structure
Mintzberg	1973	management and organizational theory	strategy
Miller	1976	management (empirical taxonomy)	many features of organization
Miles and Snow	1978	management theory	strategy
Miller and Friesen	1984	management (empirical taxonomy and theory)	many features of organization

of richly defined organizational configurations or archetypes among health services organizations which can be useful for predicting whether an organization will be successful or unsuccessful. Simply stated, the problem was to determine if health care organizations can be classified into distinct, statistically significant multidimensional types, called archetypes or configurations, to describe each archetype, and to determine which archetypes characterize more successful health care organizations and which characterize less successful ones.

Rephrased as interrogative expressions, the problem was to answer the following questions:

1. Are there a finite number of combinations in which the variables of environment, structure/organization, and strategy making are found in health services organizations?
2. If so, how many are there, and what are the most common configurations of these variables found among health services organizations?
3. Which configurations are found in successful organizations?
4. Which configurations are found in unsuccessful organizations?

The following specific hypotheses were tested:

1. There are a relatively small number of configurations of environment, structure/organization, and strategy which characterize health services organizations;
2. Of the configurations found among health services organizations, those of more successful organizations will differ on environmental, structural/organizational, and/or strategy variables from less successful organizations.

Delimitations of the Study

Organizations studied in this research were limited to those that provide health services. Specifically, the study was limited to organizations that actually make contact with patients as part of the ongoing services provided by the organization. Thus, organizations that only perform research or that only manufacture drugs and chemicals were not included. When an organization derived part of its revenue from the provision of care to patients and part of its revenue from services which involve no contact with patients, the organization was included only if the majority of revenue was derived from provision of services to patients.

Because the study was limited to health services organizations, the results are not necessarily generalizable to organizations outside the health services industry. However, this work was based on research with a sample of organizations in nonhealth services industries. In some instances, there is similarity between health services organizational archetypes and nonhealth service organizational archetypes. In those instances of similarity, it may be reasonable to believe that the archetypes may be generalizable to organizations outside health services.

This study was an attempt to establish the starting point for a stream of research concerning change in health services organizations. Although the present work provides descriptions of archetypally more successful and less successful organizations and, as such, provides a way to identify organizations in need of remedial change, one or more possible examples of directions in which such organizations might change, and a more precise model from which future configurational studies might proceed, it is not a

definitive one on organizational change per se. Rather, it is hoped that it is a foundation and the provenance for future work. Thus, this study is both opus magnus and prologue.

Terms Used in the Study

The prototype for this study was done using organizations from many different industries. Although not all health services researchers use the word "industry" when referring to health services organizations, some nomenclature is necessary to distinguish organizations whose primary function is providing some form of patient or health services from organizations whose primary function is the provision of some other, nonpatient, nonhealth related services or the manufacture of products. Therefore, in keeping with the prototypical study, and following the Standard Industrial Classification Code (SIC) usage, the word "industry" was used here to refer to all organizations that provide health services.

"Archetype" is not intended to connote perfection or primordial beginnings. Instead the word archetype has the meaning used by Miller and Friesen (1984b). If the region of a group of organizations' scores was significantly smaller than the group's region would be expected to be by chance, "regions were deemed to be significant and given the name *archetype*" (Miller & Friesen, 1984b, p. 90). A region is defined in terms of the range of scores for a group of organizations whose scores on 20 variables are correlated. The "ranges defined regions in a [20] dimensional Cartesian product space" (Miller & Friesen, 1984b, p. 90). Therefore, archetype has the sense of configuration, state, or model, but not of first, nor of best.

Each archetype is described in terms of all variables simultaneously and the relationships among them. That is, archetypes contain “relationships among elements or items representing multiple domains” (Dess, Newport, & Rasheed, 1993, p. 776), where “domain” is used in the sense of “aspect,” or attribute, such as the domain of strategic orientation or the domain of organizational structure. Organizations in the same archetype have similar environmental, organizational/strategy, and strategy-making attributes. Those similarities are reflected in membership in a configuration or archetype. “Configurations” are derived from the values for each organization of variables used to measure the attributes.

The archetypes discussed in this study are prototypical only in the sense that research using the methodology described here, with the theoretical basis used here, has not previously been carried out among health services organizations. In addition, any implication of immutability is unwarranted without further corroboration of the archetypes. The archetypes can serve as a model for further research and may also be useful as a mental rubric for health services organizational managers attempting to cope with the environment in which the industry finds itself today. Throughout this paper, configuration is used interchangeably with archetype. Other terms are defined in the sections dealing with the variables and the methods of scoring used in this study, or when they are first used.

Summary

In summary, this study shows that health services organizations fall into distinct, statistically significant multidimensional archetypes, or configurations; it describes each

archetype; and it determines which archetypes characterize more successful health services organizations and which characterize less successful health services providers. The study was built on the thesis, as has been found to be the case among organizations in other industries, that there exist a small number of richly defined organizational archetypes among health services organizations which may be useful for predicting whether an organization will be more successful or less successful and which may, thus, serve as the basis for understanding and/or corrective action by an organization should such action be necessary. It followed research precedents set and tested in the general organizational research literature, but which had not yet been used with health services organizations and which have their basis in contingency theory and in organizational classification.

The study is important, first, because the derived archetypal descriptions may serve as the template for analyzing the present nature of a health services organization and the possible type of organization it may want to become, thereby proving useful for health services managers. Second, this study is important because it attempts to integrate the richness of a case study approach with the rigor of an empirical study and, finally, because it shows the worth of unusual methodologies in the study of health care organizations.

CHAPTER 3
REVIEW OF THE LITERATURE

General Background Literature

The literature that provided an epistemological framework for this dissertation falls into four general types: (a) definitions of the organization and of its parts, (b) classifications of the organization, (c) contingency theory, and (d) examinations of organizational change and the variables associated with organizational change. Pertinent definitions of the organization and its parts came, historically, from sociology and economics and were continued in organizational science and management. Organizational classification, contingency theory, and examinations of organizational change were all based on sociological research that was extended in the organizational studies and management literature. A review of some of the major ideas which influenced this study follow.

The Organization and Its Parts

The problem of how to define organizations has been pursued via attempts to answer two questions: (a) Why do individuals join together in organizations, that is, what is the distinction between several individuals and a collective? (b) What are the characteristics of organizations? In general, the first has been the province of sociology, but also has a basis in economic exchange theory, whereas the second has most often been asked by organizational studies and management scholars.

Early economic exchange theory and utilitarianism is usually associated with Adam Smith (1776/1937) and the economic theorists who followed. These theorists were interested in the utility, or the value of the exchange, to the individual for acting in groups. The sociological debate, influenced by Weber (1924/1947), concerned what defined the relationship between the individual and the group, institution, or organization. These two strains of thought were melded into one theory in the early work of Claude Lévi-Strauss (1949/1969), who essentially permuted economic exchange theory into sociological theory. Based on the study of kinship relationships (which is, perhaps, more in the stream of anthropological research), Lévi-Strauss took exception to more utilitarian interpretations of economic exchange theory, as well as to psychological interpretations of exchange theory. Social structures, he theorized, not individual motives, are the critical variables in analysis of exchange relationships, and these exchange relations, not restricted to direct exchange between individuals but expanded to complex networks of exchange, are both caused by and the cause of diverse forms of organization. These theories imply that although organizations may be studied as units, the underlying complex networks of exchange between individuals associated with organizations will affect the unit of analysis. In other works, organizations cannot be clearly studied without regard to the individuals of whom they are composed. These concepts were important for this research because they underlie general organizational and management concepts of the various aspects of organizational culture and structure. They may be especially important among health services organizations whose members must often deal with new ideas concerning the

economic positions of the organizations and whose members may be split along professional lines.

The study of the relationship between the individual and the organization can also be seen in the sociological work of Talcott Parsons. Parsons (1953, 1954) wrote that social systems have characteristics, some of which are attributable to the actors or individuals in the system. Certain structures are created by social systems; the structures, in turn, lead to the ability of the system to survive. In other words, because of internal attributes of “social systems” and/or the “actors” in the social system, certain structures can successfully meet certain survival problems having to do with both external environment and the internal workings of the system, although other structures may not meet the survival problems successfully. In addition to investigating the relationships between individual and organization, Parsons’ work points the way toward a classification of organizations into successful and unsuccessful ones when success is defined as survival and toward contingency theory. Beginning with Hannan and Freeman’s (1977) seminal work, the circumstances of organizational survival have been discussed in detail by the later organization ecology theorists. The salient point is that these sociological and economic theories, combined with some anthropological theory, are the basis for much of today’s study of organizations: In these studies, the unit and the individual are both of import, and one is examined in conjunction with the other.

Organizational Classification

The issue of organizational classification, of great interest in both the organizational and management literature, may also be stated as a question: Can organizations be

classified based on their characteristics, and if so, what are the classifications? The organization or management theorist often turns to sociology for earlier insights into the answers. For example, a series of sociologists, each of whose work was influenced by the preceding person, presented the basis for much organizational classification theory. Herbert Spencer (1882-98, 1900) thought that both organic and superorganic "organisms" (i.e., organizations as organic entities such as associations or organizations of people) must meet certain of their own basic functional requirements if they are to survive and to adapt to the environment in which they find themselves. According to Émile Durkheim (1893/1933), the different parts of a "social system" (organization) fulfill different basic functions; if these basic functions or needs of a social system are not met, abnormal states result. Organizations are seen as having certain constituent parts and as performing certain functions. Lacking the fulfillment of certain basic needs or functions, pathological states will occur in organizations. A. R. Radcliffe-Brown (1935; 1952) brought empiricism to these theories, promoting direct observation of the social systems or organizations under consideration and noting the variation in them. These theorists, then, tended to examine the organization as an individual entity, and the people comprising the organizations were subsumed into the organization.

This second early sociological perspective was extended and expatiated by organizational theorists. Chandler's 1962 book, *Strategy and Structure*, is an early example of a work which looked at the characteristics of organizations, especially the structural characteristics, and at the ways in which organizations can be classified based on those characteristics. Others looked at the relationship between the structure of the

organization and the kind of organization (Burns, 1963/1990; Galbraith, 1973; Thompson, 1967/1990), but some began to explore the other characteristics of organizations, both internal and external (Lawrence & Lorsch, 1967) and the relationships between these characteristics. The management literature was influenced by a stream of research which defines the organizations as the important and interesting unit of observation while, at the same time, it was influenced by organizational theories that look at both organization and individuals in the organization. As a possible means of examining both organizations affected as units and organizations as affected by the units of which they are composed, contingency theory came to have an important place in management and organizational studies.

Contingency Theory and the Management Literature

Contingency theorists examined these questions: What characteristics must an organization have to survive, or why do some organizations survive and others cease to exist? To approach these questions, the basic contingency theory assumptions, that there is no one best way for an organization to be disposed and that any one way of organizing will not be equally effective under varying conditions (Galbraith, 1973), were extended to environmental concerns in the strategic management literature. Hofer and Schendel (1978, 1979) first developed the concepts of matching organizational resources and strengths with opportunities found in the environment external to the organization. The original tenets of contingency theory were, thereby, amplified in the management literature: No one set of strategic choices will be optimal for any one organization because each organization will have different organizational resources or encounter

different environmental contexts. The unit of analysis problem, that is, the unit is the organization or the unit is the individual or group constituting the organization, was not addressed then and has not been addressed often in the management literature since then.

Given the contingency theory basis, many contributions in the management literature since the work of Hofer and Schendel (1978, 1979) have been concerned with delineating those characteristics that will contribute to a fit between the internal characteristics of an organization and the external, environmental characteristics in which the organization exists. In general, two approaches have been used. Scholars such as Mintzberg (1973, 1979) and Miles and Snow (1978) have developed classifications of organizations based on a case research approach. Sometimes referred to as typologies, these classifications were conceptually based. Often they were based on what Dess et al. (1993) have called a single domain, either strategy or environment, for example. Porter's (1980) generic strategies, a classification in the domain of strategy, has been cited as a typology. Others, such as Miller and Friesen (1984b), Miller (1990b), Hawes and Crittenden (1984), and Robinson and Pearce (1988), have used a more empirical approach involving measurement of several characteristics. These are often called taxonomies. There has been some debate concerning the validity of the case research approach to classification compared with the empirical approach (Hambrick, 1990; McKelvey, 1975, 1978) without a definitive consensus, but both types of classifications have been used in the management literature.

Another way contingency theory has affected management research is by dividing organizational classification research into methods of approach. Meyer, Tsui, and Hinings

(1993) have characterized these methods of approach as the contingency and the configurational approaches. They maintain that the contingency approach tends to be a "reductionist approach" (p. 1177). The contingency approach examines the constituent parts of the organization and assumes that each of these parts can be adjusted in isolation. Assumptions of causality between the organization's part or the organization's adjustments and the organization's environment are often used, and the relationship is usually thought to be linear. In contrast, configurational approaches use a "holistic approach" (p. 1177) to try to explain how all of the constituent parts contribute to the order of the organization. The parts cannot be isolated because the organization comes from the parts and their interaction. Causality may vary from one configuration to another, and no assumption of linearity is made; nonlinear relationships among the various parts, or nonlinearity, is most often assumed.

Although there are hundreds of examples in the literature discussing the various ways in which research about organizational classification can be divided, three things appear most salient for the research reported here. First, because organizations, in general, and health services organizations, in particular, are not only multidimensional themselves, but must cope with survival in multidimensional contexts, configurational examination appears most appropriate. Second, although the organization was the unit examined in this study, the epistemological problems, traced back to the sociological, economic, and anthropological basis of organizational studies, of examining an entity composed of various entities were not eliminated in this study. Finally, no matter which rubrics are attached to configurational studies, an assumption of organizational equifinality--"the idea

that different forms can be equally effective” (Meyer et al., 1993, p. 1178)—is made by many scholars (Dess et al., 1993, Doty, Glick, & Huber, 1993, Miller, 1990b), and that assumption was made in this research.

Organizational Change

Studies about organizational change are important for the work reported here because they often examine the characteristics of the organization and/or its environment in relation to organizational change. The literature on organizational change provided another route by which the organizational attributes most grounded in past research could be found. As an early example, the concept of organizational change is inherent in the sociological theories of Durkheim (1893/1943) concerning pathological states in organizations: An organization in a pathological state must change in order to survive. Interesting extensions of Durkheim’s concepts can be found in Kets de Vries and Miller (1989) and in Schwartz (1990), who discuss organizational pathologies in relation to the success or failure of the organization. In the management and organization studies literature, the concept of organizational change often concerns change by the organization toward a better fit with its environment. Therefore, such studies frequently described organizational attributes that would allow the organization to move toward fit or that would allow it to alter the environment in ways that might contribute to better fit.

The literature of the last twenty years has been replete with examples of organizational attributes that would facilitate or hamper organizational change (Argyris, 1976; Gray & Ariss, 1985; Miller & Friesen, 1982, 1984b; Mintzberg, 1979; Mintzberg & Westley, 1992; Tushman, Newman, & Romanelli, 1986). Although there appeared to

be little consensus on the definition of change itself in this literature—for example, organizational change has been characterized as the "reactive-adaptive prison of deterministic circumstances" (Bourgeois, 1984, p. 586), as "a system of moving cycles" (Mintzberg & Westley, 1992), as incremental or strategic, and as anticipatory or reactive (Nadler & Tushman, 1989), as morphogenetic or morphostatic (Smith, 1982), as revolutionary adaptation (Miller & Friesen, 1980a, 1980b), as "reframing" (Morgan, 1986, p. 266), as decline or renewal (Barr, Stempert, & Huff, 1992), and as "creative destruction" (Anderson & Tushman, 1991, p. 26)—most researchers mention the environmental conditions in which an organization operates as a contributor to change. Environmental conditions are cited as some of the "deterministic causes" for change, for example, (Hannan & Freeman, 1984). Resource shortages (Pfeffer & Salancik, 1978) or competitive forces in the industry have been cited by some researchers, especially after Porter's (1980) work was published.

Other scholars have examined attributes that may be at the boundary between the organization and its environment, such as the decisions managers make for the organization based on their perceptions of both the organization and of the environment in which the organization must function (Daft & Weick, 1984; Dutton & Duncan, 1987). Change has been said to occur in an organization's position or in its perspective (Ginsberg, 1988), at the organizational or the functional level. As Fiol and Lyles point out (1985), change has been used as a synonym for learning by some authors. In other words, the organizational characteristics or attributes identified in some organizations appear to be

make them more conducive to change than other organizations; organizations can be grouped based on the characteristics.

In conceiving the research and in defining the variables for this study, it was necessary to attempt an amalgamation of these four general types of thought. The concept of organization, an understanding of past efforts to classify organizations, and the bases upon which those classifications were made underlie both Miller's (1976) study, the prototype for this dissertation, and this dissertation. In addition, the specific attributes of organizations and/or of environment that had been shown to be of import provided the framework for the variables used. The next section describes in greater detail specifically relevant research.

Study Literature

Having examined the framing literature, this section will delineate the categories into which the variables for this study fall. The attribute categories used in this study were presaged in the literature even before the emergence of contingency theory: Barnard said that a "formal organization is that kind of cooperation among men [*sic*] that is conscious, deliberate, and purposeful" (1938, p. 4). In this definition can be found the basis for structural variables ("cooperation"), for organizational variables ("among men"), and for strategy-making variables ("conscious, deliberate, and purposeful"). March and Simon (1958) defined organizations as "assemblages of interacting human beings" (p. 4) where the organizational element is again present. Etzioni's (1961) characterization of organizations as "social units (or human groupings) deliberately constructed and

reconstructed to seek specific goals" (p. 3) contains structural, organizational, and strategy-making implications.

Pfeffer (1982) subsumed the environment into the category of organizational attributes. He wrote that organizations "can be viewed as rational, acting foresightfully and prospectively to obtain some collective ends; alternatively, organizations can be viewed as externally controlled or constrained, influenced by their environments and without much discretion or latitude in their behavior" (p. 121). Likewise, Scott (1981) developed alternative definitions of organizations, one of which, like the Pfeffer alternative, placed emphasis on the influence of external factors by stating that organizations may also be seen as collectives whose members share in activities to insure the survival of the organization, but whose structure is informal. The four groupings of variables used in this study are not new constructs, but have been a part of the literature for decades. The four are (a) environmental variables, (b) structural variables, (c) nonstructural organizational variables, and (d) strategy-making variables.

In order to define the specific variables that were used in this study, both the general organizational literature and the health-services-specific literature were utilized. In the organizational studies literature, in general, the categories of variables mentioned by scholars fall into similar groupings as those mentioned above.

The Environment

Most investigators agree that organizations must respond to their environments if they are to survive and/or be successful or else the environment may force change on an organization that wishes to survive. The environment has been viewed as a lever (Burke

& Litwin, 1992), as constraints (Aldridge, 1979), as pressures, threats, or opportunities (Peters & Tseng, 1983), and as hostile or benign (Covin & Slevin, 1989). Different levels of the environment, for example, the industry or the business level, have been deemed important (Bourgeois, 1984; Daft, Sormunen, & Parks, 1988; Dess & Beard, 1984; Ginn, 1990; Hambrick, 1981). Most frequently mentioned as important components of the environment in the health care sector are the regulatory environment (Bigelow & Mahon, 1991; Choi, Allison, & Munson, 1985; Cook, Shortell, Conrad, & Morrisey, 1983; Gay, Kronenfeld, Baker & Amidon, 1989; Jerrell, 1986; Kimberly & Zajac, 1985; Provan, 1987; Shortell et al., 1992), cost escalations, and the competitive situation (Bigelow & Mahon, 1991; Hambrick, 1981).

Combining most of these environmental studies into three general groups, McArthur and Nystrom (1995) and Sharfman and Dean (1991) independently came to similar conclusions. Environmental factors appear to consist of three major constructs: (a) dynamism (also called instability [Emory & Trist, 1965], variability [Child, 1972], or turbulence [Aldridge, 1979]); (b) complexity (also called heterogeneity [Miller & Friesen, 1984b] and [Thompson, 1967/1990]; or diversity [Mintzberg, 1979]), and (c) munificence or resource availability (also called hostility [Miller & Friesen, 1984b] and [Mintzberg, 1979]). Sharfman and Dean (1991) enlarged the third of these to include the idea of competitive threat. For example, regulatory restrictions have to do with munificence. Investigators also found that environmental effects can be direct (Carroll, Delacroix, & Goodstein, 1988; Porter, 1980; Smith & Grimm, 1987) or filtered through the cognition of organizational managers (Boyd, Dess, & Rasheed, 1993; Daft et al., 1988; Dutton &

Duncan, 1987; Dutton & Jackson, 1987; Dutton & Ottensmeyer, 1987; Fombrun & Zajac, 1987; Miles & Snow, 1978; Shank, Zeithaml, Blackburn, & Boyton, 1988; Tichy & Devanna, 1986), but, in any event, the environment has been shown to be a vital characteristic which may be of help in distinguishing different configurations of health services organizations. All these environmental concepts are summarized in Table 2.

Organizational Structure

As mentioned, the study of organizational structure has a long history in organizational research, and, in general, researchers have agreed that different organizations have different organizational structures. For example, Mintzberg's (1979) description may be one of the best known on the importance of structure to the organization. He points out the importance of the level at which operating authority is exercised and the amount of centralization as examples of major differences between organizations. Organizational structure has also been associated with organizational strategy and/or organizational performance (Burns & Stalker, 1961; Chandler, 1962; Rumelt, 1974; Venkatraman & Grant, 1986) and with increased uncertainty in the environment (Lawrence & Lorsch, 1967). Although not universally accepted (Kelly & Amburgey, 1991), most recent researchers have found that various structural elements inhibit or impede strategic adaptation or change (Aldridge, 1979; Hannan & Freeman, 1977; Miles & Snow, 1978; Tushman & Romanelli, 1985). In the health care literature, the place of structural elements has not been definitively described except to point out differences found only in health care (Fottler, 1987). However, some researchers exclude structure from association with certain kinds of strategic adaptations (Ginn, 1990)

although some include structure (Alexander, Morlock, & Gifford, 1988; Kimberly & Zajac, 1985; Meyer, 1982). These differences in findings or in point of view may be due to the assumed direction of causality used by the investigators. Alternatively, the differences may be due to the position of structure as a moderating or mediating variable (Venkatraman, 1989) associated with organizational managers and organizational environment (Ford & Baucus, 1987). In short, many researchers have found that organizational structure plays some vital part in the success and/or survival of health care organizations; therefore, aspects of structure were among the attributes studied in this research. Concepts about structure are summarized in Table 3.

Nonstructure Organizational and Strategy-making Variables

In the general organization literature, most researchers, especially more recently, have found the people associated with organizations to be an important variable among those organizational variables associated with success. In some of the literature, a distinction is made between strategy-making attributes and nonstructural, nonstrategy-making attributes. Separating one from the other is difficult; indeed, the theme of this research is that the separation is impossible and that no attempt should be made to do so. Rather, organizational attributes should be studied in concert.

Except for population ecologist investigators (Hannan & Freeman, 1977), most research has found managers to be an important variable (Burke & Litwin, 1992; Chandler, 1962; Ford & Baucus, 1987; Kech & Tushman, 1993; Meindl, 1990; Porter, 1980; Smart & Vertinsky, 1984; Tichy & Devanna, 1986; Tushman et al., 1986; Tushman & Romanelli, 1985) or the most important variable (Bourgeois, 1984; Kimberly, 1981;

Table 2

Literature Basis for Environmental Variables

Study	Date	Characteristic examined in study
Aldridge	1979	environment as constraint, turbulence ¹
Bigelow & Mahon	1991	regulatory environment ² , cost escalations, competitive situation
Bourgeois	1984	level of environment
Boyd et al.	1993	environment filtered through managers
Burke & Litwin	1992	environment as a lever
Carroll et al.	1988	direct effect of environment
Child	1972	variability ¹
Choi et al.	1985	regulatory environment ²
Cook et al.	1983	regulatory environment ²
Covin & Slevin	1989	environment is hostile or benign
Daft et al.	1988	environment filtered through managers
Dess & Beard	1984	level of environment
Dutton & Duncan	1987	environment filtered through managers
Dutton & Jackson	1987	environment filtered through managers
Dutton & Ottensmeyer	1987	environment filtered through managers
Emory & Trist	1965	instability ¹
Fombrun & Zajac	1987	environment filtered through managers
Gay et al.	1989	regulatory environment ²
Ginn	1990	level of environment
Hambrick	1981	level of environment
Jerrell	1986	regulatory environment ²
Kimberly & Zajac	1985	regulatory environment ²
Miles & Snow	1978	environment filtered through managers
Miller & Friesen	1984b	dynamism ¹ , heterogeneity ² , hostility ³
Mintzberg	1979	diversity ² , hostility ³
Peters & Teng	1983	environment as pressures, threats, opportunities
Porter	1980	direct effect of environment
Provan	1987	regulatory environment ²
Shank et al.	1988	environment filtered through managers
Sharfman & Dean	1991	competitive threat
Shortell et al.	1992	regulatory environment ²
Smith & Grimm	1987	direct effect of environment
Thompson	1967	heterogeneity ²
Tichy & Devanna	1986	environment filtered through managers

¹ Summarized as "Dynamism" (McArthur & Nystrom, 1995, and Sharfman & Dean, 1991)

² Summarized as "Complexity" (McArthur & Nystrom, 1995, and Sharfman & Dean, 1991)

³ Summarized as "Munificence" or "resource availability" (McArthur & Nystrom, 1995, and Sharfman & Dean, 1991)

Miles & Snow, 1978) in determining organizational success. The organizational leaders/organizational strategy relationship has been examined (Kets de Vries, Miller, & Noël, 1993), and several studies have suggested that there are relationships between leaders, strategy, and structure, and that leaders substantially affect organizational outcomes (Beatty & Zajac, 1987; Miller, Kets de Vries, & Toulouse, 1982; Miller & Toulouse, 1986). Thomas, Clark, and Gioia (1993) looked at the way in which leaders make sense of their environments, whereas Thomas and McDaniel (1990) examined leaders' cognitive and interpretation processes. Corroborating a study done by Miller and Friesen (1983), Priem, Rasheed, and Kotulic (1995) found that in dynamic environments, greater leader rationality, represented by higher levels of scanning, analysis, and planning, was linked to greater organizational success. Certain managerial characteristics have been found to be associated with certain ways of perceiving the organizational environment (Dutton & Duncan, 1987; Dutton & Jackson, 1987; Hambrick & Mason, 1984; Shank et al., 1988; Venkatraman, 1989; Wagner, Pfeffer, & O'Reilly, 1984), which is associated with organizational success, although the direction of causality has not been determined (Green, 1987). However, it is possible that the relevant variable is managerial power instead of the managers themselves or the way they think (Miles & Snow, 1978; Pfeffer & Salancik, 1977).

Health services researchers have also found managers to be an important variable in describing organizations (Peters & Tseng, 1983; Shortell et al., 1992; Stensrud, 1985), and some of these researchers make the distinction between physician and nonphysician managers (Harris, 1990; Mullen & Leifer, 1982; Provan, 1987) Provan (1991) suggests

Table 3Literature Basis for Structural Variables

<u>Study</u>	<u>Date</u>	<u>Concepts explored in study</u>
Aldridge	1979	structure as an impediment to organizational change
Alexander et al.	1988	structure is associated with strategic adaptation
Burns & Stalker	1961	relationship of structure to strategy/performance
Chandler	1962	relationship of structure to strategy/performance
Ford & Baucus	1987	structure associated with managers and environment
Ginn	1990	structure not associated with some adaptation
Hannan & Freeman	1977	structure as an impediment to organizational change
Kimberly & Zajac	1985	structure is associated with strategic adaptation
Lawrence & Lorsch	1967	structure is associated with environment, conflict resolution, and performance
Miles & Snow	1978	structure as an impediment to organizational change
Meyer	1982a	structure is associated with strategic adaptation
Mintzberg	1979	structure and operating authority, amount of centralization
Tushman & Romanelli	1985	structure as an impediment to organizational change
Venkatraman	1989	structure as moderating or mediating factor
Venkatraman & Grant	1986	relationship of structure to performance

that power may be associated with the receipt of information. Power may be an important concept in health services organizations because of possible power struggles or conflicts between administrators and physicians. The interpretations made by hospital CEOs were found to be related to the hospitals' strategies and the way in which the hospitals processed information (Thomas, McDaniel, & Anderson, 1991). The roles played by board members at hospitals have been examined by some health services researchers (Alexander & Morrissey, 1988; Choi et al., 1985; Fennell & Alexander, 1989), but these

studies have not dealt with nonhospital health services boards. Organizational variables associated with the top managers of health services organizations were found to be associated with numerous other organizational elements and to be vital in understanding organizational configurations and success in both the general literature and in the health services literature.

Another important concept is the organizational personality (Chandler, 1962), or the psychological feel, of organizations in both general and health services literature. Most often, investigators have dealt with this concept under the guise of organizational politics (Gray & Ariss, 1985; Tichy & Devanna, 1986), corporate ideology (Beyer, 1991), organizational mentality (Shortell, Morrison, & Robbins, 1985), or organizational culture (Greiner & Bhambri, 1989; Stensrud, 1985; Tichy, 1980, 1983; Tichy & Devanna, 1986). Organizational personality can consist of many components, none of which have been operationalized adequately, and most of which would appear to be intuitively related either to individuals associated with the organization, such as risk taking, or to the structure of the organization, such as amount of control. Many researchers associate organizational personality or some of its component parts with organizational success and/or ability to be adaptive, but there appears to be no consensus on the direction of causality or on whether the variable is a moderator or mediator (Venkatraman, 1989). There does, however, appear to be consensus on the importance of organizational attributes which might capture the organizational character, but the literature does not provide a conveniently measurable variable for use by researchers.

Innovation or creativity has often been used as an explanatory variable to understand organizations (Amabile, 1988). Woodman, Sawyer, and Griffin (1993) conceive of creativity as a subset of innovation which is, in turn, a component of organizational adaptation. However, Craig (1995) has shown clearly the difference between innovation and adaptation. He pointed out that although one part of an organization may be very innovative and able to devise new products, the organization is not required to use the innovation. In addition, without organizational “arrangements and procedures” (p. 33) to guide innovations from development to market, even if an organization is innovative, it may not be able to adapt to new contexts; Craig suggested that organizational structure and innovation are closely associated. The literature on nonstructural organization and strategy-making variables is summarized in Table 4.

In the general literature, temporal factors, such as temporal pacing (Gersick, 1991, 1994), organizational history (Boeker, 1988, 1989; Chandler, 1962; Child & Kieser, 1991; Hannan & Freeman, 1977; Kelly & Amburgey, 1991), and life cycle phase (Chandler, 1962; Miller & Friesen, 1984b; Porter, 1980; Quinn & Cameron, 1983), are also often mentioned as being part of the structure of the organization. Although these are found to be important variables in the general organizational literature, they have seldom been studied in health care. Accordingly, although temporal factors would intuitively appear to be important, it is not clear from the health services literature whether they are important in the study of health services organizations. At the least, time would appear to serve as a moderating or mediating variable (Venkatraman, 1989). In this study, the tenure of the

Table 4

Literature Basis for Nonstructural Organizational and Strategy-making Variables

Study	Date	Concepts explored in study
Alexander & Morrisey	1988	role of hospital board in organization
Amabile	1988	creativity or innovation
Beatty & Zajac	1987	organizational leader/strategy/structure/outcome relationships
Beyer	1991	organizational ideology
Bourgeois	1984	managers are most important characteristic
Burke & Litwin	1992	managers
Chandler	1962	managers, organizational "personality" are important
Choi et al.	1985	role of hospital board in organization
Craig	1995	innovation compared to adaptation
Dutton & Duncan	1987	managerial perceptions of environment
Dutton & Jackson	1987	managerial perceptions of environment
Fennell & Alexander	1989	role of hospital board in organization
Ford & Baucus	1987	managers
Gray & Ariss	1985	organizational politics
Green	1987	direction of causality between managerial perception of environment and success
Greiner & Bhambri	1989	organizational culture
Hambrick & Mason	1984	managerial perceptions of environment
Harris	1990	physician/nonphysician managers
Kech & Tushman	1993	managers
Kets de Vries et al.	1993	organizational leader/strategy relationship
Kimberly	1981	managers are most important characteristic
Meindl	1990	managers
Miles & Snow	1978	managerial power
Miles & Snow	1980	managers are most important characteristic
Miller & Friesen	1983	leader rationality/environmental dynamism
Miller et al.	1982	organizational leader/strategy/structure/outcome relationships
Miller & Toulouse	1986	organizational leader/strategy/structure/outcome relationships
Mullen & Leifer	1982	physician/nonphysician managers
Peters & Tseng	1983	managers
Pfeffer & Salancik	1977	managerial power
Porter	1980	managers
Priem et al.	1995	leader rationality/environmental dynamism
Provan	1987	physician/nonphysician managers
Provan	1991	managerial power/receipt of information

Table 4 (Continued)

Study	Date	Concepts explored in study
Shank et al.	1988	managerial perceptions of environment
Shortell, Morrisey, et al.	1985	organizational mentality
Shortell et al.	1992	managers
Smart & Vertinsky	1984	managers
Stensrud	1985	managers, organizational culture
Thomas et al.	1993	leaders and environment
Thomas & McDaniel	1990	leaders' interpretations
Thomas et al.	1991	managerial interpretations/information processing/strategy
Tichy	1980	organizational culture
Tichy	1983	organizational culture
Tichy & Devanna	1986	managers, politics, organizational culture
Tushman et al.	1986	managers
Tushman & Romanelli	1985	managers
Venkatraman	1989	managerial perceptions of environment
Wagner et al.	1984	managerial perceptions of environment
Woodman et al.	1993	creativity/innovation /adaptation

top manager was the only temporal variable measured, but organizational history was found to affect some of the archetypes.

Investigators have long studied the relationships between organizational success and organizational strategic stance or strategy-making activities. However, the nature of the relationships has not been made clear. Poor performance may directly precipitate new organizational strategy-making activities (Ford & Baucus, 1987; Tushman et al., 1986; Tushman & Romanelli, 1985), and/or may serve as a moderator or mediator variable (Venkatraman, 1989) associated with managerial perceptions either about strategy-making (Dutton & Duncan, 1987) or about the organizational environment (Daft et al., 1988). Successful performance may contribute to further successful performance (Romanelli & Tushman, 1986; Wiersma & Bantel, 1992), or to organizational inertia (Romanelli & Tushman, 1986). Both the general organizational research and the health care

organizational research (Miles & Snow, 1978; Shortell et al., 1992) have found that the strategic stance adopted by an organization may limit the ability of the organization to adopt new strategies. Further, both general and health care researchers have noted relationships between strategic stance and organizational success (Miles & Snow, 1978; Shortell et al., 1992). However, both success and strategic stance variables may be moderating or mediating variables associated with the manager/organization relationship, the manager/organizational environment relationship, and/or the organization/environment relationship (Ginn, 1990; Hambrick & Mason, 1984; Kimberly & Zajac, 1985; Meyer, 1982; Venkatraman, 1989).

In general, health services organization investigators have followed the lead offered by the general organizational literature in attempting to understand the attributes of organizations. However, some have pointed out the differences between health services and general organizational research. For example, Fottler (1987) noted eight characteristics that make health care organizations unique. In the context of this research, the most important of these has to do with the role of the physician and other professionals: Because of the nature of the work involved in most health services organizations, coordination among many highly independent and diverse professionals is necessary; these professionals may have a primary loyalty to their profession instead of to the organization in which they work. Further, in some organizations, there may be little organizational control over physicians, the professionals who generate the most work and have control over most of the expenditures. Finally, dual lines of authority or a dual management structure may exist in health services organizations (Provan, 1987), one line

through organizational managers and one through physicians who are only “loosely coupled” to the organization (Fottler, 1987, p. 369). In the health services organization, professional dominance may more often be found than is the case in other organizations (Fox, 1985). These characteristics imply that the structural/organizational characteristics of many health services organizations may differ from other organizations, as noted (Luke, Begun, & Pointer, 1989) and/or that the configurations of these characteristics may be different than in other types of organizations. This study should help to clarify the implications of these differences.

In addition, when examining successful or unsuccessful health care organizations, the differences between health services organizations and others is pertinent for several reasons. For example, it is often difficult to define and/or measure health services outputs (Shortell et al., 1992), greater risk may accompany medical care than that found in other organizations (Hannan & Freeman, 1984), and, as the preservation of individual lives is often at issue, outputs may be more individualized and less “rationally” or “economically” derived than in other service organizations (Fottler, 1987, p. 375). This study will deal with these factors by deriving measures of success from the health care organization literature measures (Cleverley, 1985, 1987, 1988, 1992a, 1992b).

In both the general and the health services literature, there has been a great deal written about how to measure success. It was unnecessary to review the general literature because there is an extensive industry-specific literature. Cleverley has studied measures of success in hospitals, both for-profit and voluntary (Bazzoli & Cleverley, 1994; Cleverley, 1982, 1990a, 1990b, 1992a, 1995b, Cleverley & Harvey, 1990, 1992b), in rural

hospitals (Cleverley & Harvey, 1992a), and in hospital systems (Cleverley, 1992b). He has examined the finances of academic medical center hospitals (Whitcomb & Cleverley, 1993) and nursing homes (Caswell & Cleverley, 1983). Other researchers in health services have used the measures advocated by Cleverley, for example, Smith, Piland, and Funk (1992). In their study of the "hospital industry," Ketchen, Thomas, and Snow (1993) presented a summary of the financial measures used in the general organizational literature since the study by Frazier and Howell (1983). Eighteen out of the total 42 unique measures cited in the 19 studies they reviewed are included among the ratios and other indicators used by Cleverley. Many of the remaining measures cited by Ketchen et al. (1993) were unique to a particular study. Another corroborative example is the recent work of Ginn, Young, and Beekun (1995) in which liquidity and leverage, both measures used frequently by Cleverley, are used.

The accumulation of resources, often associated with less hostile environmental conditions (Aldridge, 1979; Bigelow & Mahon, 1991; Meyer, 1982; Shortell et al., 1992; Smart & Vertinsky, 1984; Zajac & Shortell, 1989), is an organizational characteristic which influences the ability of the organization to be flexible (Cleverley, 1995a). Although there is no consensus on whether slack resources facilitate organizational adaptation (Bourgeois, 1984; Shortell et al, 1992; Wiersma & Bantel, 1992) or hinder it because of the organizational complacency such slack may engender (Romanelli & Tushman, 1986), in general, it appears that successful health care organizations have more slack resources than unsuccessful ones; financial flexibility was included in the financial success measure, and resource availability was included among the organizational variables.

In summary, in neither the general literature nor the health services literature is there a consensus on the most important organizational attributes. However, it is clear that categories of attributes have been consistently found which affect organizational strategies or organizational success. Miller (1976) divided the variables into three categories in addition to the success variable: environment, organization, and strategy-making. In this study, three general categories were also used, but the organization category was changed to organizational/structural variables. In general, the words Miller used to name the variables were also used here, but in most cases, the definitions were extended to include more recent concepts.

Critique of the Literature

Organizational research in general has been criticized for (a) focusing on bivariate or drastically circumscribed multivariate data which may not accurately portray the intricacies of working organizations; (b) relying on measures that are cross-sectional in nature instead of looking at organizations over some time period; (c) using either very broad or very narrow research samples, thus limiting generalizability; and (d) assuming that relationships between variables are linear and that causality is unidirectional (Miller, 1986, 1990a; Miller & Friesen, 1984b; Venkatraman & Grant, 1986).

In the social sciences, including organizational and health care organizational research, the conceptualization of variables has been unclear for several reasons. For example, when considering change in organizations, the division between the individuals, who constitute the social entities of study, and the social entities (nations, institutions, organizations), themselves, has not always been delineated. That is, a clear distinction was

not always made concerning the unit of analysis: Sometimes change was simultaneously viewed from both the individual actor's point of view and, also, from the view of the institution, organization, or structure *created* by individual actors, and sometimes there was no distinction made between the two points of view. As Venkatraman and Grant (1986) have pointed out, when the unit of analysis for a study was vague, underlying concepts may not be clearly delineated, and measurements of those concepts may prove invalid. There is poor delineation of concepts as constructs, that is, as ideas "having been deliberately and consciously invented or adopted for a special scientific purpose" (Kerlinger, 1986, p. 27).

Shortell et al. (1992) attempted to cope with the criticisms leveled against general organizational research while also taking into account the different circumstances found in health services organizations. Earlier, Shortell and his colleagues (Alexander & Amburgey, 1987; Alexander & Morrisey, 1988; Alexander, Morrisey, & Shortell, 1986; Shortell, Morrisey, & Conrad, 1985; Zajac & Shortell, 1989) examined the relationships of several variables of environment, strategy, and organization in the hospital setting. However, these investigations used far fewer variables than those used by some general organizational researchers, for example, Miller & Friesen (1982, 1984b), and the only organizations studied were hospitals. Noting that the introduction of the PPS in 1983 provided an environmental shock to the hospital industry, Shortell et al. (1992) expanded the number of variables examined, in an effort to determine the requirements for future successful changes in that industry.

However, despite the expanded variables selection, these studies made three assumptions which may make generalization to nonhospital health services organizations problematic. First, in the studies using strategy variables, the researchers assumed that all hospitals fall into one of the four strategic types described by Miles and Snow (Miles & Snow, 1978; Shortell et al., 1985). Second, they assumed that hospitals act rationally in response to environmental and internal capabilities, without taking into account the possible effects of managerial cognition (Boyd et al., 1993; Dutton & Jackson, 1987; Hambrick & Mason, 1984; Kets de Vries, 1984) and/or the interaction of managerial cognition and organizational variables (Thomas & McDaniel, 1990). Third, they assumed that hospitals operate in a hostile environment. Because not all health services organizations are hospitals, all will not necessarily operate under the same environmental conditions (although it is certainly reasonable to assume that cost containment policies must continue to be part of the health services environment). Health services organizations may not, in reality, fall into only four strategic types if there is no pre-determination of those types. Finally, assumptions of rational response to environmental and internal capabilities may prove untenable, according to the literature (Boyd et al. 1993; Dutton & Jackson, 1987; Hambrick & Mason, 1984; Kets de Vries, 1984; Tichy, 1980) and given the mandates and/or missions under which some health services organizations operate (Ginter, Duncan, & Reeves, 1994) and the stakeholders to whom they must respond (Blair & Fottler, 1992). It appears that no studies exist which meet all the criticisms against general organizational studies while at the same time considering the special circumstances under which some health services organizations may operate. No

research has dealt with health services organizations across the continuum of care and has also attempted to discover the most likely configurations of environment, structure/organization, and strategy-making in both successful and unsuccessful organizations.

Investigators who have overcome most of the criticisms of the general literature are Miller and Friesen (1978; 1980a; 1980b; 1982; 1984a; 1984b). Using data gleaned from cross-industry, published case studies of organizations and corroborated by executives at each organization, Miller (1976) and Miller and Friesen (1984b) derived multivariate archetypal organizational types. Data from cases avoid the first two criticisms of the general literature noted at the beginning of this section: (a) case studies record data on numerous variables of environment, organization, and strategy-making based on observations of the organizations actually at work and on written reports about the organizations; (b) these variables are usually assessed across some period of time in case studies. In addition, Miller and Friesen (1984b) expected nonlinear relationships between some of the variables used and developed methods to deal with nonlinearity. They also questioned the direction of causality. The use of research methods based on the example of these researchers overcomes three of the major criticisms noted above. The remaining criticism, that of sample breadth, can be met by drawing cases from all types of health services organizations so that the results should be generalizable to the population of health services organizations.

The Variables

Based on the review of the literature, the critique of the literature, and rephrasing Miller (1976) and Miller and Friesen (1984b), four criteria were used to choose variables.

1. Variables had to have been found important in previous theoretical or empirical studies. They were chosen to be theoretically and, if possible, observationally meaningful (Bagozzi, 1979). Variables had to be of substantial importance in describing the associations or relationships between the organization, the environment, the organizational context, or the strategy-making qualities of the organization in past research. Choosing variables based on previous research anchors the research in the management literature and gives the reader a basis upon which to judge the usefulness of the findings.
2. Variables were chosen which had been found to be conceptually distinct and to have face validity in earlier research.
3. The entire set of variables had to include a broad span of environmental, organizational/structural, and strategy-making dimensions. Breadth and richness in variables was sought in an effort to avoid the criticism made of general organizational research that studies are too narrow or too simplistic.
4. Variables had to be measurable given the available data. Because many of the data were taken from SEC documents, it was not possible to measure all the variables used by Miller (1976) and Miller and Friesen (1984b).

Variable Definitions

All variables (except Variable 8 and Variable 21) were scored on a scale from 1 to 7, with 1 representing much less than other firms in the industry segment and 7 representing

much more than other organizations in the industry segment. A 7-point scale was used to allow the raters to make relatively fine distinctions between organizations without proving onerous while obtaining maximum variance. As Kerlinger (1973) has noted, “when there are five or seven possible categories of response, it is obvious that the response variance should be greater than with only two or three categories” (p. 496). In addition, Miller (1976) and Miller and Friesen (1984b) used 7-point scales in the research which was the model for this study, as have many other researchers studying organizational strategy, for example, Thomas, et al. (1993). (The scoring procedures are described below in the *Scoring the Data* subsection, and the scoring criteria given to the raters can be found in Appendix A.)

The four categories of variables, originally used by Miller (1976) and Miller and Friesen (1984b), correspond to the categories found in the literature. However, in those studies, and in this research, “resource availability” was included in the “Organization/Structure Variables,” which also included variables concerning structure, people factors, and organizational personality.

The Environmental Variables

These variables are called by the names Miller (1976) used. The conceptualization used in this study, while similar to Miller’s, is more closely aligned with that proposed by Sharfman and Dean (1991) because their approach was based on a multidimensional validation of the concepts.

1. *Dynamism* in the environment is shown by the amount and unpredictability of change in such things as technology, customer desires, and competition in the segment of

the industry. It measures instability, both in the market place and in the technology necessary in the segment. The greater the amount of instability and the greater the unpredictability of change, the higher the score for an organization.

2. *Heterogeneity* in the environment is shown by differences in service or product line, competitive tactics, customer tastes, service or distribution channels in the industry segment, and the resulting differences or sophistication required in marketing, administration, and/or delivery or production systems. It measures complexity in a segment, and how difficult the segment is to understand. The greater the number of differences and the larger the degree of difference, the greater the complexity, and the higher the score.

3. *Hostility* in the environment is shown by severe regulatory restrictions, by technology, price, or service competition, by shortages of capital, labor, or materials, or by unfavorable demographic trends. This variable deals with competition for resources. It concerns munificence in the environment, not conditions of the company. The more hostile the environment in the sector, the higher the score.

The Organization/Structure Variables

The variable names used by Miller (1976) and Miller and Friesen (1984b) were also used here. Variable definitions were more closely aligned with the current literature than with those given by Miller.

4. *Scanning* denotes the search by the organization for threats or opportunities in the environment external to the organization. Scores were based on (a) the amount of search for changes in competition, technology, customer preferences/needs, and administrative

behavior of other organizations and (b) the number of organizational members involved in scanning. The greater the amount of search and the greater number of participants, the higher the score.

5. *Delegation of operating authority* involves the amount of authority and responsibility for day-to-day operations transferred from top managers to lower and middle level managers and/or workers. Operations include such things as service/production planning and scheduling, equipment replacement and inventory or supply purchases, hiring lower level personnel, adjusting basic services/products to meet competition and/or customer needs, and other activities having to do with the ongoing activities of the organization, but not pertaining to long-term or strategic activities. The more operating authority delegated, the higher the score.

6. *Centralization of strategy-making power* denotes the distribution of power in making decisions of a long-term, strategic nature, (i.e., those decisions that affect the entire organization and must depend upon a variety of functional areas, those decisions that affect the performance of the organization or are important to the success/failure of the organization, those decisions that define the organization's relationship to its environment, or those decisions that provide direction for or put constraints on administrative and operating activities throughout the organization) (Shirley, 1982). Centralization was deemed to be high if top managers make most of the strategic decisions with a minimum of consultation with lower level people, and low if lower- or middle-level managers or workers determine strategy whether by default or by intent.

7. *Resource availability* concerns the amounts of available labor, materials, capital, facilities, and/or other resources necessary for the organization to function. This differs from hostility in the environment in that it is a measurement of organizational attributes. For example, if an organization had a low debt rating or poor relations with its employees, its resources would be limited because of attributes of the organization, irrespective of the environment. An organization received a high score on this variable if resources were abundant for the organization.

8. *Management tenure* measures the amount of time top managers have held positions at the organization. The score given was the actual average tenure of the top executives/managers because it was impossible a priori to determine what range of tenure would be signified by each of the seven measures used for the other variables.

9. *Controls* are those systems that measure trends or outcomes pertaining to organizational performance. Organizations that emphasize controls such as management information systems, employee appraisals, management by objective, budgeting, cost accounting, or quality control received high scores on controls. In general, because quality control programs maintained on large and sophisticated computer systems were used in many of the organizations examined in this study as a way to monitor delivery of the health service or product, quality systems contributed to a high score on control.

10. *Internal communication systems* involves the openness and fidelity with which information flows throughout the organization. Organizations scored high on this variable when relevant information reached both strategic and operational decision makers quickly

and accurately, and when communication flowed top-down, bottom-up, and laterally in the organization.

11. *Organizational differentiation* concerns the degree of difference between units or divisions in an organization in terms of overall goals, administrative, marketing, or operating methods, behavioral styles, or management style. The more disparate the units or division, the higher the score received on this variable.

12. *Technocratization* measures the percentage of staff with professional qualifications. The higher the percentage, the higher the score.

The Strategy-making Variables

Miller (1976) and Miller and Friesen's (1984b) variable names were also used for the strategy-making variables, but definitions have been more closely aligned with the current literature when necessary.

13. *Innovation* measures the amount of innovation used by the organization in terms of number and novelty of new services/products. It includes creativity or the creation of new products, services, ideas, or systems (Woodman et al., 1993) within the organization. If an organization had developed a unique quality program, this was also considered on the scoring for innovation. Higher scores denoted higher innovation.

14. *Adaptiveness/proactiveness*, in contrast to innovation, concerns the organization's responsiveness to external environmental conditions, the appropriateness of decisions made concerning the conditions, and the appropriateness with which and the degree to which the organization attempts to shape its environment by the introduction of new or different technologies, services, products, or administrative techniques. An

organization could be highly innovative, but if it does not use the innovation to change the way it deals with its environment, it would not be measured as highly adaptive. Or an organization could be a poor innovator, yet be judged highly adaptive if it borrowed or used the innovations of others to respond effectively to its environment (Woodman et al., 1993). Highly adaptive/proactive organizations were judged to make appropriate decisions in response to environmental factors, such as competitive pressures, regulatory pressures, or demographic changes, for example, although organizations that merely reacted to things in their environments were given low scores.

15. *Integration of decisions* involves the degree to which actions in one unit or division of an organization complement or support those of other units or divisions. In highly integrated organizations, a concerted, coordinated strategy would be found, although in a poorly integrated organization, conflicting or mutually inhibiting strategies manifested by fragmented or clashing actions would be found. High scores denoted a high level of integration, and visa versa.

16. *Conscious strategic analysis* reflects the amount of time and thought devoted by decision makers to problems or perceived problems and to responding to the problems. If little time or effort appeared to be spent and strategic decisions appeared to be made intuitively or if managers appeared to have unclear goals and strategies, a low score was given. Conversely, when there appeared to be analysis of issues manifest by such things as time delays for strategic decisions, numerous and/or regular meetings or discussions about strategy, written reports, staff analysis, or commitment to explicit strategies, a high score was given.

17. *Multiplexity* addresses the range of factors used by top managers in making strategic decisions. In a multiplex organization, the managers consider financial, marketing, production, delivery, administrative, demographic, and other factors when making a strategic decision, and a high score was given. If the organization appeared to focus on only one factor when making such decisions, a low score was given.

18. *Futurity of decisions* concerns the time frame used by the organization in planning strategies and operations. A time frame as long as 5 years warranted a high score, and decisions based on the current crises warranted a low score.

19. *Risk taking* measures the degree to which top managers are risk adverse (given a low score) or willing to take risky chances which have a high degree of failure (given a high score).

20. *Precedents* denotes the degree to which an organization tends to rethink its strategies and the way in which its strategies will be attained. An organization whose strategies are tied to precedent received a high score on this variable, whereas an organization that often rethinks strategies received a low score.

Success Variable

The success variable was measured differently in this study than in Miller (1976) and Miller and Friesen (1984b). Success was based on the financial statements of the organizations in all instances when they were available and were based on the information available when full financial statements were unavailable.

21. *Success* in this research was measured in financial terms based on the financial aspects of health services organization which Cleverley (1995a) maintains are the

important contributors to ongoing financial viability: growth in equity and the ability to be financially flexible. (A complete description of the way all variables were scored is given below in the “Scoring the Data” section in chapter 4).

Summary

Drawing on the literature of both general management and organizational studies, and on the health-services-specific literature, this research sought to incorporate variables that were found to be associated with each other and with more and less organizational success. The study was designed to overcome some of the criticisms leveled at past research in organizational studies in terms of design and variables of interest. As such, it will contribute to the literature base and to the methodological designs used in the field. In addition, unlike other research which has studied organizations from many industries, any industry influences on this study were eliminated by drawing the sample from one industry only. The final contribution of this study is that it tested the design and findings of past research while limiting that design to one industry.

CHAPTER 4

RESEARCH DESIGN AND METHODS

The development of a study such as this one, which involved discovering configurational archetypes among organizations based on the organizations' empirically observed characteristics or attributes, requires an innovative research methodology. This methodology, which McKelvey (1975, 1978, 1982) has called organizational systematics, must use "both the numerical taxonomic and phyletic theories" (1978, p. 43) of classifying organizations. Phyletic or inductive methods must be used to determine a priori the choice of attributes or variables to be measured using "relatively objective numerical taxonomic methods" (p. 43). Part of the methodology was the definition of variables (see chapter 3). A discussion of the way in which the variables were scored follows.

The Data

In an effort to overcome many of the criticisms of organizational research mentioned, especially those criticisms about narrowness of focus and dependence on bivariate relationships, a rich data base was necessary. Following the precedents established by Miller (1976) and Miller and Friesen (1984b), the primary data sources were the following: (a) case studies of health services organizations published in health care strategic management texts, in healthcare case books, in general strategic management texts, in case journals such as *The Case Research Journal*, and by the Harvard Business

School; and (b) data obtained from Forms S-1, 10-K, and other forms filed with the SEC in the case of for-profit health services organizations.

The unit used for analysis in this study was the individual organization and its characteristics, not the characteristics of the entities, groups, or people who comprise the organizations. However, even though individual organizations are the entity measured in the study, the analysis took place in the larger context of the group of organizations with similar attributes comprising the archetypes to which individual organizations belong. The overall study was of the health services industry and the archetypes within that industry. The characteristics of individual organizations are discussed only as examples of attributes found for organizations in an archetype in the health services industry.

As Miller (1976) pointed out, the advantages of using cases are numerous. Many of the same advantages are found with SEC documents:

1. Cases and the SEC filings can provide rich detail and large amounts of information about organizations, their environments, their managers, and their structures. Because these variables are presented in context, research questions may be suggested that would not occur using values on isolated variables.

2. Because case writers study an organization in depth, usually meeting the managers and observing the organization in person, the true conditions within the organization may be more easily ascertained by the writer than by a researcher studying a number of isolated organizational variables obtained from a data base or from a mail questionnaire. Certain materials are required by law in SEC filings, and organizations are encouraged to present a true and full picture of their situation, even though there is considerable latitude in how

the information is presented. Organizations presenting false information are subject to fines and/or prosecution. Although the first part of an annual report may be written by marketing specialists or publicists under contract to the organization, the information in required SEC filings is often written by members of the organization and reviewed by the organization's legal and/or financial advisors. The information could be described as an inside view of the organization.

3. Cases provide objective data about the characteristics of the industry and environment in which the organization is found. This makes comparisons between an individual organization and industry norms easier, and understanding of the environment may be more easily discerned. In the case of SEC documents, thoughtful managers include as much information about the industry and the environment in which the organization functions as possible. Shareholders who are better informed about the industry, its environment, and its competition and who have a detailed picture of the organization and its managers may be less likely to sell shares and push down the value of an organization in the face of environmental threats. Again, comparisons may be made more easily with such information readily at hand.

4. Cases and SEC filings provide longitudinal data; it may be possible to see which variables change in what sequence. In addition, it is often possible to see the emergence and disappearance of certain conditions over time with these materials; this can give insight into the organizational process. Although the organizations in this study were not analyzed over time, further research will include a longitudinal analysis.

The following are the disadvantages of using cases (Miller, 1976) and SEC filings:

1. Different cases provide different pieces of information. In any one case, it may be possible to ascertain values for some variables but not for others, although in another case, values for altogether different variables may be the only ones available. Organizations may not be accurately compared across all variables. To minimize this disadvantage, only cases containing information on the majority of the variables were used. In addition, because similar information must be provided by all organizations that file with the SEC, greater uniformity of information can be obtained by using the SEC documentation. In this study, the majority of information was taken from SEC documents.

2. Two levels of abstraction are involved when performing quantitative analysis on data from any written material, cases, SEC documents, or other published materials: First, the writer of the material must make an interpretation of the subject to be included in the material; then, the researcher must interpret the written material to quantify the things described by the writer. Two levels of interpretation exist, and the possibility of distortion exists at one or both levels.

In this study, it was found that a greater possibility for distortion appeared to exist when case studies, as opposed to SEC documents, were used. This distortion may be because the content of documents filed with the SEC is relatively strictly defined, whereas the content of case studies is defined by the interests of the writer and/or the editor(s). In addition, cases are often written to emphasize particular situations deemed valuable in a specific educational setting. In contrast, each type of SEC document is supposed to

convey similar information to the broad range of the investing public. As the majority of data were obtained from SEC documents, distortion due to interpretation was minimized.

3. Some cases may be presented in a dramatic manner to capture the attention of students. There may be some “halo effect” present in the descriptions of the strengths of successful organizations or the weaknesses of unsuccessful organizations. In the SEC documents, an organization may describe the situation in the best possible terms. Although not making untrue statements, the organization may stress its strengths and minimize or neglect to mention its weaknesses. However, organizations are mandated to make complete disclosure, under penalty of law, so a careful reading of the documents can often detect weaknesses.

Data Sources

To obtain cases for this study the Harvard Business School 1994-1995 Catalog of Teaching Materials, the Preferred Individualized Case (PIC) catalog of Addison-Wesley Strategic Management Cases, The European Clearinghouse catalog of cases, the Western (Ontario) Business School Teaching Materials catalog, and the Darden School of Business catalog of cases were searched. Only the Harvard Business School catalog contained cases which, from their titles, appeared appropriate for this study. In addition, all cases in the *Case Research Journal* for the years 1990 through mid-1995 were examined, but only one case was selected from this source. The other cases were taken from health care management textbooks (complete references are given in the bibliography).

SEC documents were obtained directly from each organization. Beginning with a list supplied by a national brokerage firm, which makes a market in many health services

organizations, the SIC codes were obtained from the *Standard Industrial Classification Manual* for those firms on the list. Using these as a starting point, the major code assigned to health services firms was ascertained, and the names of all firms listed under these codes were noted. If addresses were available in *Standard and Poor's Corporate and Municipal Ratings*, in *Moody's Bond Record*, or in *Value Line*, and if it appeared from the information given in these three sources that a majority of the revenue for the organization was derived from activities related to providing services to patients, a letter was written to the organization explaining the nature of the study and requesting SEC documents for the most recent three years (a copy of the letter can be found in Appendix B). One hundred thirty-one letters were sent, and responses were received from 81 organizations. However, only 57 usable sets of SEC documents were obtained. The others either were incomplete (e.g., only annual reports were sent, or the firm was privately held and sent no financial materials) or were unsuitable because the major source of revenue was not related to patient care. The final sample consisted of 20 cases and 57 sets of SEC documentation.

Miller (1976) and Miller and Friesen (1984b) examined 81 cases using a total of 31 variables, a ratio of about 2.6 cases per variable. This study examined 77 cases using a total of 21 variables, a ratio of 3.66 cases per variable. The ratio of cases to variables more nearly approached that usually recommended for factor analysis than was the case with the Miller and Friesen studies (Hair, Anderson, Tatham, & Black, 1992; Tabachnick & Fidell, 1989). However, there was no assertion made that these data were parametric: There was no assumption made about the form of the population distribution because the

data were measured on an ordinal scale on all except one variable. Because no assumptions were made concerning the distribution of the data, and because grouping of organizations was based on analysis techniques usually requiring parametric data such as factor analysis, the analyses themselves were used only as guidance. Statistical significance of the findings was determined using separate tests which were appropriate to the data, described in *The Hypotheses* section.

Scoring the Data

Scoring on all variables except for the success variable was done by experienced case raters. The *success* variable was scored by the researcher.¹ Before any of the actual data were assigned, the researcher and the raters met to practice rating cases. Each variable was discussed, and each rater was given a detailed set of instructions which included a scoring sheet for each organization, a definition of each variable, and examples of statements that, if true, would result in a high or a low score for each variable (see Appendix A for these instructions and the scoring sheet). The raters were told that the statements would not all be apropos of each organization rated and that the number of statements for any given variable did not necessarily have any relationship to the score which should be given on that variable. Then, several cases were rated by the raters together at the practice session. The raters asked questions and discussed each variable and its definition before reaching a consensus concerning each score for that case.

In order to offset some of the disadvantages mentioned above in using case and SEC data, several precautions were taken. Materials were selected which contained most of

¹The raters were affiliated with an academic medical center and had spent most of their working careers involved with health services either in research or in administration. In addition, they had experience reading cases.

the research variables. In this research, none of the variables had to be eliminated from the list of variables because information with which to rate it was not included in several cases, nor did any of the cases chosen have to be eliminated from the data set because they lacked enough information to be scored on most variables. The raters were also asked to look for indications of items which would relate to the development of a "human resource" variable which could be added to the variable list, but such information was available in less than half the cases and was not added to the variable list.

Following Miller (1976) and Miller and Friesen (1984b), scoring of variables using case data necessitated a procedure which relied upon the raters. Because the information on any one variable might be presented differently in one case than in another, a large number of very refined scales was impossible. Instead, the raters were trained to translate information as it appeared in each case into the appropriate variable and variable score. To accommodate many gradations, a general 7-point scale was used for each variable (except for Variable 8).

On all variables, a score of 1 represented a low score, meaning that, in the experience of the rater, most organizations score higher than this organization on this variable. A score of 7 represented the opposite, and a score of 4 implies that this organization is about average in comparison with other organizations. Because these data were from health services organizations, the organizations used as comparisons were defined as those in the same, or a similar, sector of the industry, not as all organizations in the health services industry. Long-term care organizations were rated in comparison to other long-term care organizations, not in comparison to primary care clinics or hospitals.

Beginning at the practice session and continuing throughout the scoring, raters were free to revise any previous ratings. As they gained more experience and more knowledge about various types of organizations, the raters rescored approximately 25% of the organizations. Obviously, the facts used to score will vary depending upon the circumstances given in the written material. Following Miller (1976) and Miller and Friesen (1984b), it was determined that if information on a variable was insufficient to give a sure rating, a neutral rating of 4 would be given on those variables. However, in the event there were no missing data, except on Variable 8, if one rater alone had difficulty gleaning enough information from the materials, the raters together could always score a variable after discussion about the materials. Of course, this did not preclude disagreements, on occasion, but it did mean that a neutral rating was given only when such a score was appropriate, not because of lack of data.

The *success* variable was based on the most recent complete year of financial data for each organization, 1994 in most instances, and was scored by the researcher following an algorithm: Values from the most recently available organizational financial statements were input to a spread sheet. Then, using the calculation methods found in the "Financial Analysis Framework" and the "Financial & Operating Indicators" presented by Cleverley (1995a), 27 indicators of the financial status of the organization were computed from each financial statement. (A spreadsheet list of these values, of the calculated indicators, and of the method of calculation can be found in Appendix C.) Having obtained the indicators, a decision tree which adheres to Cleverley's (1995a) methods was followed to determine

whether an organization fell into the "more successful" organization group or the "less successful" organization group.

Each decision consisted of a yes/no question followed by calculations, the values from which were subjected to a series of "if" statements. The full decision tree and the four "if" statements are shown in Figure 1.

The decision tree consisted of three steps. The first step provided a measure of growth in "equity," the ability of a health services organization to meet its mission--in the case of a not-for-profit organization--or to generate an adequate rate of return for the suppliers of capital--in the case of a for-profit organization.² If an organization had a net loss, a *Success/* value of 1 was automatically given. If the organization had a positive net income, then total margin, return on assets, and return on equity were calculated. By averaging three ratios which combine elements from both the earnings statements and the balance sheets, Cleverley (1995a) maintains that anomalies due to the business requirements of different segments of the industry can be smoothed and that greater uniformity of measurement across organizations with differently structured financial statements can be obtained. For example, a home health organization might have few tangible assets on its balance sheet, giving a higher return on assets ratio for the same net income than an imaging center, whose investment in expensive equipment resulted in proportionally greater tangible assets; however, the home health organization should have proportionally higher salary costs which would be reflected in the total margin ratio. Each ratio was subjected to a series of statements which assigned a value from 1 to 4 to each

² The term "equity" will be used throughout this paper even though not-for-profit organizations may refer to this item as "fund balance" or some similar term.

organization's ratios compared to the average value of the same ratio in organizations in the same sector of the industry. The average of the three values was used as the Success1 measure if this branch of the tree was followed. Even if an organization had a positive net income, below average ratios in comparison with similar organizations could lead to a low Success1 value.

Cleverley (1995a) posits that the financial flexibility of a health care organization depends upon earnings, accounted for in this study by the Success1 measure, upon amount of debt, upon liquidity, and upon the efficiency with which the organization uses its facilities. The second step of the decision tree accounts for the last three of these. Using Cleverley's (1995a) proxy for determining financial flexibility vis à vis debt, if an organization had a bond rating as given in either *Standard and Poor's Corporate and Municipal Ratings* or in *Moody's Bond Record*, that rating was used to determine the value of item 1 on Step Two in the decision tree. If the organization did not have its debt rated, equity-to-assets and long-term-debt-to-equity ratios were computed, compared with the average values on the ratios for organizations in the same sector so that a value from 1 to 4 could be assigned and averaged. Next, shown in item 2 of Step Two of the decision tree, a liquidity ratio was computed, compared with industry segment averages, and assigned a value from 1 to 4. Part 3 of Step Two consisted of computing three asset efficiency ratios, comparing each with segment averages, and assigning values. (Here, again, three ratios were computed in an effort to average out differences between organizations that might have been due to differences in financial statement structure alone.) The last part of Step Two was the calculation of the average value obtained from items 1, 2, and 3. This average was the value used for Success2.

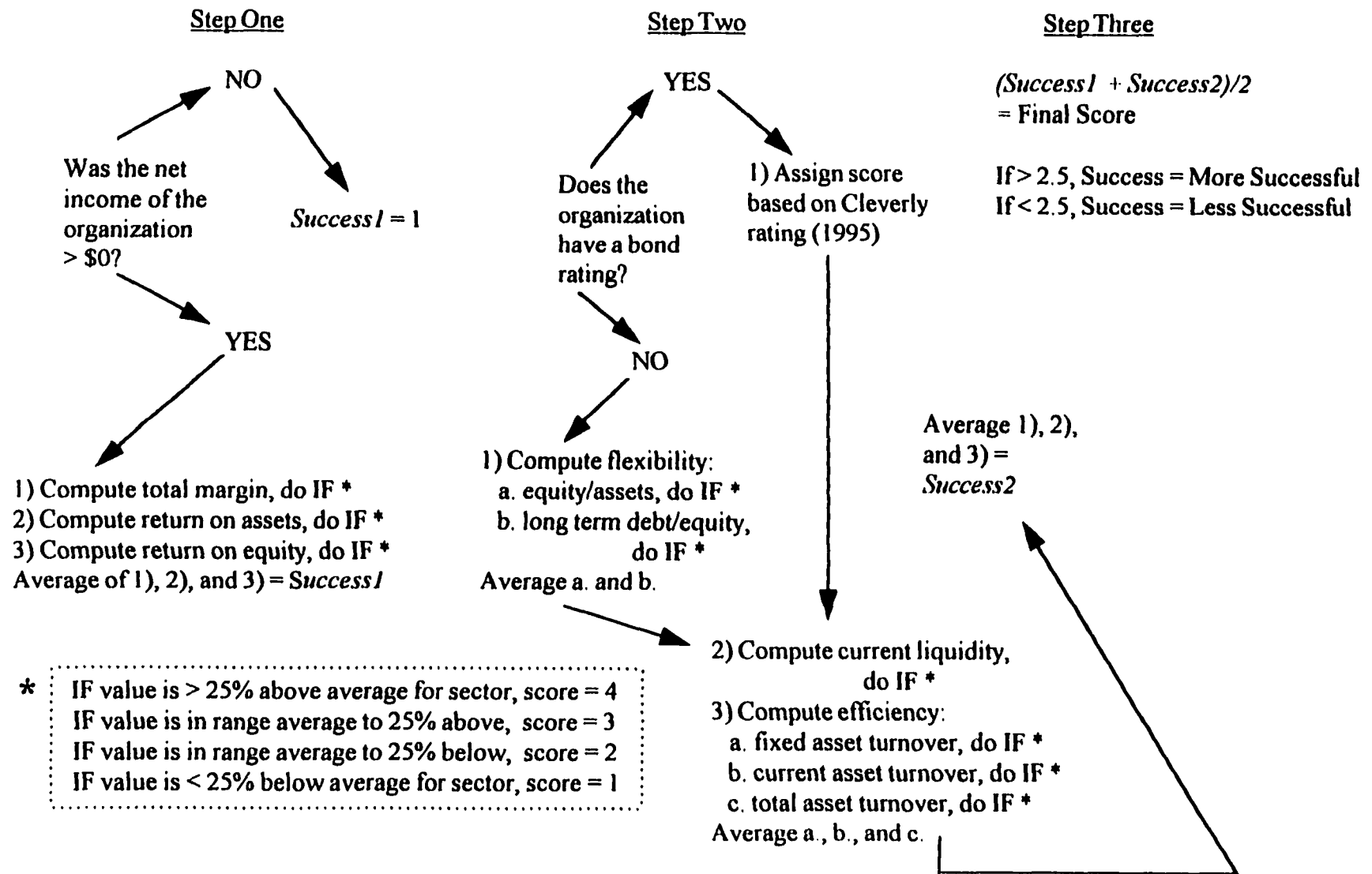


Figure 1. Decision tree for scores on *Success* variable.

Step Three entailed computing the average of the values obtained from Step One and Step Two. If this average, the final score, was above 2.5, the organization was put into the more successful category. If the value was below 2.5, the organization was put in the less successful category.

The average values used in all “if” statements (the actual statements to which each ratio was subjected are shown in the box at the bottom of the decision tree) were based on Cleverley’s (1982, 1985, 1987, 1988, 1990a, 1990b, 1992a, 1992b, 1995b) averages for a particular segment of the industry. If there was no average available for a particular segment, or if a particular ratio’s average could not be found for the segment, the most conservative average for a similar segment was used. For example, the average for-profit hospital averages were used for for-profit managed care organizations. In order to facilitate obtaining the averages and the final success score, all “if” statements were evaluated on a 1-to-4 scale, in keeping with the scale Cleverley (1995a) used to determine scores based on bond ratings. A value of 1 denoted the least financially successful score, and 4 was the most financially successful score.

In the one instance in which the final value on the success variable was exactly 2.5, the financial indicators, which were calculated but not used in the decision tree, were examined. As the values on several of these tended to be closer to values found among less successful organizations in the sample, this organization was assigned to the less successful category. Finally, several of the organizations that were rated based on case materials did not contain full financial statements. In these instances, ratios given in the case were used as given and subjected to the same “if” statements, or a subjective

judgment was made based upon the case writer's assessment of the financial condition of the organization. An organization characterized, for example, as "doing very well financially" (Complete Health, Widra & Fottler, p. 72) was given a final score of 3, whereas an organization of which it was said that the available income "would cover about one-half . . . [of the] operating expenses" (University of Texas Health Center at Tyler, Kroll & Noble, 1995, pp. 7, 21) was given a final score of 2.

Reliability

Because this method of scoring placed such reliance on the raters, case raters first had to be highly experienced in reading case studies and with the case method of study. As discussed above, a number of methods were used to achieve maximum inter-rater reliability. First, as mentioned, before actual rating was started, a practice session was held, which lasted for approximately 4 hours. At that session, several cases which were not included in the data set were actually scored. In addition, for the first 3 months of rating, the raters and the researcher met once each week to discuss problems and questions encountered on the set of organizations rated during the past week. Each of these sessions usually lasted over 1 hour.

The proposed tests for inter-rater reliability were to have been the following routine: First, 35% to 40% of the cases were to be rated by at least two independent raters. Then, the procedure used by Miller (1976) and Miller and Friesen (1984b) was to be followed; if, on ratings performed in a double-blind fashion, 10% or fewer of the total ratings differed among independent raters by two or less points, then reliability could be said to be very good (although Miller and Friesen used only about 30% of the total cases to

determine inter-rater reliability). In addition, it was planned that corroboration of the inter-rater reliability obtained following Miller (1976) and Miller and Friesen's (1984b) procedures would come from a computation of the kappa statistic. Introduced by Cohen (1960), kappa measures agreement among two or more raters compared with the amount of agreement expected by chance. Landis and Koch (1977) suggest that a kappa value of 0.60 or higher shows good to excellent inter-rater reliability, so a value of 0.60 or greater was to be used to designate a high degree of inter-rater reliability. If either of these two methods showed an inter-rater reliability less than the preset standard, raters were to reach consensus on the scores on individual variables for individual organizations, if possible, in a face-to-face discussion, which would also be attended by the researcher.

The actual experience proved somewhat different than that planned. After the first 15 cases had all been rated by both raters, an inter-rater reliability check was run. Specific biases could be readily seen for each rater. For example, one rater tended to give low ratings to most organizations on Variable 13, innovation, and the other rater tended to give low ratings to most organizations on those variables related to how employees are treated within the organization, such as Variable 5, delegation of operating authority, Variable 6, centralization of strategy making power, and Variable 10, internal communication. These biases were pointed out to the raters, and they corrected the values for organizations previously scored. In the remainder of the scoring, the biases were not detected.

Within 2 weeks, inter-rater reliability was greater than 90%. In total, 33 organizations (43% of the total) were scored by both raters. On 99% of all scores,

excluding the value for Variable 8, management tenure, the scores given by the two raters varied by 2 or less. Specifically, of the possible total 627 scores (19 variables X 33 organizations), the raters agreed on the scores for an organization 226 times, they disagreed by 1 score 247 times, by 2 scores 150 times, and on only 4 out of the possible 627 scores, they differed by more than 2. These differences are shown by variable in Table 5.

The inter-rater reliability was deemed to be excellent based on these differences. Scores were then recorded as the average of the two raters' scores. Averaging the scores, in addition to representing the combined views of the raters on the organizations scored by both, had the additional advantage of increasing the possible range of scores from 7 to 13, increasing the amount of variance in the data set.

When an attempt was made to compute the kappa statistic, however, difficulties were encountered. The kappa statistic is a measurement of the amount of agreement between raters who have each ranked one object or attribute of interest. Each individual object receives one ranking or score in comparison with each other object, and there are not usually ties.

In contrast, these data consisted of 20 attributes, not 1 attribute. In addition, the objective of the research was to find individual organizations that would, in fact, receive the same scores; the basis for this study was that there would be many ties in the data, that is, that some organizations would receive the same or similar scores on some attributes, whereas others received the same or similar scores on other attributes. Finally, the data have too many dimensions: There were many individual organizations, each with many

attributes, each of which was rated as having one of several comparative values. The kappa statistic may be computed on data with fewer dimensions: one attribute ranked with several levels or orders of comparative value represented by each individual. Data such as those used for this research are sometime referred to as “doubly multivariate repeated measure.” No statistic could be found which calculates the inter-rater reliability between raters of such data.

The intermaterial reliability could only be tested for one organization. For this organization, both case materials and SEC documents were available. The same rater was asked to score both case and SEC documents. Seventeen (85%) of the variables were given a score using case materials with a value that differed by 1 or less from the SEC materials scores, and 2 (10%) additional variables differed by 2. Only on one variable did the scores given on the case materials differ by more than 2 from those given on the SEC materials. This means that 95% of the scores were the same for the organization whether it was scored on case material or whether it was scored on SEC materials.

The Hypotheses

Generation of Specific Hypotheses

The general hypothesis of this study was that health services organizations would be found to conform to a finite number of archetypes or configurations, and that some of these archetypes would represent successful health services organizations, whereas others would represent unsuccessful health services organizations. If this hypothesis is supported, it may be possible to suggest certain strategic actions which will be appropriate for one specific archetype. If this hypothesis is not supported, then it will be implied that each organization is unique and requires unique analysis and strategic actions

Table 5

Differences Between Raters by Variable

	<u>Difference = 0</u>	<u>Difference = 1</u>	<u>Difference = 2</u>	<u>Difference > 2</u>
Variable 1	19	6	9	0
Variable 2	7	15	10	1
Variable 3	10	16	7	0
Variable 4	17	12	4	0
Variable 5	12	10	11	0
Variable 6	7	17	9	0
Variable 7	14	13	5	1
Variable 9	10	14	9	0
Variable 10	11	14	7	1
Variable 11	13	11	9	0
Variable 12	10	13	9	1
Variable 13	10	14	9	0
Variable 14	13	14	6	0
Variable 15	11	13	9	0
Variable 16	20	9	4	0
Variable 17	13	13	7	0
Variable 18	12	17	4	0
Variable 19	9	13	11	0
Variable 20	8	13	12	0
TOTAL	226	247	159	4

tailored for its unique contextual and attributional configuration. The theoretical literature supports the confirmation of the general hypothesis, and the hypothesis has been found to be empirically supported in the general literature across a broad range of nonhealth services organizations.

In order to refine the general hypothesis, the scores on all the variables (except Variable 8) were first considered along the 13 intervals in the 1-7 scale (along the range of scores for Variable 8) (Miller, 1976; Miller & Friesen, 1984b). For each variable, an average score was ascertained. Then, for any individual organization, the score on any

variable was compared to the average for all organizations on that variable. If an individual organization had a score on one variable higher than the average, that organization was said to be relatively strong on that variable; if an organization had a score lower than the average on a variable, it was said to be weak on that variable. The pattern of scores for each organization could be said to be the sequence of 20 scores each measured from the average.

In general, if, by comparing the score patterns of one organization with another, it was found that one organization's scores on the same variable fluctuated in the same direction as the other organization's score fluctuation, then the patterns may be said to be the same. Even though the magnitude of the fluctuation might have varied between the two organizations, the patterns may still be said to be the same. This definition of sameness of pattern was based on correlation of the two sequences of scores rather than on the magnitude of the scores. The correlation of sequences is analogous to correlation between variables. Two variables are highly correlated, even if the fluctuation of the values is greater in one than in the other. Both variables can be said to measure the same property or characteristic, even though the one with greater fluctuation of values may measure with greater discrimination than the other. In this study, the same underlying phenomenon was recorded for both organizations, but in the organization with scores of the greater magnitude, it can be said that its scores measured the phenomenon with greater discrimination. This comparative method was extended to all organizations and all variables, and it was found that groups of organizations had variable scores with sameness of pattern. The general hypothesis restated could be the following: There exist only a few

basic patterns of scores on the 20 variables, and the pattern of each health services organization in the sample is like one of these basic patterns.

To more clearly define these basic patterns, Q-factor (or obverse factor) analysis and a varimax rotation was used. Q-methodology originated in psychometric research during the 1930s and has been called a set of philosophical, statistical, and psychometric ideas oriented to research on the individual case (Stephenson, 1953). Q-methodology allows the researcher to focus on the relationships among individual cases across variables instead of the normal R-methodology focus on relationships among variables across individual cases (Carr, 1992). One of the clearest conceptualizations of these differences in focus was by Cattell, Coulter, and Tsujikola (1966) using the data box. The factors derived in Q-factor analysis were representative of the basic score patterns found among the health services organization data; the analysis produced correlation coefficients or loadings between the score pattern of every organization and every factor or basic score pattern. All those organizations with a high loading (i.e., those found to be highly correlated with a factor derived during Q-factor analysis) tended to have similar score patterns. As preliminary corroboration of the general hypothesis, a Q-factor analysis with varimax rotation was run on the complete sample, and 10 factors with eigenvalues greater than 1 were found.

The next step toward specifically testable hypotheses involved the use of a subsample of the organizations. Using randomly chosen organizations comprising approximately 60% of the sample (Miller, 1976), and based on the scores on the success variable, this group was divided into more and less successful organizations. The more and less

successful groups were each subjected to Q-factor analysis using the SPSS/PC statistical package. Where a number of organizations had estimated high loadings, above 0.50 on one factor, and estimated low loadings on the other factors, the factor was used as a tentative archetype.

Two important notes must be made at this point. Even though Stephenson (1953) maintains that Q-factor analysis using ordinal data is valid, any factor analysis is valid only in the instance that interval data is used and assumptions of near normality are met. The results of the Q-factor analysis were to be used to suggest and to identify tentative archetypes; statistical significance was tested separately from the factor analysis. The other note concerns Variable 8, *Management Tenure*. This was the only variable measured on an interval scale: Scores were given in numbers, with up to one digit following the decimal, and ranged from 1 year to 14 years. In addition, it was the only variable for which some values were missing: In several instances in which the data were taken from case materials, the management tenure was not given nor was there any indication given about management tenure. In R-factor analysis, when values on any one variable are missing, the corresponding case is not included in the computation. If the data set is relatively large, missing data may not be a problem for R-factor analysis solution stability. However, with Q-factor analysis, missing data on one variable results in the exclusion of one organization. Because this variable was the only one with any missing scores, the variable was excluded from the data set before the Q-factor analysis was performed, to insure inclusion of all organizations.

The random choice of 60% of the organizations was rerun 10 times for more successful and for less successful to determine which randomly chosen organizations could account for the greatest amount of variance in the data on factors with eigenvalues greater than 1. However, because 60% of the data set is not a whole number, a different number of organizations were randomly selected each time the selection was made, and comparisons of amount of variance from one random selection to another could not be clearly made. Therefore, a set number of organizations, 45 organizations (27 more successful organizations and 18 less successful organizations) or 58.7% of the sample, and a set random number generator seed that produced a subsample accounting for about 85% of the variance on factors with eigenvalues greater than 1 were used. Nine archetypes were tentatively identified, 5 more successful archetypes and 4 less successful archetypes.

Having tentatively identified each archetype, lists of organizations falling into each were compiled. The range of possible scores for each organization on each variable was noted, producing a collection of 20 ranges of scores for each successful and each unsuccessful archetype. These ranges were called the "regions" of scores. There were a region of scores associated with each tentative or hypothesized archetype. Therefore, the hypotheses could then be stated as follows: For any health services organization, its sequence of scores on the 20 variables will fall into the region of one of the hypothesized archetypes. For any successful health services organization, its sequence of scores on the 20 variables will fall into the region of one of the hypothesized successful archetypes; for any unsuccessful health services organization, its sequence of scores on the 20 variables will fall into the region of one of the hypothesized unsuccessful archetypes. It was

expected that parts of some regions would overlap with parts of other regions on one or more variables. However, it was also expected, first, that each region or archetype would be distinct in total, and second, that, in total, the regions of successful archetypes would be different than the regions of unsuccessful archetypes.

Because the data were not measured on an interval scale, the assumptions for the properties of data appropriate for factor analysis were not met; and because it was difficult to test the statistical significance of factors derived through factor analysis in the case of relatively small sample sizes and relatively large number of variables, the organizations falling into an archetype were redefined in terms of their scores on the 20 variables. The archetypes were defined in terms of their regions of scores: Any organization whose scores fall into the region associated with an archetype was said to belong to the corresponding archetype. To verify that the hypothesized regions based on the subsample were not the result of chance, the following test was made. When the whole data set was sorted into tentative archetypes based on a Q-factor analysis, if the subsample of organizations were grouped together into the same hypothesized archetypes, then it would be said that the hypothesized regions based on the subsample were not the result of chance.

This procedure differs somewhat from that used by Miller (1976) and Miller and Friesen, (1984b). Miller and Friesen subjectively increased the ranges of scores determined from 60% of their sample on some variables. "Ranges were expanded whenever, in our judgment, it was only accidental that the scores in the tentative archetype were not larger" (Miller, 1976, p. 36). Although it was expected that the sizes of the

regions for the subsample would be smaller than those of the corresponding regions in the whole sample, arbitrary expansion was not deemed appropriate. Numerous transformations of the ranges of the subsample were tried in an effort to systematically increase the size of the regions. However, given a limited time frame in which to complete the study, and as the size of each region for the subsample was a close approximation to the size of the corresponding region in the whole sample, graphic representation of these similarities was chosen. To allow easy comparison between subsample and full sample, and between one archetype and another, each chart was drawn on identical axes. However, to accurately portray the data given the differences in the regions among archetypes, centered values were computed and used. Centered values for each variable for each organization were based on the mean value of all variables for each organization. That is, an organization's mean value across all variables was subtracted from each variable's value for that organization. Each archetype is depicted in a separate figure (see Figures 2 through 11).

It should be noted that there is no subsample associated with less successful Archetype 5 in Figure 11. The explanation for this anomaly reinforced belief in the general hypothesis. To define tentative archetypal regions for each of the more successful and the less successful organizations, factors were limited to those with eigenvalues greater than 2. As expected, five tentative more successful archetypal regions were quickly identified. Efforts to define the tentative regions for the less successful archetypes, however, were more difficult. One organization repeatedly loaded by itself on a factor. This was true whether a 6-, 5-, or 4-factor solution was obtained. Therefore,

that organization was finally removed from the subsample. Four tentative factors with eigenvalues of 2 or greater resulted. The regions of those 4 were used for the test described above.

When all less successful organizations were used to perform a Q-factor analysis, 5 tentative less successful archetypes were found, based on the number of factors with eigenvalues greater than 2, which corresponded with the number expected. In tentative Less Successful Archetype 2, the regions of the subsample and the full sample overlapped exactly because all organizations in the archetype had also been chosen for the randomly selected subsample. However, none of the organizations with high factor loadings on the fifth factor had been selected in the random selection of the 60% subsample. Further, with only one exception, organizations were found to be in the same tentative archetype using the whole sample of less successful organizations, as had been hypothesized using the subsample. The 5-factor solution producing five tentative less successful archetypes was used in the final test of the hypotheses.

Testing the Hypotheses

The total Cartesian product space into which all organizations could fall was obviously very complicated, being described in 20 dimensions (Miller, 1976; Miller & Friesen, 1984b). It is the product of all the ranges for all variables, or $13^{19} \times 141$. (There are 13 possible scores on each of 19 variables, and 141 possible score when the 14-year range of score on Variable 8 is measured in 0.1 years.) To determine if the region of an archetype is significantly different than a region occurring by chance, the size of each archetypal region was compared to the size that might have been expected by chance. It

was expected that the sizes of the archetypal regions would be significantly smaller than the size expected by chance. Specifically, A was compared to B, where A equals the ratio of the number of different possible profiles or points in a region to the number of all possible profiles or points and B equals those profiles expected by chance. In other words, A consisted of a fraction in which the numerator was $(2 [V_{1,2} - V_{1,1}] + 1)(2 [V_{2,2} - V_{2,1}] + 1) \dots (2 [V_{21,2} - V_{21,1}] + 1)$, when $V_{i,2}$ is the upper limit on the range of scores on the i th variable, and $V_{i,1}$ is the lower limit and in which the denominator is $13^{19} \times 141$. This value was compared to the lower limit of a 95% confidence interval about B, which is the proportion of organizations in a tentative archetype.

The profile of any organization either will be in a region or it will not be in a region. Each profile can be classified as either successfully within a region or failing to fall into a region, so the appropriate inference procedure uses the binomial test. The lower limit of a 95% confidence interval was formed around the fraction of organizations that fell into a given archetype, using the formula suggested for binomial test by Gibbons (1985) and a p -value from the 0.025 tail of the normal distribution table. This was compared to the value of A.

Miller (1976) and Miller and Friesen (1984b) used only those organizations that were not in the subsample to test the hypothesis. In the study described here, the test was performed on the organizations not selected to be in the subsample following Miller (1976) and Miller and Friesen (1984b), but more importantly, it was also performed on the whole sample.

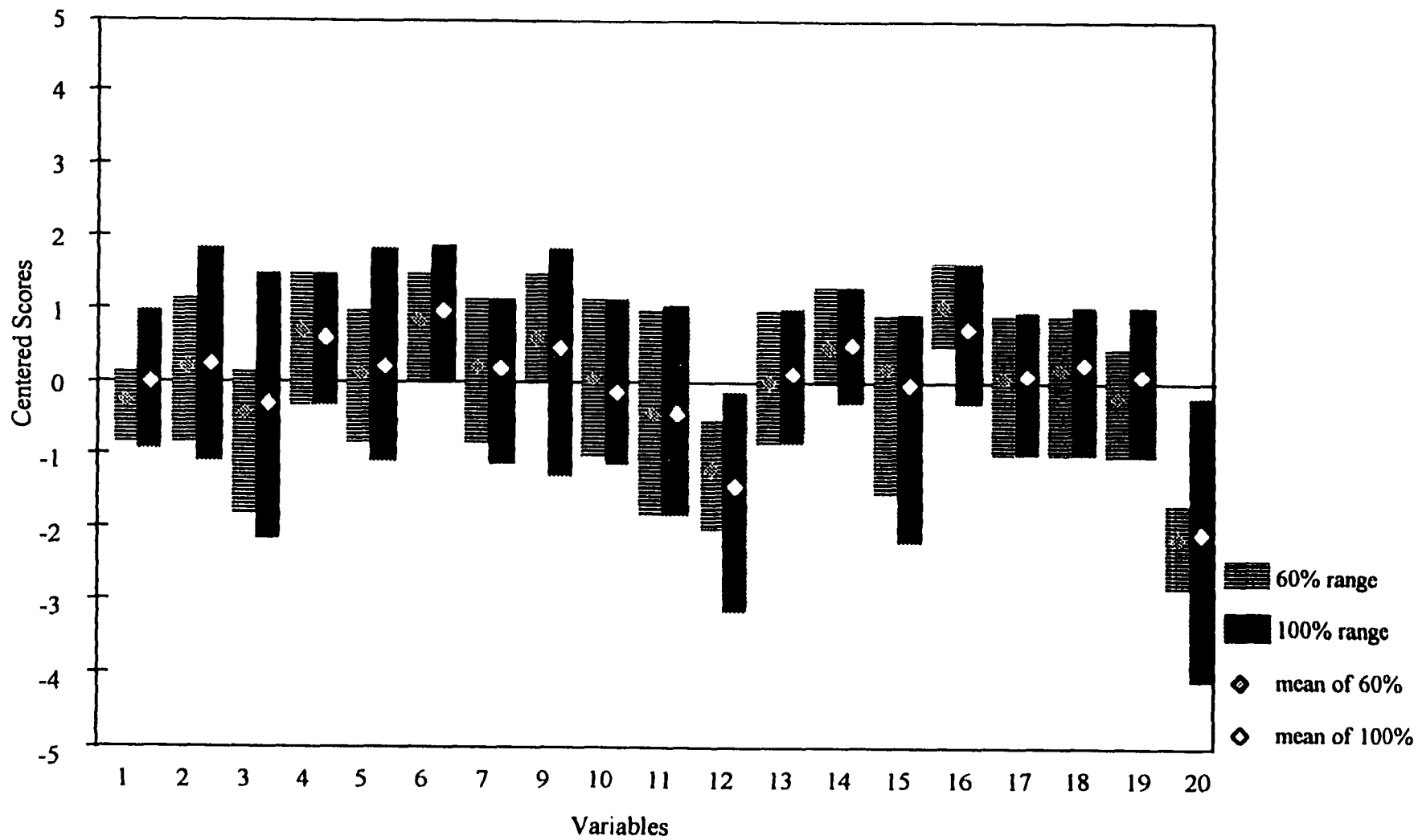


Figure 2. More Successful Archetype 1 variable score ranges. Archetypes based on 60% of sample ($n = 8$) vs. 100% of sample ($n = 17$).

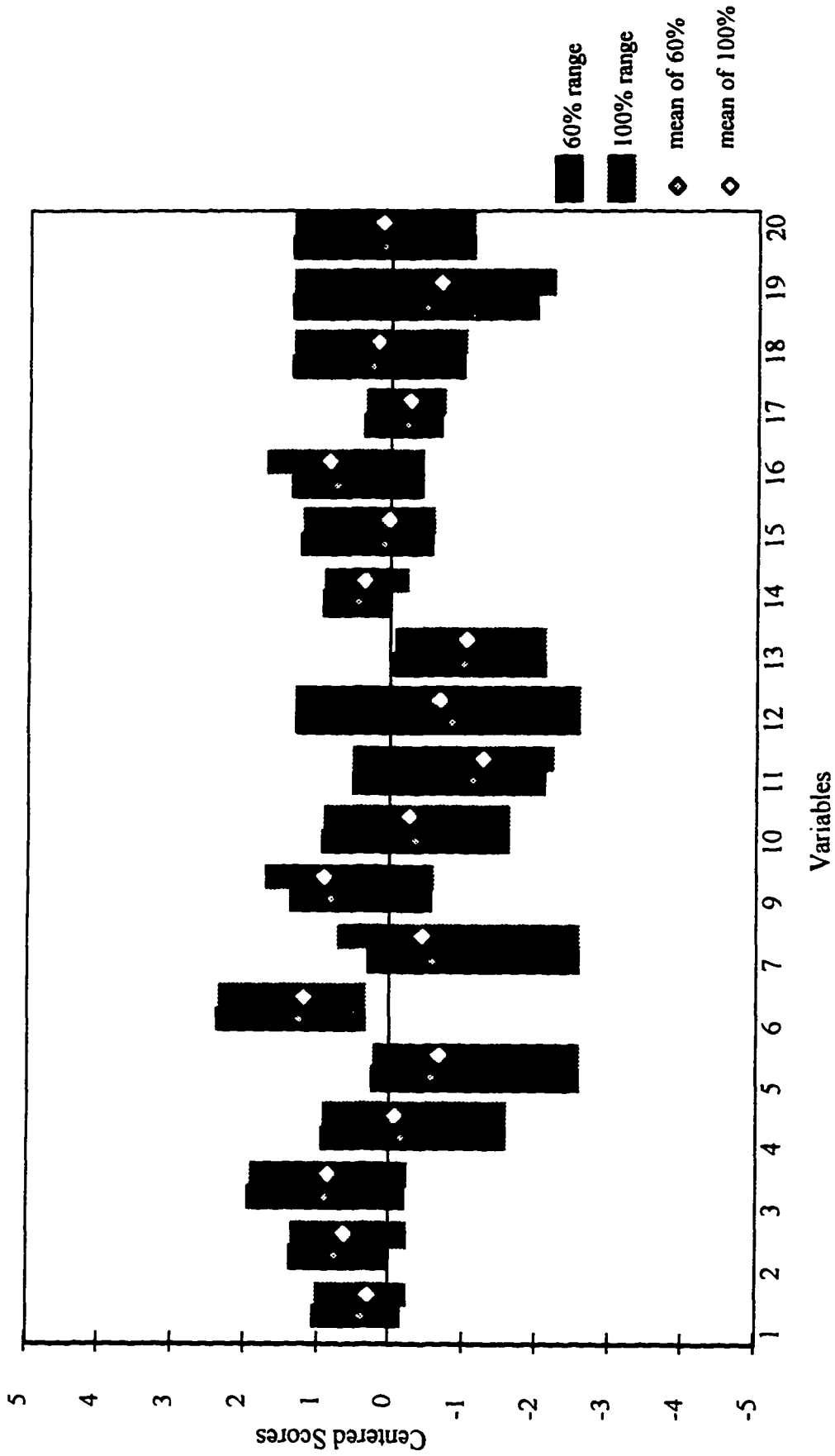


Figure 3. More Successful Archetype 2 variable score ranges. Archetypes based on 60% of sample ($n = 8$) vs. 100% of sample ($n = 9$).

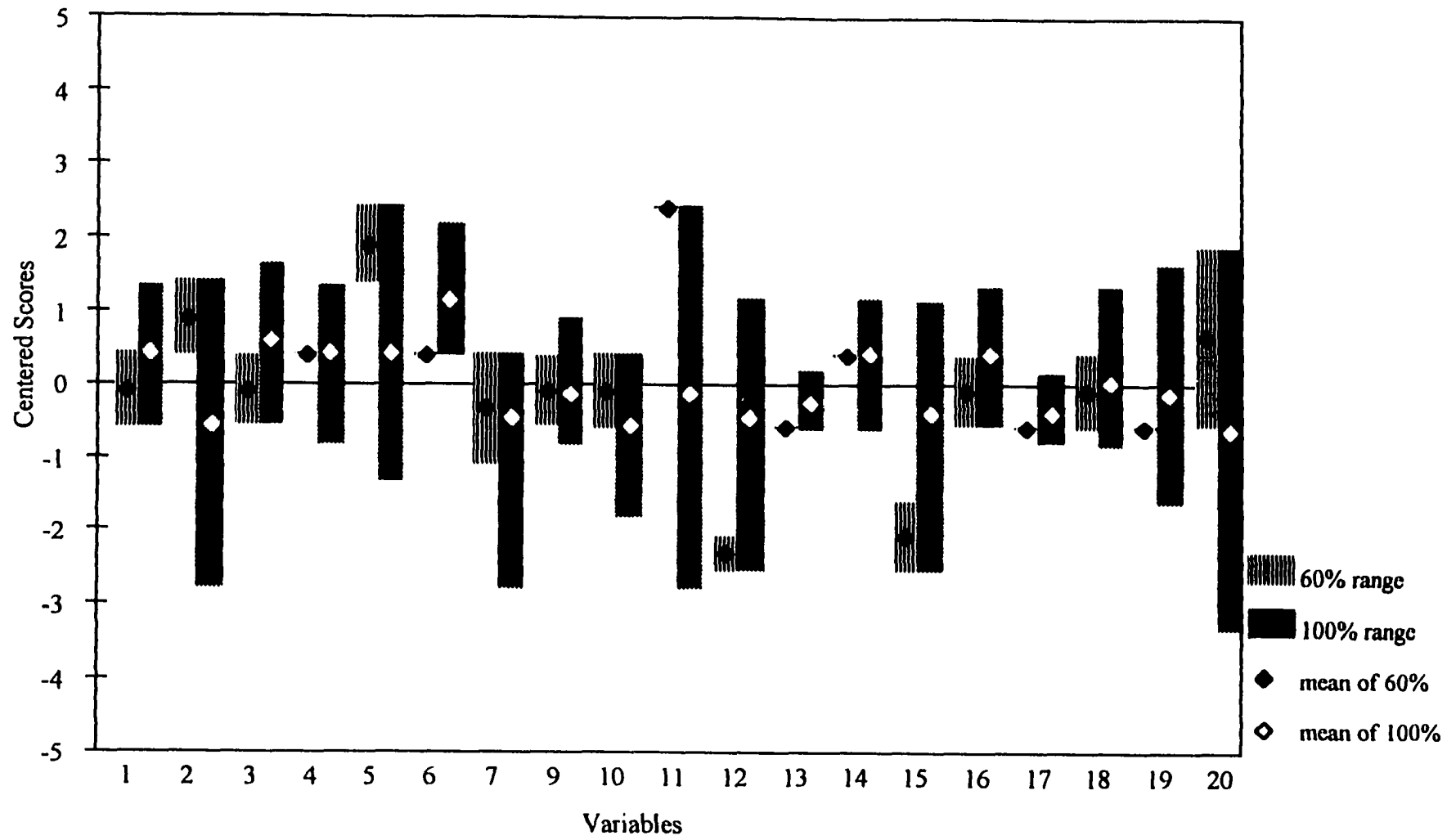


Figure 4. More Successful Archetype 3 variable score ranges. Archetypes based on 60% of sample ($n = 2$) vs. 100% of sample ($n = 7$).

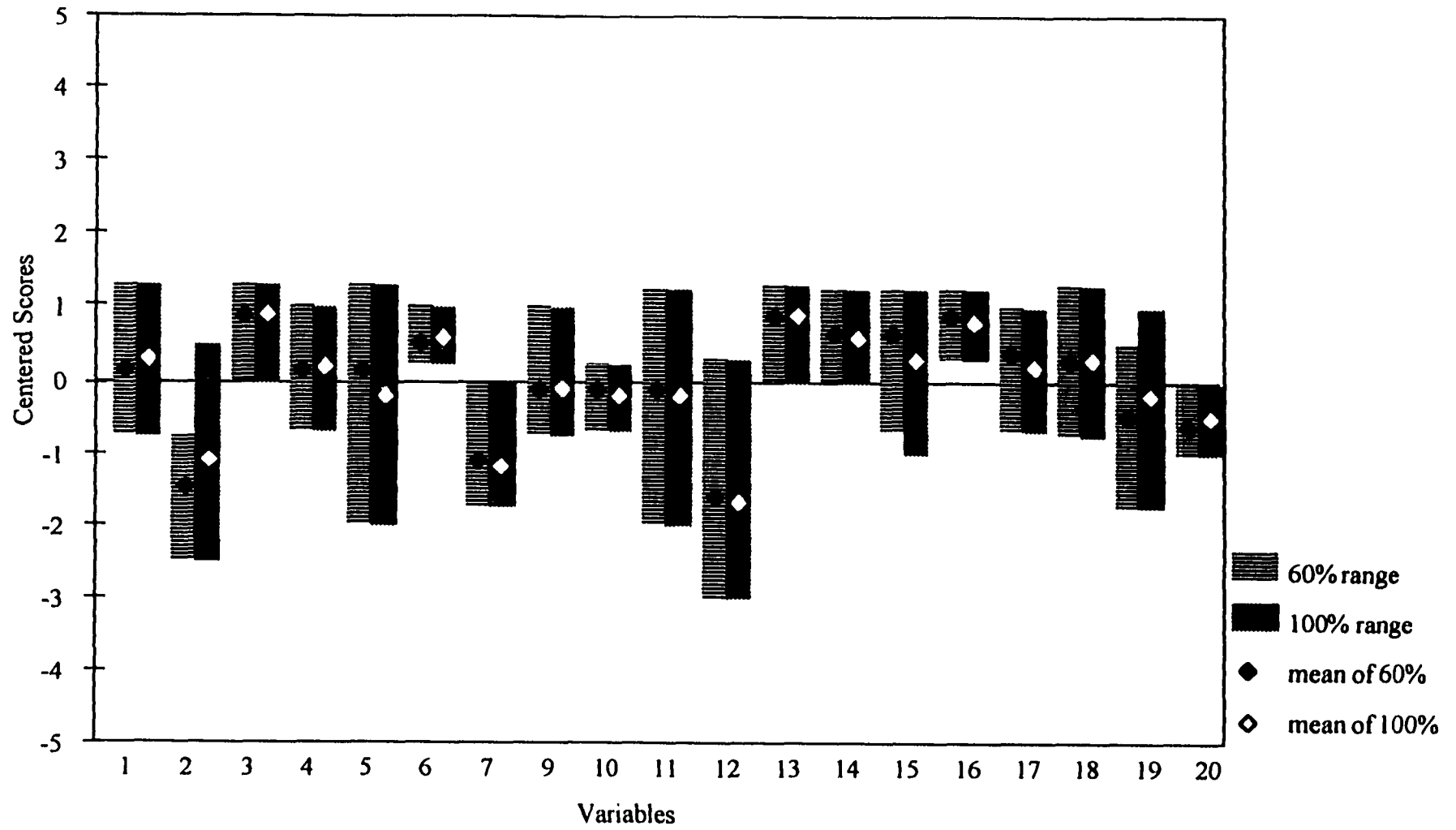


Figure 5. More Successful Archetype 4 variable score ranges. Archetypes based on 60% of sample ($n = 4$) vs. 100% of sample ($n = 5$).

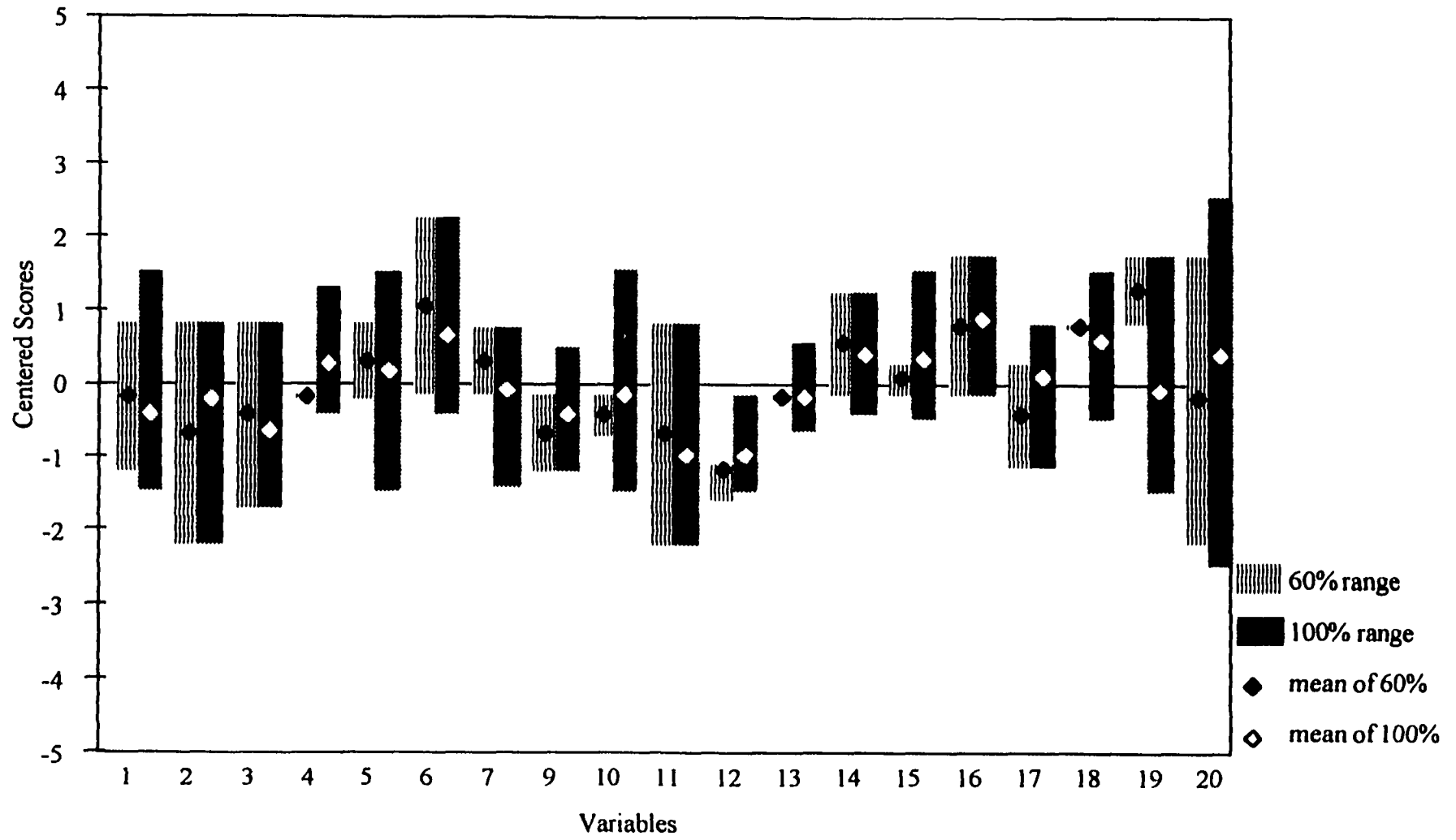


Figure 6. More Successful Archetype 5 variable score ranges. Archetypes based on 60% of sample ($n = 2$) vs. 100% of sample ($n = 6$).

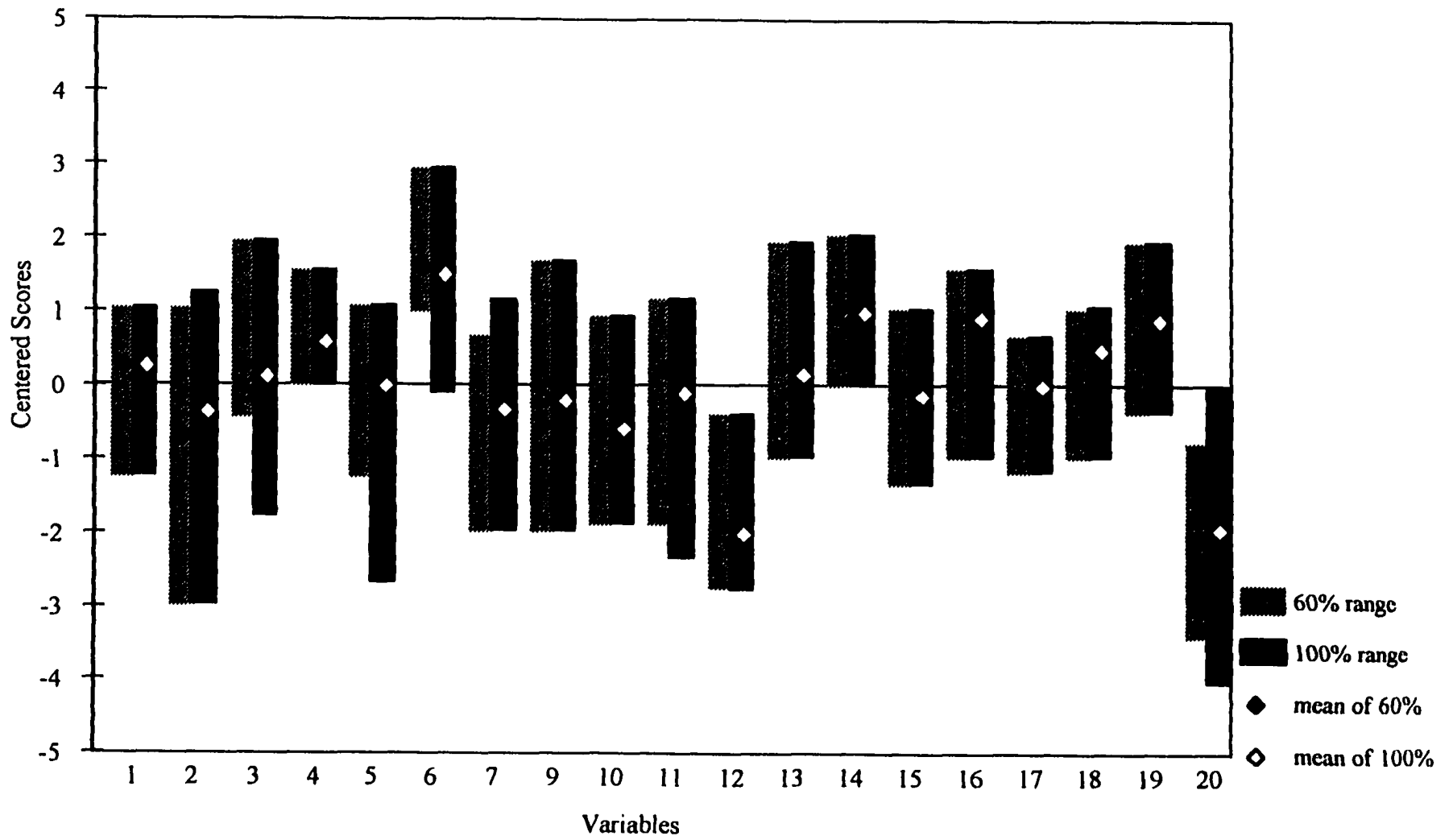


Figure 7. Less Successful Archetype 1 variable score ranges. Archetypes based on 60% of sample ($n = 9$) vs. 100% of sample ($n = 13$).

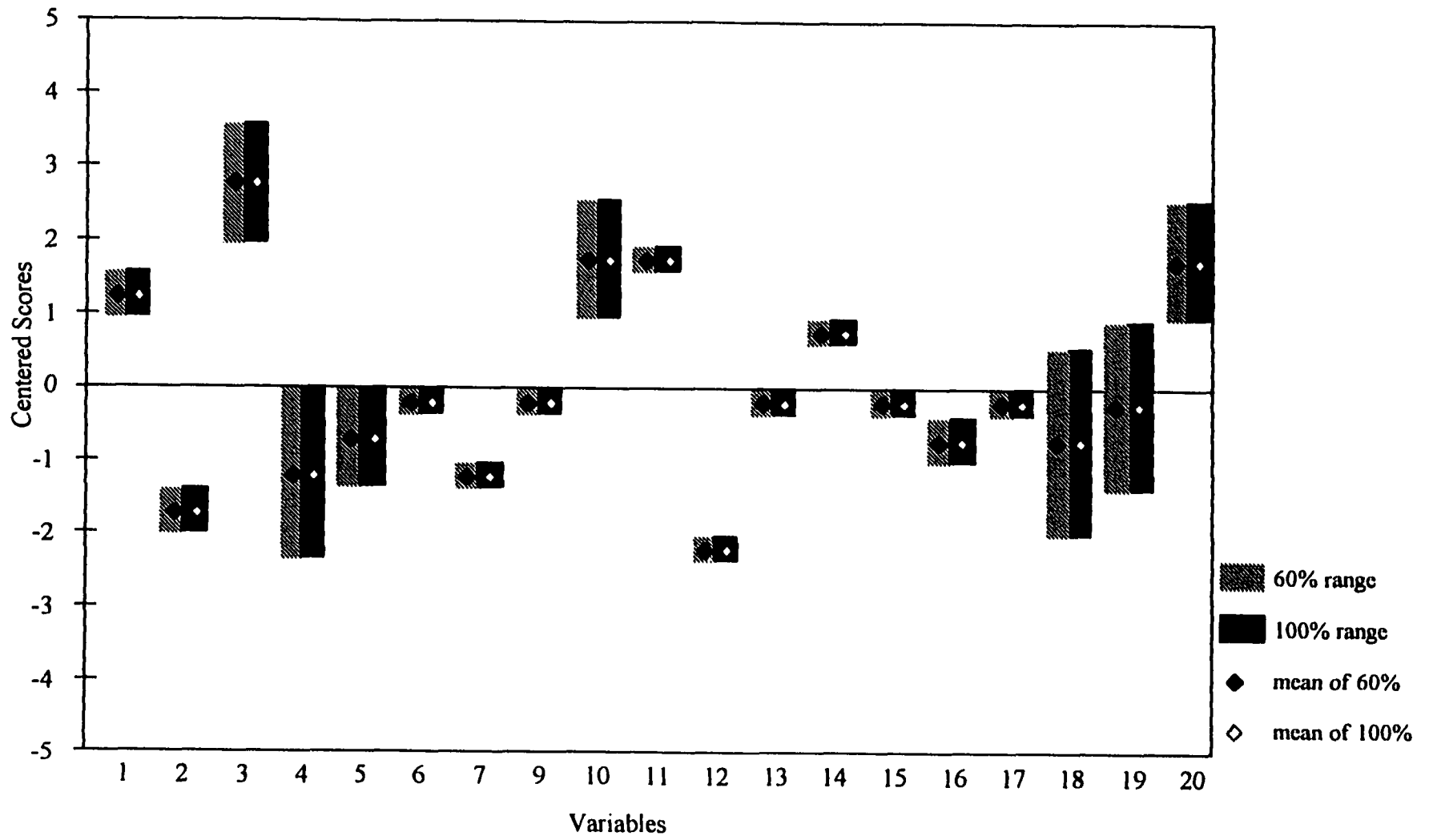


Figure 8. Less Successful Archetype 2 variable score ranges. Archetypes based on 60% of sample ($n = 2$) vs. 100% of sample ($n = 2$).

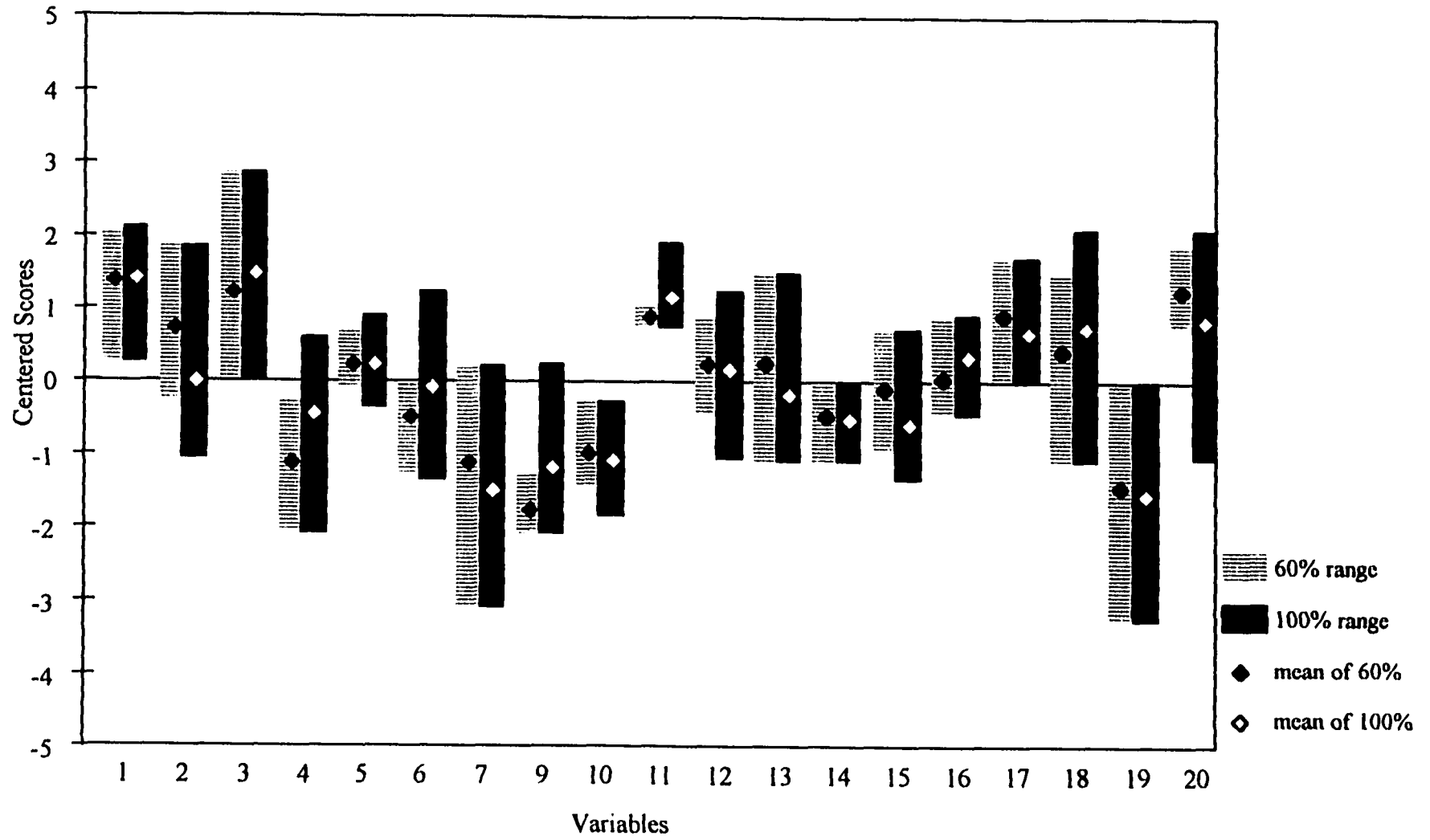


Figure 9. Less Successful Archetype 3 variable score ranges. Archetypes based on 60% of sample ($n = 3$) vs. 100% of sample ($n = 6$).

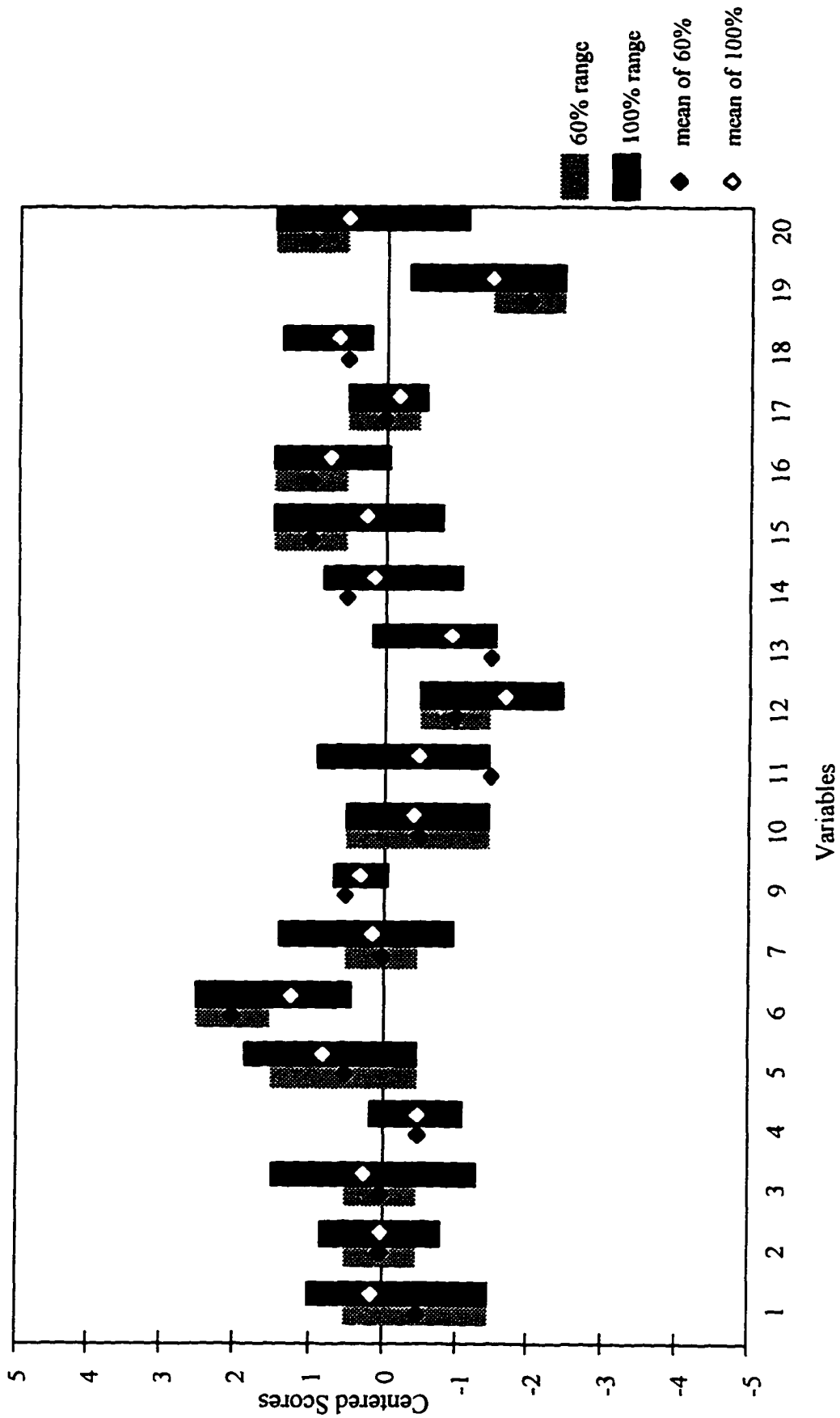


Figure 10. Less Successful Archetype 4 variable score ranges. Archetypes based on 60% of sample ($n = 2$) vs. 100% of sample ($n = 6$).

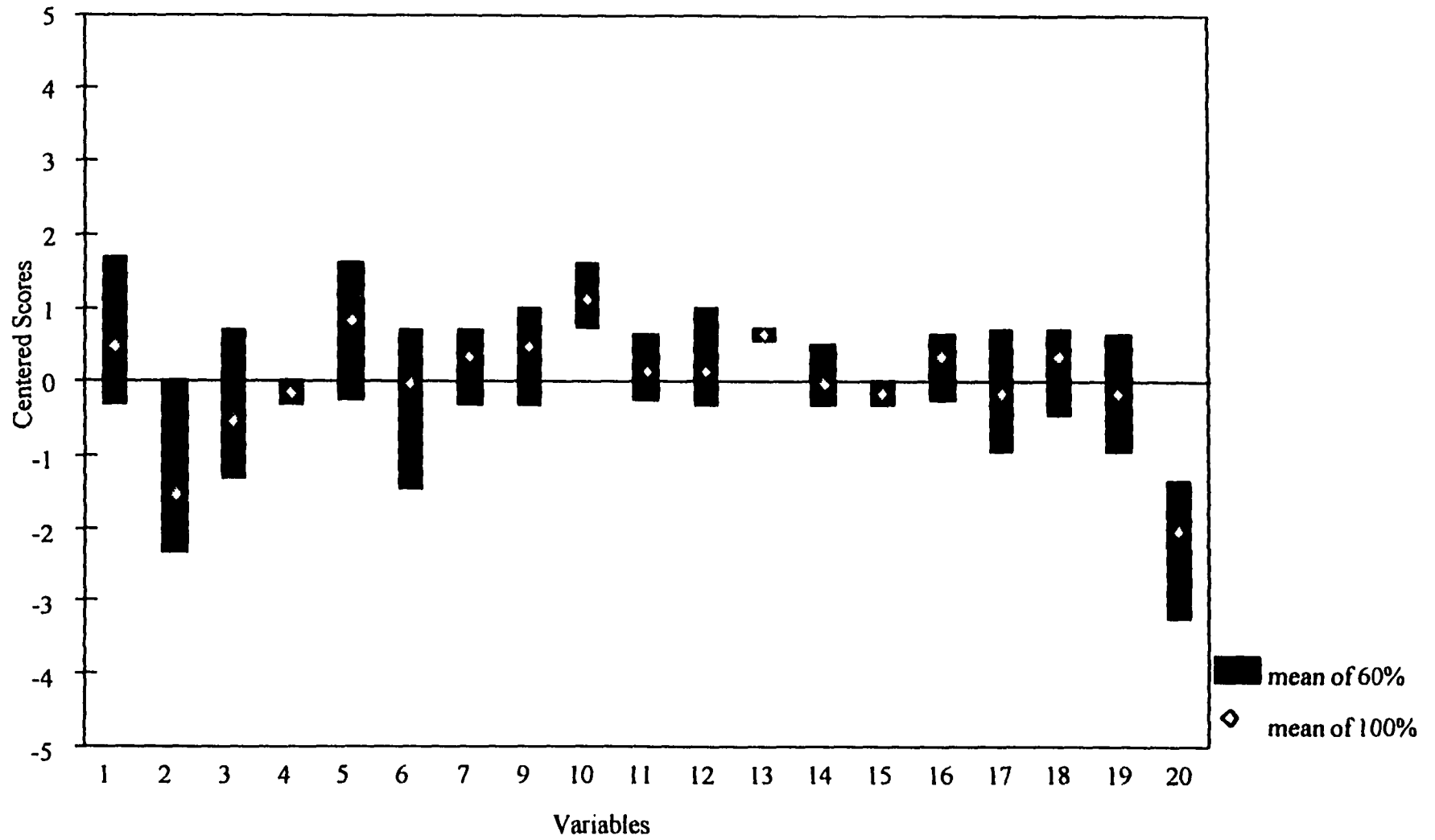


Figure 11. Less Successful Archetype 5 variable score ranges. Archetype based on 100% of sample ($n = 3$). None of the organizations in Less Successful Archetype 5 were included in the randomly selected 60% sample.

Summary

This research was based on data taken from cases or SEC documents of health services organizations. Variables were identified from the relevant literature, especially from the prototype for this study. Nineteen of them were scored on a 7-point scale, and one was scored on an interval scale by experienced and reliable raters. Based on the general hypothesis that there exists a finite number of health services organizational archetypes, tentative archetypal regions of scores were defined, based on a Q-factor analysis of the organizations in a randomly generated subsample of the organizations. These tentative archetypes were tested for statistical significance both in the whole sample and in those organizations that had not been selected as members of the subsample using the binomial test.

CHAPTER 5

FINDINGS: THE AGGREGATE DATA

The purpose of the study was disaggregation, specifically, disaggregation into archetypes of more successful organizations and archetypes of less successful organizations. However, the aggregate data are of interest because of what they show about health services organizations in general, as represented by those organizations in this study. Given the caveat of a nonparametric data set, the information contained in parametric measures gives a close approximation of the analogous nonparametric measures, but allows a greater degree of discrimination among measures, and is more common. Means and standard deviations will be discussed in this chapter, even though none of the data meet the assumptions common with those measures. Medians and ranges are also used as appropriate in a discussion first, of the data in toto, then, of the more successful and the less successful subsamples.

The Total Sample: The Organizations

Of the total 77 organizations, 40.3%, or 31 organizations, were categorized as less successful and 59.7%, or 46 organizations, were categorized as more successful. Fourteen organizations were not-for-profit, and 63 were for-profit. The headquarters or home office of 24 organizations are located in the Northeast: Connecticut, Massachusetts, New Hampshire, New Jersey, New York, or Pennsylvania. Twenty-two

are headquartered in the Southeast: Alabama, Florida, Georgia, Kentucky, Louisiana, Maryland, North Carolina, or Tennessee. Headquarters for 9 of the organizations are located in the Midwest: Illinois, Michigan, Minnesota, Missouri, Nebraska, or Ohio. Of the remaining 22 organizations, 21 are headquartered in the West: Arizona, California, Colorado, Nevada, New Mexico, Oregon, or Texas; the location of one was not given in the case material.

Table 6 shows the mean values, the standard deviations, the minimum values, and the maximum values for variables 1 through 20. All variables were scored on a 7-point scale except for Variable 8, *Management Tenure*, which was the actual average number of years

Table 6

Variable Means and Standard Deviations for the Total Sample

Variable	Variable	Mean	Standard deviation	Minimum	Maximum
V1	Dynamism	5.16	.98	2	7
V2	Heterogeneity	4.71	1.34	1	7
V3	Hostility	5.19	1.14	2	7
V4	Scanning	5.05	1.10	1	7
V5	Delegation of Authority	4.96	1.13	2	7
V6	Centralization of Strategy-making Power	5.77	1.02	2.5	7
V7	Resource Availability	4.55	1.29	1	7
V8	Management Tenure	6.22	3.06	1	14
V9	Controls	4.95	1.22	2	7
V10	Internal Communication	4.58	.97	2	7
V11	Organizational Differentiation	4.60	1.24	2	7
V12	Technocratization	3.75	1.34	1	7
V13	Innovation	4.78	1.00	3	7
V14	Adaptiveness/Proactiveness	5.32	.84	3	7
V15	Integration of Decisions	4.80	1.02	2	7
V16	Conscious Strategic Analysis	5.55	.90	3	7
V17	Multiplexity	4.86	.82	3	7
V18	Futurity of Decisions	5.21	.94	2	7
V19	Risk Taking	4.67	1.34	1	7
V20	Precedents	4.06	1.30	1	6

spent at the company by the top managers, if the information was available. The minimum and maximum values for each variable are shown in Table 6.

The Total Sample Means

There are several points of note concerning the means of the total sample. First, all except one are above the midpoint of the range of possible scores. That is, they are higher than 4 with the exception of Variable 12, *Technocratization*. Three possible explanations may account for this phenomenon. First, as has been noted, the majority of the organizations were rated as more successful (46 organizations) as opposed to less successful (31 organizations). Therefore, on those variables often associated with greater organizational success, such as *Futurity of Decisions*, *Innovation*, or *Adaptiveness/Proactiveness*, it might be expected that scores would tend to average above the midpoint. This does not explain the high means on all the variables, but it would account for several.

A second explanation may be the nature of the data sources. Organizations that cease to be financially viable, that go out of business and discontinue operations, and that might be expected to score very low on many of the variables, no longer file documents with the SEC, nor are they usually accessible to case writers. Neither the data on these organizations, nor their expected lower ratings are available for scoring.

Finally, there may be a positive bias toward an organization on the part of a case writer. Relatively few examples are given of organizational phenomena that might lead to lower ratings, and relatively more examples are given of phenomena that could be construed as positive about the organization. Although organizations are required to

include certain information in any SEC documents filed, as the information will be read by the investing public, the most positive slant is usually found for any information given, and raters are more likely to find examples that support a higher rating instead of a lower rating. This bias may also be an explanation for above average means on all variables.

Centralization of Strategy-making Power was the variable with the highest mean in the total sample, 5.77, closely followed by conscious strategic decision making with a mean score of 5.55. Associations among these and other variables are discussed in detail in the section titled *The Variable Groupings* and in chapter 7, but here it is important to note that the two variables with a reference to *strategy* in their names were scored highest. This could be because health care organizations are aware of the importance of strategy in a changing environment, or it could be because the word, *strategy*, has come into vogue with managers of health care organizations and appears frequently in any disseminated written materials about their organizations.

In Miller's original study, *Centralization of Strategy-making Power* had one of the highest means, 5.4. However, in Miller's study, the variable analogous to the second highest scored variable in this study, consciousness of strategies, had a much lower mean of 4.8 in his total sample (Miller, 1976). That these two variables have the highest means in this study and that one of them matches the Miller data, although one of them does not match, may be explained by two observations: one concerning the industry studied in this research compared to the industries studied by Miller, and one concerning the period of time of this study and of this study compared to Miller's study.

This study dealt with one industry only, the health services industry. Although, on the one hand, health services organizations have often been characterized as being behind other organizations in terms of management innovation, on the other hand, they have been characterized as being in a state of turbulence. These characteristics would not have been found in all the industries studied by Miller (1976). The levels on variables showing management innovation in a lagging industry such as health services might be similar to those found in leading industries 20 years ago. An industry facing lack of control due to an ever-changing environment might have a tendency to strengthen central control of all kinds, including strategy making. In addition, strong central control has often been the norm in health services organizations. In this situation, a high mean score on *Centralization of Strategy-making Power* would not be unexpected.

Second, during the 20 years since Miller's study, concepts of strategy making have evolved. Beginning in the early 1980s with popular best sellers such as *In Search of Excellence: Lessons from America's Best-Run Companies*, by Peters and Waterman, the importance of strategic components in a well-run organization became more widely recognized. It is not unexpected that scores for consciousness of strategies should be rated lower in 1976, before the popularization of strategic issues, than the analogous variable, consciousness of strategic analysis, would be in 1996, even in organizations with less innovative managements.

The variable with the total sample lowest mean and the only variable with a mean below the midpoint, *Technocratization*, attempted to measure the percentage of management with professional qualifications. Because organizations were scored in

comparison with other organizations in the same segment of health services, and because in most segments of the health services industry there are one or two organizations whose top management includes many with professional qualifications, (e.g., Pacific Physician Services or Curative Technology), most organizations will be rated below those few whose managers are qualified professionals. The few organizations with high scores on this variable would be outweighed by the many more organizations with scores below the midpoint. Given this, it was expected that the overall mean score would be below the midpoint.

The Total Sample Standard Deviations

Except for *Management Tenure*, data for which were not available on 13 of the organizations and which was measured on an interval scale and showed a great deal of apparently random variation, the greatest standard deviations are found on *Technocratization*, *Heterogeneity*, *Risk Taking*, and *Precedents*. It is apparent that a higher standard deviation might be expected on *Technocratization*. There are a few organizations within a sector or segment of the health services industry that will have high scores on this variable, although there are a greater number of organizations that will have much lower scores compared to the former organizations. As scores for an individual organization are determined in comparison with other organizations in the same sector, the variation in scores on this variable might well be quite large, which would, in turn, give a high standard deviation.

Heterogeneity measures the differences in service/product line, competitive tactics, service channels and the resulting differences required in marketing, administration, and/or

production/delivery services in a particular sector or segment of the health services industry. Remembering that organizations were to be scored in comparison with other organizations in the same sector of the health services industry gives an explanation for the high standard deviation on this variable. Although many of the organizations studied could easily be classified into a segment, (e.g., the health maintenance organization [HMO] segment of the industry), in many other cases, exact segment classification was difficult. For example, in which segment should an organization such as MedCath, Incorporated be classified? MedCath, Inc. provides cardiology and cardiovascular services through the development, operation, and management of heart hospitals and other ... fully-integrated networks [which] provide comprehensive diagnostic and therapeutic cardiac care services (MedCath, Form S-3, p. 5). Should this organization be classified in the hospital segment? As a member of network model segment? As a rehabilitation facility? Although the raters were well versed in the various segments of the health services industry, exact definition in an instance such as the example given is impossible, depending upon the current mood of the rater. Part of the wide variance in score on this variable may be due to difficulties experienced by the raters in establishing a referent group for any individual organization.

The other two variables with large standard deviations, *Risk Taking* and *Precedents*, are important variables in defining the organizational archetypes. For many of the archetypes, there is a large difference in scores on these variables between organizations in one archetype and those in another. These differences will be discussed in greater detail below, in the section describing the differences between the archetypes.

The Total Sample Ranges

The maximum on all variables, except two, was the highest possible score.

Management Temure, Variable 8, was greater than the highest score because it was measured as actual number of years. *Precedents* had a maximum value of 6. *Precedents* measures the degree to which an organization rethinks both its strategies and the way in which these strategies might be attained. An organization whose strategies and way of thinking are tied to precedent received a high score on this variable. Often, successful organizations are associated with the ability to rethink strategies if necessary. As the health care industry environment is rapidly changing, rethinking of strategies might often be necessary. It is not surprising that the maximum value on this variable was not at the maximum possible value: This variable was, in effect, reverse scored, which would mean, in general, lower scores in a sample with a greater number of successful organizations.

The minimum value, 1, was found as the minimum on only seven variables, whereas 2, the next to the lowest value possible, was the minimum on eight variables, the minimum was 2.5 on one variable, and 3 on four variables. Finding the minimum value on the majority of variables above the minimum possible level was to be expected, given the greater number of successful organizations in the sample. The values of the minimum and the maximum are more interesting when compared with the same parameters on the group of more successful organizations and the group of less successful organizations.

The Total Sample Spearman Correlations

Bivariate Spearman correlation coefficients were calculated for all variables, except *Management Temure* which is measured on an interval scale, including success as

measured by the dichotomized variable, less successful or more successful. Spearman correlations, sometimes called rank correlations, were deemed appropriate given the nature of these data. These data are measured on an ordinal scale, not on an interval or ratio scale, and the Spearman correlation is suitable for examining association between two variables measured on an ordinal scale. The Spearman correlation ranks observations and, then, computes a Pearson correlation while taking into account both amounts of disagreement between pairs of ranks and degree of disagreement. The Kendall Tau statistic is another measurement of association suitable for ordinal data. However, it was found that, with one exception, the same bivariate correlations were significant using either the Spearman correlation or the Kendall Tau. Although the values of the strength of the association and the significance of that association were different depending upon which method was used, this study examined only the significance of bivariate association, not the strength of the association. Further, although the actual values of the measures of association were higher using the Spearman correlation than they were when using the Kendall Tau in most cases, the significance levels were usually quite similar. Because most readers are more familiar with the Spearman correlation calculations, they were used to estimate bivariate correlations.

Of all possible bivariate correlations, 48.4% showed two-tailed significance at the .05 level or less; 33.2% showed significance levels less than .01 (in Table 3, correlations with significance levels less than the .01 level are marked by small circles, and correlations with significance less than the .05 level, but not less than .01 are marked by small Xs). By themselves, these figures are not of much interest. Just as a large number of highly

significant bivariate correlations were found in the Miller study (1976), it was expected that there would be a large number of significant correlations in this study. However, the variables that are not correlated were less expected. Although 78.6% of the bivariate correlations between strategy-making variables are significant and 67% of the bivariate correlations between environmental variables are significant, only 46% of the organization/structure variable correlations are significant. In addition, some of the organization/structure variables were more highly correlated with strategy-making variables than they were with other organization/structure variables. Further examination of the stability of the groups of variables was performed using R-factor analysis and is discussed in the section *The Variable Groupings*.

Finally, using data from the total sample, only three variables showed a significant, but not highly significant, correlation with the success variable. This was expected. The hypotheses of this study are that there are a small number of configurations which will be found in more successful organizations, and there are a small number of different configurations which will be found in less successful organizations. As these configurations of environmental, organization/structure, and strategy-making variables are hypothesized to differ among groups, it might be expected that bivariate correlations using a sample containing data from organizations in all groups would not show significance; a high value for a particular variable which correlates highly with success in one group would be counterbalanced by low values on the variable for other groups.

The More Successful Organizations

Forty-six organizations were classified as more successful. Data came from case materials for 10 of those organizations, and from SEC documents for 36 organizations.

Table 7

Correlation Matrix of Variables

V2	o																			
V3	o																			
V4	o	x																		
V5																				
V6				o																
V7		o		o	o	o														
V9		o		o		o	o													
V10				o	x		o	o												
V11						x														
V12	o	x	x						x											
V13	x			o	o		o		o	x										
V14		o		o		o	o	o				o								
V15		x		x		o	o	o	x			o	o							
V16		o		o		o	o	o	x				o	o						
V17		o		o		x	o	o	x			o	o	o	o					
V18	o	o		x			o	x		x	o		x	x	o					
V19	x	x		o		o	x				o	o		o		o				
V20				o		o	o	x			o	o		x		x	o			
Suc				x				x												
	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	20	

Note. $n=77$ for all correlations shown. Variable 8, *Management Temure*, was excluded because of missing values.

o = significant at a level greater than .01

x = significant at a level greater than .05 but not greater than .01

Six organizations were not-for-profit, and 40 were for-profit. The headquarters locations for 14 organizations were in the Northeast, for 13 organizations were in the Southeast, for 8 were in the Midwest, for 10 were in the West, and for 1 organization, headquarters data were missing. Of the 27 states in which organizational headquarters were located in the total sample, 24 are represented among the more successful organizations. Headquarters are not located in the states of Michigan, Colorado, or Texas.

Table 8 shows the mean values and the standard deviations for variables 1 through 20. All variables were scored on a 7-point scale, except for Variable 8, which was again the actual average number of years spent at the organization by the top managers.

The Means of the More Successful Organizations

As expected, the means of the more successful organizations are, in general, above the midpoint of the scoring range. As was the case with the total sample, the only exception is Variable 12, *Technocratization*. The two variables with the highest means in the total sample were also the two highest in this group of more successful organizations, *Centralization of Strategy-making Power* and *Conscious Strategic Analysis*. *Adaptiveness/Proactiveness* had the next highest mean.

The greatest difference between the sample containing only more successful organizations and that containing all organizations is found on Variable 11, *Organizational Differentiation*, which measures the degree of difference between units or divisions of an organization in terms of overall goals, behavioral style, or management style. The greater the degree of difference, the higher the score. The mean for the more successful organizations is more than 6% lower than the mean for the total sample. This suggests

Table 8

Variable Means and Standard Deviations for the More Successful Organizations

Variable	Variable	Mean	Standard deviation	Minimum	Maximum
V1	Dynamism	5.04	1.02	2	7
V2	Heterogeneity	4.95	1.25	2	7
V3	Hostility	5.11	1.23	2	7
V4	Scanning	5.26	.98	3	7
V5	Delegation of Authority	4.97	1.08	2	7
V6	Centralization of Strategy-making Power	5.86	.82	3	7
V7	Resource Availability	4.71	1.23	2	7
V8	Management Tenure	6.29	2.95	1	14
V9	Controls	5.20	1.11	3	7
V10	Internal Communication	4.70	.87	2	6.5
V11	Organizational Differentiation	4.34	1.33	2	7
V12	Technocratization	3.91	1.36	1.5	7
V13	Innovation	4.85	.94	3	7
V14	Adaptiveness/Proactiveness	5.41	.71	3	6
V15	Integration of Decisions	4.95	1.02	2	7
V16	Conscious Strategic Analysis	5.67	.75	4	7
V17	Multiplexity	4.88	.77	3	7
V18	Futurity of Decisions	5.21	.87	3	7
V19	Risk Taking	4.77	1.13	2	7
V20	Precedents	4.03	1.22	1	6

that, in general, across more successful organizations, unity of goals and styles is important. Also, as represented by the mean, more successful organizations, in general, have higher levels of *Controls* than the total sample of organizations. As might be expected, the mean of *Controls*, which measures the prevalence of systems to measure trends or outcomes pertaining to organizational performance in an organization, in the more successful group is more than 5% greater than in the total group. The more successful group of organizations also has a higher mean on the variable *Scanning*. More

successful organizations might be expected to keep a constant watch for situations that might impede their progress or help their rivals.

That the differences on these, and other variables, is not greater for the more successful group as compared to the total group of organizations could be thought unexpected. However, another way to state the hypotheses of this study is that there are a number of different ways in which an organization may achieve greater success. Extreme scores on all variables may not be necessary. The mean of each variable in all more successful organizations would reflect the scores on all archetypes. Both organizations scoring at the extreme on that one variable and those whose scores might be at the extreme on another variable would be included. Considered in this manner, it is not surprising that the difference between the means of the variables for the total sample and the means of the variables for the more successful organizations is not large.

The more successful organizational means on the group of environmental variables, Variables 1, 2, and 3, are different than the whole group, too. These variables measure *Dynamism*--the amount and unpredictability of changes in things like technology, competition, and customer tastes--*Heterogeneity*--the amount of difference in things such as service/product line, tactics, customer tastes, and distribution channels and the resulting differences required in the functional areas dealing with each--and *Hostility*--the number of hostile elements in the environment shown by things such as severe regulations, rapidly changing technology, shortages of labor or materials, and unfavorable demographic trends. Compared with all organizations in the sample, the more successful group has a lower mean on environmental *Dynamism* and *Hostility*, but a higher mean on *Hostility*.

The difference in means on *Hostility* is greater than 5%. Although it might be possible to conclude that these means suggest fewer environmental constraints for successful organizations, the difference in means on Variables 1 and 3 is not great, less than 3% and less than 2% respectively, and could well be due to measurement error. However, the greater difference among means of *Heterogeneity* raises questions such as the following: Are the environments of successful organizations more heterogeneous, or do successful organizations tend to induce heterogeneity in their environments? These data cannot answer those questions, but they are ones which will be pursued in future work based on this study.

The Standard Deviations of the More Successful Organizations

Even though smaller variances are often found in larger samples, in this study in general, the standard deviations of the more successful organizations are smaller than those for the total sample. If we remember that the standard deviations for the more successful organizations include all types of more successful organizations, inordinately small standard deviations would not be expected. The largest standard deviations, except for that on the *Management Tenure* variable, were *Technocratization* and *Organizational Differentiation*. A large standard deviation on *Technocratization* was discussed above vis à vis the total sample, and the same observations apply to the more successful organizations. Because organizations were rated in comparison with others in the same sector and because, in any sector of the health care industry, there is often at least one organization whose management has professional qualifications, organizations would tend to score toward one or the other extreme on this variable and the parameters of dispersion

would tend to be relatively larger. Coupled with the relatively low mean found on *Organizational Differentiation*, the large standard deviation may suggest that greater organizational unity is not a necessary component in all more successful organizations, but that it is important in some. Although some more successful organizations may have high scores on this variable, others may have average or low scores, which would account for the greater variance.

Perhaps of more interest are the relative differences between the standard deviations for the total sample and those for the more successful organizations. The biggest difference is found on the variable which had the highest mean, *Centralization of Strategy-making Power*, which had a standard deviation of 1.02 in the total sample and of 0.82 in the more successful organizations. Also, the standard deviation drops from 1.34 in the total sample to 1.13 in the more successful organizations sample. Neither of these examples are especially noteworthy changes in standard deviations of themselves, but they do point in the right direction toward similarities among organizations in the smaller group. The smallest standard deviation in the more successful organizations group, 0.75 for *Conscious Strategic Analysis*, would be expected among more successful organizations.

The Ranges of the More Successful Organizations

As would be expected, the ranges for the more successful organizations were smaller than those for the total sample. Also, in general, the minimum was higher than for the less successful group: Only two variables had a minimum of 1, one variable had a minimum of 1.5, nine variables had a minimum of 2, and the remainder had minimums of 3 or 4.

Although only one variable had a maximum lower than 7 in the total sample, among the more successful organizations, three variables had maximums below 7.

The Less Successful Organizations

Of the less successful organizations, 8 were not-for-profit and 23 were for-profit. Data for 10 organizations were taken from cases and for 21 were taken from SEC documents. Headquarters for 10 less successful organizations were found in the Northeast, for 9 in the Southeast, for 11 in the West, but only 1 was headquartered in the Midwest. Of the 27 headquarters states represented by all organizations, 16 are represented among the less successful organizations. Headquarters for less successful organizations are not located in the states of Florida, Kentucky, North Carolina, Illinois, Minnesota, Missouri, Nebraska, Ohio, Arizona, Nevada, or Oregon.

Table 9 gives the means, the standard deviations, the minimum, and the maximum for Variables 1 through 20 in the less successful organizations. As usual, variables are scored on a 7-point scale except for Variable 8, which is the actual average length of the top managers' tenure in the organization.

The Less Successful Organization Means

In general, as might be expected, the means of the variables for the less successful organizations are lower than either those for the total sample or those for the more successful organizations. One notable exception is the two environmental variables, *Dynamism* and *Hostility*, both of which had higher means in less successful organizations than in more successful organizations. Once again, the highest mean values are *Centralization of Strategy-making Power*, and *Conscious Strategic Analysis*, but the

Table 9

Variable Means and Standard Deviations for the Less Successful Organizations

Variable	Variable	Mean	Standard deviation	Minimum	Maximum
V1	Dynamism	5.32	.90	3	7
V2	Heterogeneity	4.35	1.40	1	7
V3	Hostility	5.32	1.00	3	7
V4	Scanning	4.74	1.22	1	7
V5	Delegation Of Authority	4.95	1.21	2	7
V6	Centralization of Strategy-making Power	5.61	1.26	2.5	7
V7	Resource Availability	4.31	1.36	1	6
V8	Management Tenure	6.31	2.92	1	12.6
V9	Controls	4.58	1.30	2	7
V10	Internal Communication	4.42	1.11	2	7
V11	Organizational Differentiation	5.00	.99	3	6
V12	Technocratization	3.52	1.31	1	6
V13	Innovation	4.68	1.11	3	6.5
V14	Adaptiveness/Proactiveness	5.19	1.00	3	7
V15	Integration of Decisions	4.58	1.00	2.5	6
V16	Conscious Strategic Analysis	5.37	.75	3	7
V17	Multiplexity	4.84	1.07	3	7
V18	Futurity of Decisions	5.23	.90	2	6.5
V19	Risk Taking	4.52	1.60	1.5	7
V20	Precedents	4.10	1.44	2	6

actual values in both cases are lower than for the total sample and considerably lower than for the more successful organizations. That these are the two highest means in the sample of less successful organizations may be due to the reasons advanced in the discussion of the total sample. As with the other groups, *Technocratization* was the variable in this less successful organization sample with the lowest mean. The explanation previously given would apply to less successful organizations as well.

Compared to the more successful organizations, the biggest differences in variable mean values were found in *Organizational Differentiation*, *Controls*, and *Heterogeneity*.

The means of both *Heterogeneity* and *Controls* are almost 14% lower than means on the same variables in the more successful group of organizations. In contrast, the mean on *Organizational Differentiation* was more than 15% higher in the less successful organizations compared with the more successful organizations. The mean for *Scanning* was about 10% in the less successful group compared with the more successful group. Finally, the mean for *Resource Availability* was about 10% lower in the less successful group than in the more successful group. The question of direction of causality between less available resources, which includes access to capital, and less success was not dealt with in this study, but will be the subject of future research.

The Less Successful Organization Standard Deviations

Excepting *Management Tenure*, which was differently measured than the other variables, among the less successful organizations, the largest standard deviations were found on the variables *Risk Taking*, with a standard deviation of 1.6, and *Heterogeneity*, with a standard deviation of 1.4. As might be expected, given fewer less successful organizations than more successful organizations, the standard deviations of the less successful group are, in general, larger than the more successful group. One exception is the variable *Organizational Differentiation*, one of the variables with a much higher mean in the less successful group than in the more successful group. The standard deviation for this variable in the less successful group is 0.99 compared to 1.33 in the more successful group. These numbers suggest that *Organizational Differentiation* is more likely to be greater in several or all of the less successful types (i.e., in a greater proportion of all less successful organizations) than in the more successful types.

The Ranges of the Less Successful Organizations

Compared to the more successful organizations' minimum values, the less successful organization group has a greater number of minimum values at the lowest score (five variables had a minimum score of 1). None of the variables in the less successful group had a minimum greater than 3; however, there were seven variables with a minimum value of 3 in both less successful and more successful groups. Among only three variables, *Innovation, Adaptiveness/Proactiveness, and Multiplexity*, was a minimum value of 3 the same in both less successful and more successful groups.

The maximum score was found to be lower on more variables in the less successful group than in the more successful group, as might be expected: Seven of the variables had maximum scores lower than the highest possible score in the less successful group, whereas on only three variables was this the case among the more successful organizations.

The Spearman Correlations for the More Successful Organizations and for the Less Successful Organizations

In general, there were more significant bivariate correlations found between variables for the more successful organizations than there were for the less successful organizations. There were 76 significant bivariate correlations in the group of more successful organizations and only 58 in the less successful group. However, the less successful group showed a greater number of significant correlations between variables from different groups (i.e., between environmental variables and organizational/structure variables), whereas the more successful group showed a greater number of significant correlations between variables within variable groups, (i.e., between individual

environmental variables). Overall, 40% of all possible bivariate correlations were significant in the more successful group, while 30.5% of all bivariate correlations were significant in the less successful group.

Because this study's major focus was on the relationships among organizations, not among variables, the major interest to be found in bivariate correlations among variables lies in differences of these correlations between groups. As the groups being examined in this section are the more successful and the less successful organizations, the bivariate Spearman correlations of the former will be considered in comparison with the latter instead of being examined separately. Table 10 presents a stylized Spearman correlation matrix of the differences between less successful and more successful groups for all variables, except *Management Temure*, Variable 8. A value of 1 in the table signifies a significant bivariate correlation between the two variables found only in the group of successful organizations, whereas a value of 0 signifies the reverse, a significant bivariate correlation between the variables found only in the less successful group.

There are more significant bivariate correlations between variables in the more successful group (41) than there are in the less successful group (19), as shown by the greater number of 1s. Given that there are more significant correlations in the more successful group than in the less successful group, this is not surprising. There is a bivariate correlation between the success variable and both Variable 5, *Delegation of Operating Authority*, and Variable 7, *Resource Availability*, in the less successful group; none of the variables were significantly correlated with the success variable in the more successful group. These bivariate correlations are based on all more successful and all less

successful organizations. As the hypotheses of this study are that there exists a finite number of different archetypes among both more successful and less successful organizations and that those archetypes will be different from each other, a bivariate correlation between the success variable and any other single variable for all more successful or all less successful organizations is not necessarily expected. Rather, it might be expected that because different archetypes would have different values on any one variable, high on one variable for one archetype and low for another archetype, these differences might counteract each other and eliminate any bivariate correlation between any one variable and the success measure.

Among the more successful organizations, there are many bivariate correlations between variables within each variable group. For more successful organizations, several organizational/structure variables are significantly correlated with other organizational/structure variables, and strategy-making variables are significantly correlated with other strategy-making variables. In contrast, correlations between variables for the less successful organizations are most often found between variables in different variable groups. For example, organizational/structure variables are more likely to be correlated with strategy-making variables than they are to be correlated with other organizational/structure variables for the less successful group. These relationships are discussed fully in the section *Groups of Variables* and in chapter 7.

Without implying causality, these observations do raise interesting questions: Are less successful organizations more apt to fit organizational or structural mechanisms to their perception of the environment, whereas more successful organizations are more apt

Table 10

Correlation Matrix of Variables

V2																			
V3	1																		
V4	1																		
V5		0																	
V6																			
V7	1	1	0	1		1													
V9		1	1			1													
V10				1	1		1												
V11		1			1	1													
V12			1			1		1											
V13						1	0		0	1									
V14	1	1						1			1								
V15		0				0	0	1				0							
V16			0		0				1	1									
V17	0							1	1	0	1	1	1	1	1				
V18				0	0			1							0				
V19	1						1												1
V20	1		0			0				1							1	1	
Suc					0		0												
	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	1	2	3	4	5	6	7	9	10	11	12	13	14	15	16	17	18	19	

Note. $n = 46$ for more successful organizations, $n = 31$ for less successful organizations.

Variable 8, *Management Temure*, was excluded because of missing values.

1 = bivariate correlations that are significant at the .05 level or less for only the more successful organizations.

0 = Bivariate correlations that are significant at the .05 level of less for only the less successful organizations.

to fit these mechanisms to other organizational mechanisms? Does this imply a defensive stance among less successful organizations and an offensive or proactive stance among

more successful organizations? Or are variable kinds different in the two groups? If so, how are they different? These questions will be taken up in the next section, in which the R-factor analysis of the variables in the total sample and in more and less successful subgroups is discussed.

Groups of Variables

Although Miller (1976) and Miller and Friesen (1984b) did not present data to justify the groups into which they divided variables, the same names were used for groups of environment, structural/organizational, and strategizing variables in this study. To determine if these group names were accurate descriptions of the variables in this data set, three R-factor analyses with varimax rotations were performed. First, all organizations were used for analysis. Then, the data were sorted into more successful organizations and less successful organizations, and separate analyses were performed with each subset. The caveats mentioned in the methodology discussion are no less important here, so the groupings were tentative and were not statistically tested. They were only intended to provide additional richness of descriptive background to the discussion of the archetypes which follows this section.

Using the whole data set, five factors with eigenvalues greater than 1 were found. The number of groups differs in this data set from the number of groups used by Miller and Friesen (1984b). Further, none of these groupings of variables appeared to be related to the groupings used by Miller and Friesen. However, one of the groupings may have an explanation. *Hostility*, *Dynamism*, and *Technocratization* all loaded highly on the same factor. Miller and Shamsie (1995), noted that organizations perceiving greater *Hostility*

and *Dynamism* in the environment may react by hiring more technically or professionally trained managers, or, conversely, that technically or professionally trained managers may perceive more *Hostility* and *Dynamism* in the environment. This same grouping of variables was also found among the two subsets of organizations, the only variable grouping which was the same in all three samples.

Among the more successful organization subsample, the variables loaded on six factors with eigenvalues greater than 1. Four variables had high factor loadings (greater than .50) on the first factor, which accounted for 33.5% of the variation in the subsample. These four were *Integration of Decisions*, *Conscious Strategic Analysis*, *Multiplexity*, and *Internal Communication Systems*. The first three of these variables were categorized by Miller and Friesen (1984b) as strategy-making variables. However, the last variable, and the one with the weakest loading (.54479), was categorized as an organizational variable by Miller and Friesen. The implication may be that, among more successful organizations, greater internal communications are associated with greater strategy making. The direction of causality cannot be assigned given the data as is, but the association provides an area for future research.

Table 11 shows the variables and their estimated loadings on each factor after varimax rotation. Together, they accounted for 73.4% of the variance in this subsample. Each factor has been labeled with a name, but the names are merely descriptive of the kinds of variables that had high loadings on the factor and have no meaning except as labels. Table 12 shows how each more successful archetype ranked on each factor. Rankings were obtained by averaging the values of the variables in each factor for the

Table 11

Groups of Variables Among More Successful Archetypes

Variable	Variable number	Factor loadings	Variable group name
Integration of Decisions	V15	+ .84	Strategizing Stance
Conscious Strategic Analysis	V16	+ .80	
Multiplicity	V17	+ .70	
Internal Communication	V10	+ .54	
Hostility	V3	+ .81	Environmental Stance
Dynamism	V1	+ .77	
Technocratization	V12	+ .75	
Heterogeneity	V2	+ .85	Environmental Coping Mechanism
Controls	V9	+ .65	
Resource Availability	V7	+ .57	
Futurity of Decisions	V18	+ .56	
Risk Taking	V19	+ .84	Temperament
Management Tenure	V8	- .77	
Centralization of Strategy-making Power	V6	+ .55	
Adaptiveness/Proactiveness	V14	+ .45	
Organizational Differentiation	V11	+ .75	Originality
Innovation	V13	+ .73	
Precedents	V20	- .52	
Delegation of Operating Authority	V5	+ .81	Using the Troops
Scanning	V4	+ .55	

organizations in each archetype. The association was negative for *Management Tenure* and for *Precedents*; their values were subtracted from the values of the other variables loading on the factor in the table.

Among the less successful organization subsample, the variables also loaded on six factors with eigenvalues greater than 1. Except for Factor 3 upon which *Dynamism*, *Hostility*, and *Technocratization* loaded, all the other factors were different than the

Table 12

More Successful Archetype Ranking on Factors

More Successful Archetype	Ranking					
	Strategizing Stance	Environmental Stance	Environmental Coping Mechanism	Temperament	Originality	Using the Troops
1	1	1	1	1	1	1
2	3	4	2	3	5	5
3	5	2	5	5	3	2
4	2	3	4	4	2	3
5	4	5	3	2	4	4

factors obtained with the more successful subsample. For example, *Internal Communication* loaded on a factor by itself. Six variables loaded on the first factor, which accounted for 33.5% of the variation in the subsample, compared with only four variables loading on the first factor, which explained exactly the same amount of variance in the more successful subset. Among the more successful organizations, the first factor appeared to make some intuitive sense; all variables loading highly on it were people-related factors. In contrast, among the less successful organizations, people and environmental variables both loaded highly on the first factor. Also in contrast to the more successful group, on the last factor, *Management Tenure* and *Delegation of Operating Authority* both loaded highly, but with opposite signs.

Table 13 shows the factor loadings of each variable after varimax rotation for the less successful organizations. Together, the factors accounted for 75.9% of the variance in this subsample. Again, each factor has been given a name merely for use as description and for labels.

Table 13

Groups of Variables Among Less Successful Archetypes

Variable	Variable number	Factor loadings	Variable group name
Conscious Strategic Analysis	V16	+ .81	Strategy Perceptions
Futurity of Decisions	V18	+ .79	
Heterogeneity	V2	+ .77	
Multiplexity	V17	+ .68	
Resource Availability	V7	+ .66	
Controls	V9	+ .61	
Risk Taking	V19	+ .91	Strategy-making
Precedents	V20	- .86	
Adaptiveness/Proactiveness	V14	+ .80	
Centralization of Strategy-making Power	V6	+ .71	
Scanning	V4	+ .63	
Innovation	V13	+ .60	
Dynamism	V1	+ .86	Environmental Stance
Hostility	V3	+ .72	
Technocratization	V12	+ .47	
Internal Communication	V10	+ .90	Communication
Organizational Differentiation	V11	- .88	Organizational Unity
Integration of Decisions	V15	+ .60	
Management Tenure	V8	+ .83	Age and Power
Delegation of Operating Authority	V5	- .50	

Table 14 shows how the less successful archetypes ranked on each factor. Rankings were obtained by averaging all variable values for organizations in an archetype. Values on *Precedents*, *Organizational Differentiation*, and *Delegation of Operating Authority* were input as negatives in computing the averages for the rankings.

Miller (1976) found that R-factor analysis on his variables using the more successful and less successful subsamples produced more factors than the theoretically defined

Table 14

Less Successful Archetype Ranking on Factors

Less Successful Archetype	Ranking					
	Strategy Perceptions	Strategy- making	Environmental Stance	Communication	Organizational Unity	Age and Power
1	2	1	3	3	5	4
2	5	5	4	2	1	1
3	4	4	1	5	2	2
4	3	3	5	4	5	3
5	1	2	2	1	4	5

grouping. He found five groupings for both the more successful and the less successful subsamples. Miller's (1976) results may indicate that variable groupings found in the literature were not accurate in describing his sample.

The results of the R-factor analysis performed with the organizations in this sample suggest that theoretical groupings are not an accurate description, and that variables may group differently for health services organizations than they do for organizations in other industries. This is an area for future research.

CHAPTER 6

FINDINGS: THE ARCHETYPES

After the configurations were established and confirmed, all organizations were grouped into their respective archetypes. Then, before the profiles for each archetype were examined, the materials for each organization were re-read to see if commonalities among organizations could be easily found among the original materials for organizations in a given archetype. The following section gives a description of the essential features of each of the archetypes, followed by examples from the organizations in the archetype. All organizations may not be used as examples because some provided better illustrations than others and some provided more information than others.

Archetype names were chosen to be descriptive of the attributes of the archetype. Although there was no special effort made to give names with positive or negative connotations, some of the archetypes may be more appealing than others. Obviously, what one would call a negative attribute may be positively viewed by another. Therefore, objectivity is not claimed for the names used.

More Successful Archetype 1: The Alert Artisans

Seventeen of the organizations in the sample, or about 22%, were classified as Alert Artisans. This was the largest of all the configurations and one of the most diverse.

Figure 12 gives a graphic representations of the region for the archetype, and Table 15 shows the Alert Artisan organizations.

The Alert Artisans had the lowest standard deviations of scores on variables of all 10 configurations. With data such as these, means and standard deviation are not the most appropriate measures of central tendency and dispersion, respectively, but they can be used to observe how the configurations compare with each other on these measures.

Tables of descriptive statistics for all the archetypes can be found in Appendix D.

Main Features of Alert Artisans

The organizations in this archetype appear to cope well with unsettled conditions. Strategy-making is highly concentrated. There is a high degree of scanning throughout the organization, and conscious strategic analysis tends to be carried out by several levels in addition to top management. Also, authority for operation decisions is widely delegated. Strategic decisions are made with an eye toward the future, and controls are tightly maintained to insure that the organization hews to the right track. Although above average on *Innovation*, the organizations in this archetype are highly adaptive without going overboard on research and development and without being in danger of being labeled "techies." These organizations appear to want both to do good and be good.

Description and Examples

The Alert Artisans would seem to "have all the parts put together" for success. They craft their products and services as carefully as they craft their strategies and nurture their employees. They are often admired, but are not the most admired, by their competitors. For example, PacifiCare is the fourth most admired health care company in the *Fortune* Magazine Corporate Reputation Survey (PacifiCare, News release, 9 March 1995).

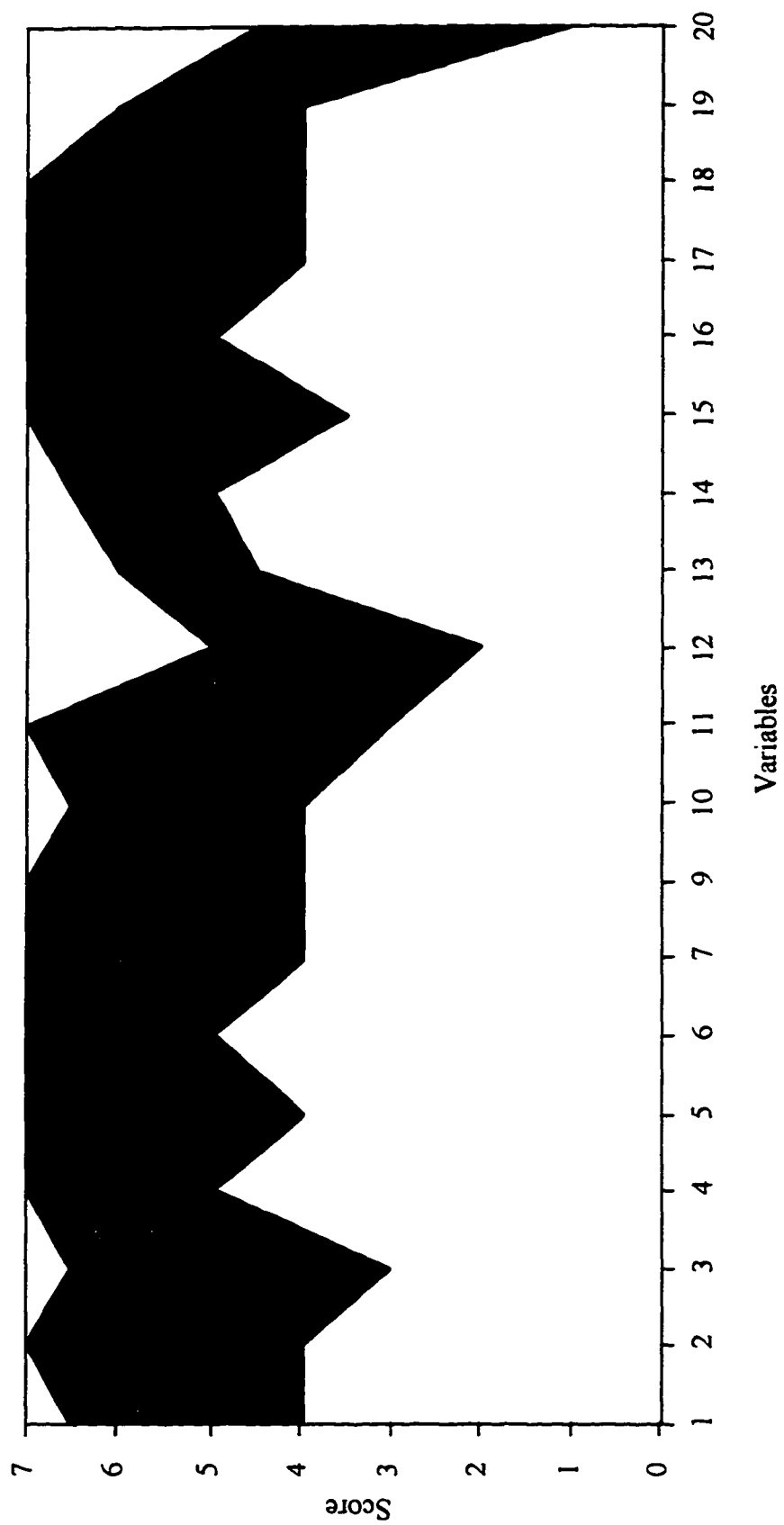


Figure 12. More Successful Archetype 1 region of scores. ($n = 17$).

Table 15

The Alert Artisans

<u>Organization name</u>	<u>Major line of business</u>
Alliant Health Systems	Hospitals
Caremark International, Inc.	Managed care networks
Columbia/HCA Healthcare Corporation	Hospitals
Health Management, Inc.	Home care
LifeSpan, Inc.	Regional hospitals, rehabilitation, home health
Lincare Holding, Inc.	Home respiratory care
Multicare Companies, Inc.	Long term care
NovaCare, Inc.	Rehabilitation
Orthopedic Services, Inc.	Orthopedics and prosthetics
PacifiCare	Managed care
Pediatric Services of America, Inc.	Pediatric home health care
Quorum Health Group, Inc.	Hospitals and hospital management
RehabCare	Rehabilitation
Sun Healthcare Group, Inc.	Long term care and subacute nursing homes
Systemed	Integrated prescriptions and benefits
United HealthCare Corp.	Managed care
Vivra	Chronic care: dialysis, diabetes, asthma

1995). Lincare's management is "one of the industry's finest" (Lincare, Richter & Boorady, 1994).

They are usually niche players, although the niche may be either in location or in product, and sometimes the niche is a very large one. All these organizations stress efforts to develop and further their standing as niche players. They actively search for ways in which to differentiate themselves from others in their sector and in the industry, in general. For example, Pediatric Services of America is "the only public company which focuses on pediatric home care" (Pediatric Services of America, "Buy Pediatric Services," 1994), specializing in the most difficult pediatric cases (Pediatric Services of America, Lau, 1994). Another organization, Vivra, is a "provider of specialty health care services, principally the delivery of dialysis services" (Vivra, Prospectus, 1995)

In general, the top managers of Alert Artisans are young. In several instances, such as Columbia/HCA, the founders of the company are often among the top managers. Their management teams are more diverse than those of other configurations. Forty to forty-five percent of Caremark's top managers as listed in the Annual Reports and the 10-K reports for 1992 through 1994 are women, and one of those is a black woman.

Caremark's Annual Report (1994) says:

Diversity characterizes Caremark's workforce, made up of nearly 75% women. Females are strongly represented in all areas and at all levels of the organization: women head all Caremark's major business groups, are 52% of middle and senior management, and comprise four of eleven corporate officers.

In 1994, Caremark won the National Council of Women's Corporate Advancement of Women award. This diversity may contribute to their scanning ability and to proactive

adaptiveness. Of the organizations in this group, Quorum is the only exception to the general rule of greater diversity.

In general, the organizations in this configuration treat their employees well: The atmosphere is often casual in these companies, and incentive programs based on clearly defined measures for all employees are common. Orthopedic Services has a quarterly bonus, with a 70% weighting on MBO and a 30% weighting on financial goals (Orthopedic Services, Pavan, 1993). Based on both financial and nonfinancial measures, Vivra has incentives paid in both cash and stock for both long and short term goals (Vivra, Communication to stockholders, 1995). These organizations publicly and frequently recognize their employees in the written materials disseminated.

Employees are encouraged to strive toward excellence and are individually rewarded. Turnover tends to be lower and productivity higher than in most other archetypes. At Sun Healthcare Group, turnover among therapists is only 11%, compared to a sector average of roughly 50%, and productivity is high with 75 to 80% of the therapists' time being billed compared with 60 to 70% in the sector (Sun Healthcare Group, Harris & Johnson, 1994).

Examples may help to show the "employee friendly" attitudes of these organizations. Casual chatting among employees, many of whom were dressed in warm-ups, was observed by the case writer at Orthopedic Services, Inc. (OSI). The president of OSI says, "This is a people business, so the focus is on people in how we manage. I see my job as creating an atmosphere of winning" (OSI, Pavan, 1993, p. 7). NovaCare states that "to the extent that individuals [in the organization] achieve excellence, the result is of benefit

to the patient,” (NovaCare, Annual report, 1993). Quorum believes, “It is a setting in which talented people can be further developed through assumption of increased and varied responsibility” (Quorum, Annual report, 1994). PacifiCare “has implemented a number of innovations designed to improve their [the employees] work environment” (PacifiCare, *Backgrounder*, 1994, *Fact sheet*, 1995). Pediatric Services of America, Inc., requires continuing education for which they pay (Pediatric Services of America, Inc., 10-K, 1994).

Quality is a major component of the strategy for all the Alert Artisans. For example, Andrew Turner, founder and CEO of Sun Healthcare Group sums it up for the archetype when he says, “We really will not compromise the quality of service” (Sun Healthcare Group, Annual report, 1994). All of these organizations have some kind of quality program in place.

Alert Artisans appear to sincerely care about corporate ethics. Quorum says, “Our bottom line is this: Quorum is in business to provide excellent, reliable, ethical service” (Quorum, Annual report, 1993). PacifiCare Health Systems states that “the way we do business--and the success we achieve--is driven by values like accountability, integrity and continuous improvement” (PacifiCare, Annual report, 1992). “PacifiCare Health Systems also believes that success should be shared, and is truly committed to ‘giving back’ to the communities it serves” (PacifiCare, *Backgrounder*, 1994, *Fact sheet*, 1995). On a whole page devoted to corporate citizenship, Caremark emphasizes that “Caremark Cares for: community, employees, less fortunate, scientific advancement, AIDS patients, the environment, ethical conduct, responsible public policy” (Caremark, Annual report, 1994).

Alert Artisans have clearly defined visions, missions, values, and/or goals, and they appear to be very sure of their place in the health care industry of today and tomorrow. Quorum says, “Our Vision: Quorum Health Services Group, Inc. will be valued for its expertise in hospital management and its ability to positively impact the delivery of quality healthcare” and “Our Values: Respect for people, Commitment to customers, Continuous improvement, Responsibility to shareholders” (Quorum, Annual report, 1992). As part of the stated “long-term operating strategy, Sun believes that concentrating long-term care and other facilities within geographic areas reduces corporate overhead and enables Sun to benefit from marketing efficiencies” (Sun Healthcare Group, 10-K, 1993). Vivra adheres to “the same strategic principle we described last year, namely Vivra will only be in business where we can *compellingly sell* and *demonstrably deliver*: Savings to a payer or market share to a provider” (Vivra, Annual report, 1993).

More Successful Archetype 2: The Conservative Controllers

There are nine Conservative Controllers, close to 12% of the sample. None of the ranges of the Conservative Controllers have a minimum of 1, unlike three of the other more successful organizations. The graphic depiction of the regions for the Conservative Controllers is in Figure 13, and their names and major business are in Table 16.

Main Features of Conservative Controllers

Organizations in this archetype face the highest levels of environmental uncertainty among all archetypes, both more and less successful. Their response is tight controls and highly centralized strategic planning. Great time and attention is devoted to analysis of

any of the variables that might contribute to environmental turbulence or to internal instability, and stress is placed on efficiency. *Delegation of Operating Authority* is not of great importance to the conservative controllers, and of all the more successful archetypes, these organizations take fewer risks and stick more closely to precedents. They try to continue doing what they have found worked in the past.

Description and Examples

The Conservative Controllers are typified by their state-of-the-art computer systems, which provide management information, patient information, quality information, billing information, and any other types of information thought necessary for tight control. In most cases, a new computer system is one of the first things mentioned in materials distributed by the publicly traded of these organizations. For example, Humana has a big new computer system, which includes "lap-top computers for processing information for concurrent review at the bedside, interactive voice response for customer service inquiries, claims imaging . . . and extensive electronic data interchange between customers, providers, and employees" (Humana, 10-K, 1994). The computer background of the founder of Mid Atlantic Medical Services, Inc. (MAMSI) permeates the organization. MAMSI has a computer system that makes distribution of "Quality Review Reconciliation" forms to all physicians a weekly and monthly occurrence (Mid Atlantic Medical Services, Inc., Keaney, 1995). The "Reconciliation" forms allow each primary care doctor to see the time and charges billed for each patient he or she referred to a specialist or to the hospital, how efficient and effective that specialist was in comparison with all other specialists, how the primary care doctor ranked in his or her immediate

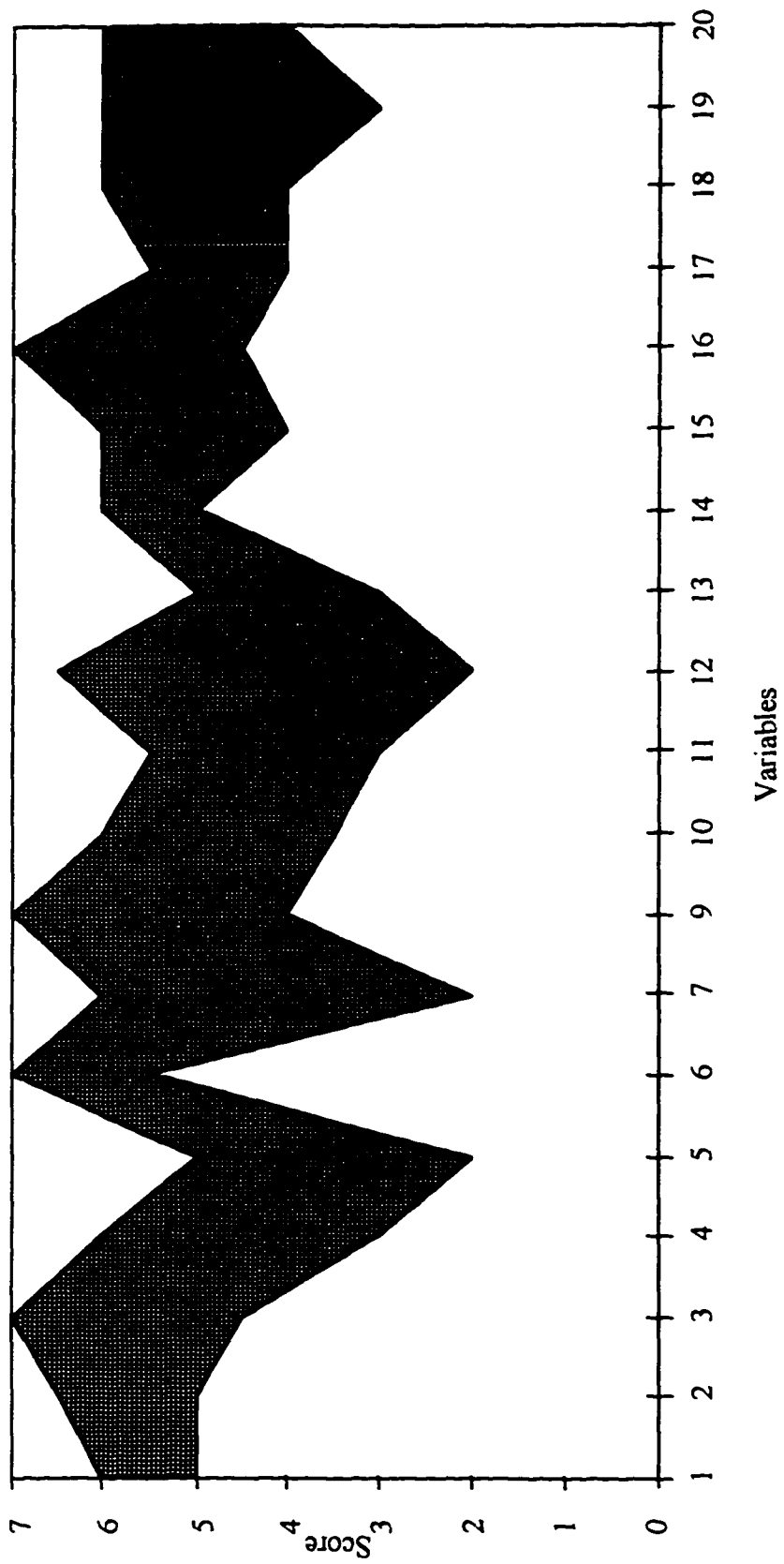


Figure 13. More Successful Archetype 2 region of scores. ($n = 9$).

Table 16

The Conservative Controllers

Organization name	Major line of business
Humana, Inc.	Hospitals
Mid Atlantic Medical Services, Inc.	Managed care
Pacific Physicians Services, Inc.	Managed care
RightChoice Managed Care, Inc.	Managed care
Riverview Regional Medical Center	Hospitals
Sierra Health Services, Inc.	Managed care
Summit Care Corporation	Skilled nursing centers
U. S. Healthcare, Inc.	Managed care
WellCare Management Group, Inc.	Managed care

group compared with all other physicians in the system in terms of amounts billed by specialists on his or her referees, and how the primary care physician group ranked against other groups. By “managing” the doctors with the computer system, the organization is the top HMO on administrative efficiency (Mid Atlantic Medical Services, Inc., Keaney, 1995). Pacific Physicians Services Inc. and Sierra also have intricate and impressive computer systems to keep track of physician practice patterns. Like MAMSI, WellCare associates its computerized system, the Quality Assurance Initiative, with a quality program, but it also serves to closely control practice patterns.

Most of the Conservative Controller organizations speak of supportive corporate cultures. For example, MAMSI places a high emphasis on getting its employees to do

their best. These organizations also appear to have a very conservative outlook.

Although U. S. Healthcare announced (U. S. Healthcare, Annual report, 1993) that all specific corporate titles had been eliminated in order to increase collegiality, to minimize corporate bureaucracy, and to encourage a more creative entrepreneurial environment at the organization, a high degree of control is maintained over employees through the computer system. Even so, U. S. Healthcare was ranked first among health care companies on the *Fortune* Magazine 12th Annual Corporate Reputations Survey (U. S. Healthcare, Annual report, 1993).

This configuration appeared to be the most secretive of the more successful archetypes. WellCare was the only organization in the entire sample to block out the pages on management compensation in its 10-K reports. Both Summit Care and U. S. Healthcare sent very little information compared with the amount of information sent by organizations in other configurations: one or two annual reports, a 10-K, and, from U. S. Healthcare, a prospectus for 1983. Even so, it is easy to discern a pattern of convoluted and closely held financial dealings in most of these organizations. Sierra's CEO/Chairman pled guilty to a misdemeanor charge of knowingly providing the Office of Personnel Management with a false certificate stating that the organization was utilizing community ratings when, in fact, it was not (Sierra, Prospectus, 1994). Large blocks of stock are owned by trusts of the top managers at Sierra. RightChoice, originally a Blue Cross/Blue Shield company, is still controlled by Blue Cross/Blue Shield. Often the financial arrangements between managers in the organizations and the organization, or between the organization and outsiders, are carried on through other holding companies, apparently so

that risk can be minimized and control maintained. To trace who owns what proportion of all these companies requires a careful reading of all the fine print, although there do not appear to be any highly unethical or illegal dealings.

These organizations make extensive use of managed care, but they do not necessarily seem to be committed to lower cost care. Pacific Physician Services, for example, states that only physicians should decide what physicians will do. RightChoice says it has maintained the conservative stance of its "Blue" beginnings, and Sierra, whose CEO and Chairman is a physician, has a substructure that allows it to become joint owners of physician practices without necessarily including them in the managed care system it has developed. All stress quality more frequently than cost.

Whereas 60% of the Alert Artisans had written out visions, mission, values, or credos, only about 44% of the Conservative Controllers had statements of vision, mission, values, or credo. In many cases, the missions, visions, or values of the Conservative Controllers are not as focused as those of the Alert Artisans. Compared with Alert Artisans' written strategies, the four Conservative Controllers' written strategies are vague. The Conservative Controllers seem less sure of themselves and their positions in the emerging health services picture and often appear to be trying to cover as many bases as possible in hopes that one will be the right one. As Pacific Physicians Services says, "Our operating model uniquely capitalizes on the efficiencies of a large network without depriving the physicians' medical care autonomy" (Pacific Physicians Services, Annual report, 1993).

More Successful Archetype 3: The Adapting Professionals

This configuration seems to have the most variation among organizations: All except two of the standard deviations were greater than 1, and the standard deviation for Variable 12, *Technocratization*, was 2.13. At the same time, this archetype had more average scores that were close to the middle of the scale than any other more successful organization. Nine percent of the total sample was Adapting Professionals. Figure 14 gives a graphic portrayal of the Adapting Professionals' regions, and Table 16 lists their names and businesses.

Main Features of the Adapting Professionals

The organizations in the archetype face lower environmental pressures, but above-average environment turbulence. The organizations are small, or their structures make it easy for divisions or units to tend to the operational side of the organization as though each were a small organization. Strategy-making power is highly concentrated in top management, even though top management is not as focused on a particular strategy as in some of the other configurations. The organizations in this group carefully analyze conditions pertaining to their operations and maintain strategic stances that allow them to change gears "on the fly" in the face of any hill. Of all the more successful archetypes, this archetype is the least tied to precedents.

Description and Examples

One of the outstanding features of the Adapting Professionals is the disproportionate number of organizations in the archetype whose top manager is or was a clinician. Two of the three physician-run managed care organizations in the total sample are in this group,

and the only organization whose top manager is a nurse is an Adapting Professional. There were few clinicians in top executive office positions in the other organizations, many fewer than might have been expected, so the contrast is noticeable.

Another noticeable attribute of this archetype is the polish and finesse with which information is presented. There are few Annual Reports as slick as Coastal's for 1993, and even the quarterly reports from this company seem more suited to a Madison Avenue company than to a health services organization. Written materials, also, tend to convey "messages" in keeping with the beliefs of the organizations. For example, the cover of the Coastal 1994 Second Quarter Report to Stockholders announces, "Coastal is responding to unprecedented physician consolidation activities as health care reform becomes an industry initiative rather than a legislated mandate."

The clinician-centered organizational cultures in this configuration often inspire loyalty, especially from clinicians. When the culture is not clinically oriented, there is often a greater split between clinicians and administrators than seems the case with some of the other archetypes. For example, although the atmosphere at American Nursing is characterized as being "remarkable" (American Nursing, Hallowell, Sasser, & Schlesinger, 1992, p. 11), the organization caters to the nurses and allows them great autonomy, whereas administrative staffers are a separate group with a high turnover rate (56% per year); nurses quit other jobs to come to American Nursing and are outspokenly loyal, whereas administrative staffers have much less loyalty to the organization. Coastal states that it sees its job as "freeing physicians to concentrate on medicine" (Coastal, Annual report, 1993). Physicians Health Services, founded by a physician who is still on the

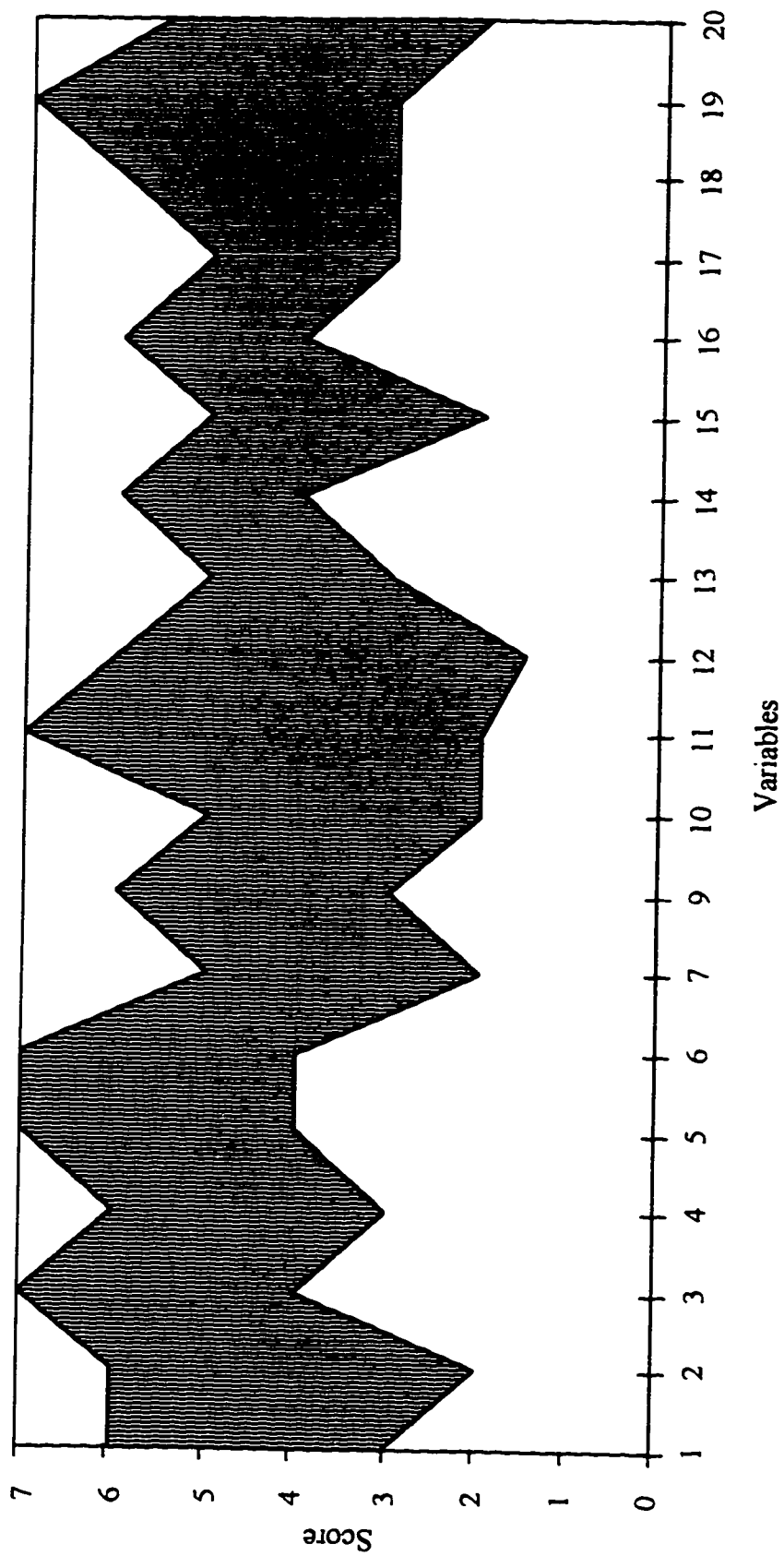


Figure 14. More Successful Archetype 3 region of scores. ($n = 7$).

Table 17

The Adapting Professionals

Organization name	Major line of business
American Nursing Services, Inc.	Nursing service
Coastal Healthcare Group, Inc.	Physician management and rent-a-doc
Health Care & Retirement Corp.	Long term care, skilled nursing, rehabilitation
Manor Care, Inc.	Skilled nursing, rehabilitation and lodging
Olsten Corporation	Home health care, temporary staffing
Physicians' Health Services, Inc.	Managed care
Wills Eye Hospital	Eye hospital

board, has recently had trouble with one of its largest individual practice associations (IPAs) because the physician-focused culture is being gradually eroded and the physicians are becoming disenchanted. Wills Eye Hospital has had trouble getting the physicians to support new ideas and new projects.

Many of these organizations encourage entrepreneurial behavior. This entrepreneurial orientation is manifested in a willingness to change strategic models as needed in a changing environment. For example, Olsten states that the culture of the organization is entrepreneurial (Olsten, Annual report, 1992), and an entrepreneurial, creative culture is encouraged among the administrators, albeit not among the clinicians, at Wills Eye Hospital. Coastal was started by an entrepreneurial doctor who moonlighted in emergency rooms while he was in medical school. However, the organizations seem to know where they want to be in the long run. For example, Olsten has a firm idea about

the synergies possible between providing workers for home health and providing workers for other situations. Coastal now contracts with the government to provide health services at government institutions, including military installations. The CEO of Coastal says, "Health care reform can best succeed when well-organized and well-run physician groups manage the total health care needs of large patient populations" (Coastal, Annual report, 1993); this organization plans to have physicians in all segments of the health care industry.

Among the Adapting Professionals are two whose business is partly international. There are only four organizations in the total data set with international operations. Included in this configuration are two companies who garner a substantial percentage of revenue from nonhealth services sources. Even though the major revenue producer for both Manor Care and Olsten is health services, both are likely to be better known for their "other" businesses: providing temporary workers, including health workers in the case of Olsten, and providing lodging in hotels such as the Econo Lodge, Rodeway, and Comfort Inn chains in the case of Manor Care. Both organizations have clear ideas of the ways in which their various business segments complement each other, and both are focused on becoming leaders in their chosen segments.

These organizations are secretive about their plans. They provided relatively small amounts of information, even though several of these organizations have been in existence longer than most of the organizations in the sample and would be expected to have more material available. Olsten was founded in 1950, for example, and Manor Care "celebrated

its 25th year of incorporation in fiscal year 1994" (Manor Care, Annual report, 1994).

Yet both provided meager information.

In general, the Adapting Professionals have been around and successful for a long time. The longest management tenure was found among these organizations. They appear to have mastered the trick of diversifying business risk by engaging in a portfolio of activities and by maintaining an open perspective. None of them have stayed successful by being rigid in outlook. And, although none of these organizations are the superlative organizations in their respective sector, still none of them seem driven to become the superlative, preferring instead safe, professional ways to grow while maintaining stable financial positions.

More Successful Archetype 4: The Technophilic Niche Carvers

The ranges of the Technophilic Niche Carvers contained no 1s and no 7s, uniquely among all the configurations, both more successful and less successful. In addition, the standard deviations were relatively large. Only five organizations were classified as Technophilic Niche Carvers, about 6% of the total sample. The regions of scores is shown in Figure 15, and their names are in Table 18.

Main Features of the Technophilic Niche Carvers

The Technophilic Niche Carvers are characterized by greater innovation than any other more successful archetype. There tend to be relatively fewer professionally trained people among top managers. Resources are harder for them to come by, mainly because the organizations in this configuration use very expensive technology and have relatively more unionized employees. These organizations have been proactive in adapting to

changes in the health services environment, partly because they tend to take pains to analyze their strategic alternative and because they use input from employees in the field.

Table 18

The Technophilic Niche Carvers

<u>Organization name</u>	<u>Major line of business</u>
American Medical Response, Inc.	Emergency transport
Chronimed, Inc.	Chronic illness care and prescription drugs
Medical Diagnostics, Inc.	Mobile diagnostic imaging services
Newmarket Regional Health Center	Community based primary care and social services with prenatal
Vencor, Inc.	Long-term intensive care and long-term subacute care

Description and Examples

In their distributed literature, every one of the Technophilic Niche Carvers uses superlatives liberally, as though they are running all the time to maintain their positions. American Medical Response was the “first” emergency medical service company to start a national consolidation, and it is the “leading provider of . . . ambulance services” (American Medical Response, Annual report, 1993). Chronimed claims, “There’s no other company doing what we do” (Chronimed, Annual report, 1994). Medical Diagnostics has “historically achieved equipment utilization rates that are more than twice the average of other mobile MRI [magnetic resonance imaging] providers” (Medical Diagnostics, Annual report, 1994). Vencor is “America’s premier environment for the long-term healthcare patient” (Vencor, Annual report, 1994). Newmarket Regional is

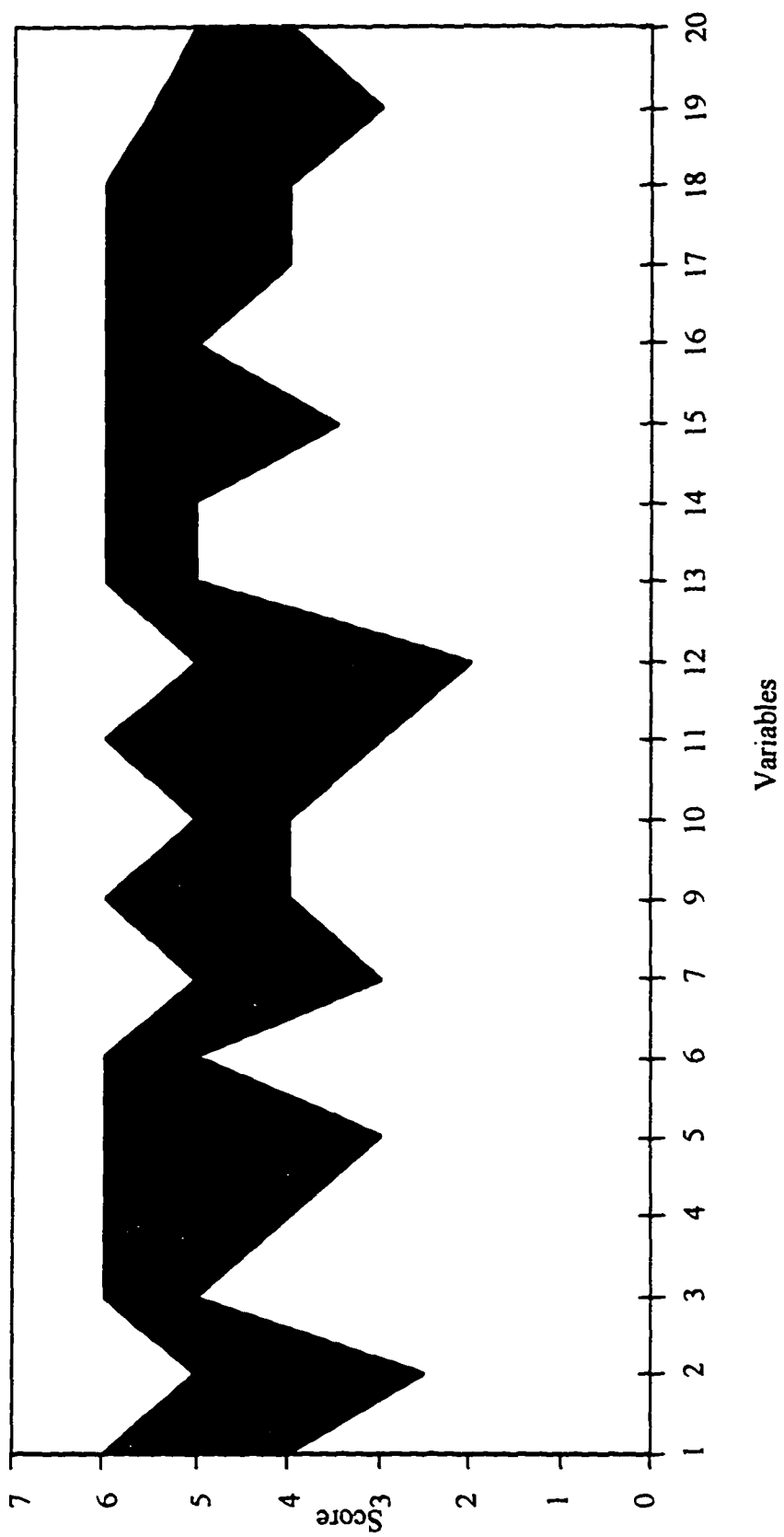


Figure 15. More Successful Archetype 4 region of scores. ($n = 5$).

described as the only not-for-profit community based health center in New Hampshire with both primary care and social services (Newmarket Regional, Merenda & Edlund, 1995).

The organizations in this configuration work hard to maintain their small niche markets. They may take exception to general perceptions to do so. For example, Chronimed emphasizes controlling unit or episodic costs in a managed care environment instead of focusing on the costs of providing care to a population by managing a given disease or illness (Chronimed, Harris & Khanna, 1995). Chronimed calls this disease or illness management and notes that in its niche, "Chronimed has recognized the patient's crucial role" (Chronimed, Annual report, 1994) in managed care. Vencor believes that its unique emphasis on intensive long-term care will provide a niche market that will grow with the aging of the population.

The Technophilic Niche Carvers all rely heavily on the most advanced technology.

American Medical Response

uses sophisticated computers and global positioning satellite technology to pinpoint precisely and monitor ambulance location and deployment every 17.4 seconds. Additionally, this system computes the statistical incidence of ambulance need based on demographics and other patterns. This system allows the Company to post and dispatch its fleet optimally at any time. . . . (American Medical Response, Annual report, 1993, p. 5)

Medical Diagnostic's mobile MRI units are not only equipped with the most recently developed imaging technology, but also carry the latest in computer and software technology. The intensive care hospitals owned or operated by Vencor are equipped with the most recently developed medical technology and are tied together with a sophisticated patient data base (Vencor, Annual reports, 1993, 1994; 10-K, 1994). Without advanced

technology, even Newmarket Regional could not exist: Newmarket has ventured into prenatal care for its patient poor and medically underserved rural population with the concomitant imaging equipment. In short, the niche carved out by these organizations is based on the latest technological innovations, with the possible exception of Newmarket, and the future of the Technophilic Niche Carvers will depend upon their abilities to stay out on the front of the technological curve.

More Successful Archetype 5: The Clear-eyed Strategists

There are six Clear-eyed Strategists, almost 8% of the total sample. None of the single means or ranges of this archetype clearly mark it as different from other archetypes. Rather, it is in the configuration of attributes that this archetype stands out. Figure 16 shows the region of scores, and Table 19 lists the organizations.

Main Features of the Clear-eyed Strategists

Operating in an environment whose attributes are less threatening than that for some of the other configurations, the Clear-eyed Strategists all have clearly defined their strategies for success. The organizations in this configuration have centralized strategy-making power and devote quite a lot of time and effort to analysis of factors affecting their success. They also tend to have a longer-term view than some other configurations, but on none of these measures is this archetype higher than all other configurations. The success of these organizations lies in the combination of attributes.

Description and Examples

The Clear-eyed Strategist organizations are all certain of their strategies, and their strategies are clear and focused. AdvantageHEALTH's "business strategy is to be the

dominant provider of comprehensive inpatient and outpatient rehabilitation services in the Northeast by . . . expanding into the surrounding areas” (AdvantageHEALTH, 10-K, 1994). This is accomplished by establishing rehabilitation hospitals as a center of operations, a “hub” in Advantage’s parlance, and then expanding by establishing outpatient satellite clinics, subacute services and home health services which complement and are supported by the hospitals’ services and thus function as the Company’s “spokes,” further penetrating into the market area (AdvantageHEALTH, 10-K, 1994).

Assisted Living Concepts, which owns assisted living communities, develops or acquires “assisted living residences in small communities in Oregon and other states, such as Texas and Washington, where regulatory and reimbursement climates are favorable” (Assisted Living Concepts, Sgro & Sidoti, 1995, p.10). In evaluating a prospective development project, the company will consider primarily the strength of the market

Table 19

The Clear-eyed Strategists

Organization name	Major line of business
AdvantageHEALTH	Comprehensive rehabilitation
Assisted Living Concepts, Inc.	Assisted senior living with nursing
MedCath, Inc.	Cardiac services
Mueller O’Keefe Memorial Home & Retirement Village	Long term retirement and nursing home
Rural/Metro Corp.	Emergency medical transport and fire protection and safety services
South Eye Institute	Eye care

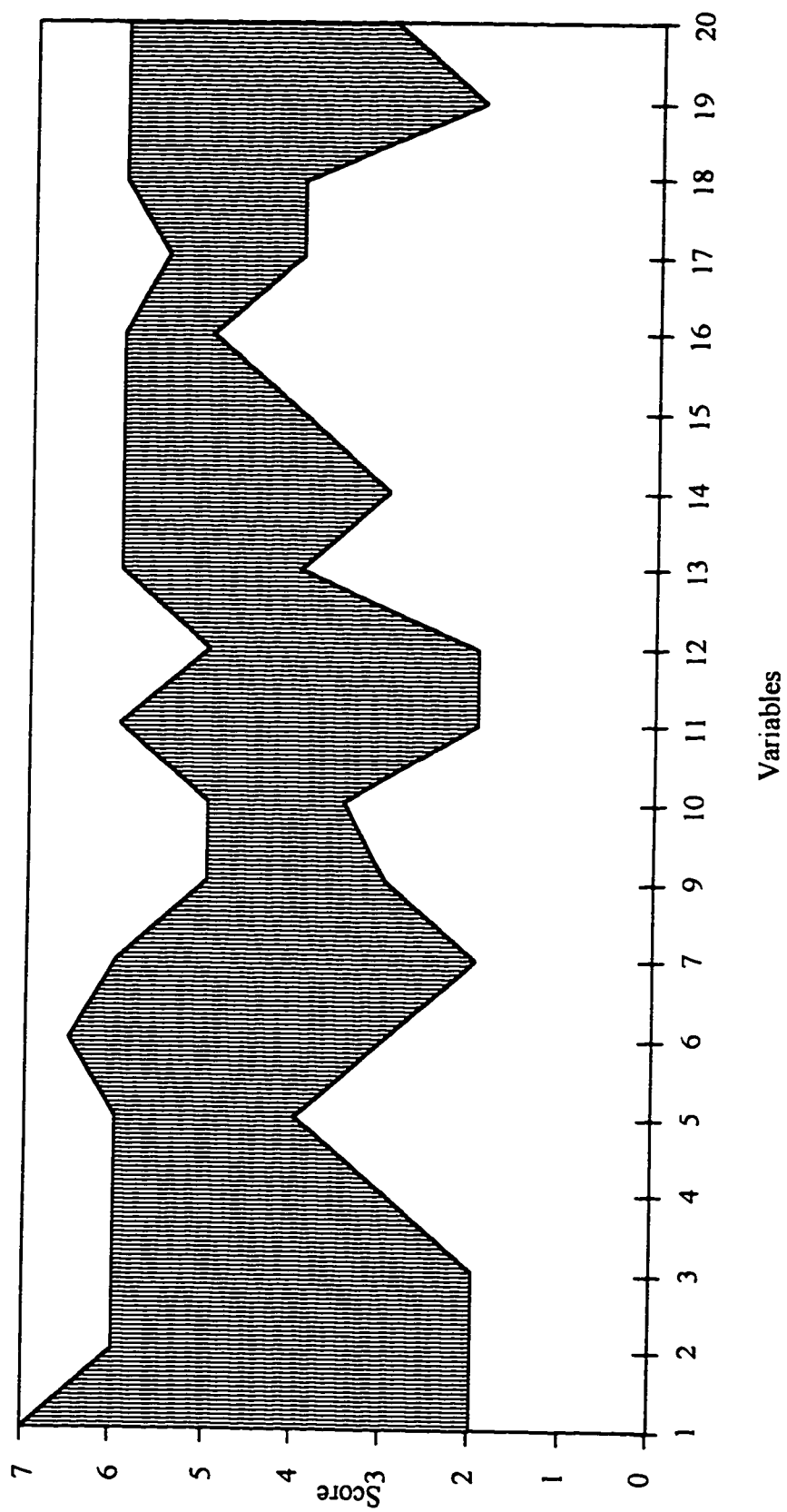


Figure 16. More Successful Archetype 5 region of scores. ($n = 6$).

demand and the ability to maximize the efficiency of its management resources in a specific market or “cluster.” Accordingly, the Company intends to select sites so that it can strategically place three to five residences within a 100-mile radius, creating a cluster of residences which will be within one to three hours’ driving distance from on another (Assisted Living Concepts, Prospectus, 1994). Units range in size from 25 to 50 units, and marketing consists of networking in the community and conducting facility tours, all aimed at the small community in which the facility is located. Assisted Living Concepts is the only organization in the sample that was described as a “pure play” company (Assisted Living Concepts, Sgro & Sidoti, 1995, p. 9). Mueller-O’Keefe would appear to be an exception to the focused strategy operation followed by other organizations in the archetype: The case emphasizes the lack of strategic planning and the preference for “seat of the pants” planning (Mueller-O’Keefe, Aaronson, 1995), but in fact, the strategy the organization has followed is almost identical to that followed by Assisted Living Concepts.

The strategy of MedCath “is to establish and maintain localized, fully-integrated networks to provide comprehensive diagnostic and therapeutic cardiac care services” (MedCath, Prospectus, 1996, p. 5). The organization plans to accomplish this with a strategy which will

- i. focus exclusively on cardiology and cardiovascular services, ii. develop and operate full-service heart hospitals, co-owned with leading local cardiac care physicians, that are designed to have a substantially lower cost structure than conventional acute care hospitals, iii. acquire and manage physician group practices which include cardiologists and cardiovascular surgeons with leading local market positions and iv. acquire, develop and operate fixed-site cardiac diagnostic and therapeutic facilities and mobile cardiac diagnostic centers in selected markets (p. 5).

In order to avoid the problems of competition with local fire departments encountered by their competitors, Rural/Metro “provides ‘911’ emergency and general transport ambulance services, fire protection services and other safety related services” (Rural/Metro, 10-K, 1994, p. 29). In other words, instead of competing with the local fire department for emergency transport, Rural/Metro becomes the fire department, under contract to a municipality. Expansion has been limited to rural and to smaller metropolitan areas.

Beyond the focused and well-defined strategies generally pursued by these companies, the configuration stands out for the breadth of expertise and contacts among its managers and/or board members. Rural/Metro’s acting co-CEO and board member, Warren Rustand, was formerly an aide to President Ford. The management and board members of MedCath have contacts at universities in Boston, the San Francisco area, the Southeast, and the Midwest and business contacts from other health services organizations. The CEO and founder of Assisted Living has contacts with Oregon and Kansas Medicaid agencies, with whom she has worked in the past, and one of her Board members was the Texas Commissioner of Health and Human Services. The Board members of Mueller O’Keefe, although all from the local area, have a breadth of experience in business and local government.

Finally, none of the organizations among the Clear-eyed Strategists strives for the highest superlatives. When describing their strategies, the organizations in this configuration use words like “retaining” its employees and “continuing” to maintain its position (AdvantageHEALTH, 10-K, 1994), or like MedCath’s strategy “to remain” a

leader (MedCath, Prospectus, 1995). Rural/Metro intends “to enhance” its position in its chosen markets (Rural/Metro, 10-K, 1994), but none of the Clear-eyed Strategists say that being the “biggest” is a goal.

Less Successful Archetype 1: The Bloated Raptors

Seventeen percent of the total sample, or 13 organizations, are Bloated Raptors. There is nothing about the individual means or ranges that clearly differentiate this configuration from others. Rather, as with the more successful Clear-eyed Strategists, the relationships among the variables are what gives this archetype distinction. Figure 17 shows the region, and Table 20 lists the organizations.

Main Features of the Bloated Raptors

The Bloated Raptors score high on *Risk Taking* and low on *Precedents*. The organizations in this configuration follow few rules and are not afraid to take big risks. Power to make strategy is more centrally concentrated for this archetype than for any other in the whole sample. The score for *Scanning* is high. Most of the organizations in this archetype are less successful because of massive debt and large amounts of intangible assets on their balance sheets or because of large extraordinary costs, not because of lack of income; the debt is the result of borrowing to go on acquisition sprees during the past few years, and the goodwill is the result of paying top prices for the organizations acquired. The extraordinary costs result from restructuring and integrating companies acquired. Most have flamboyant, entrepreneurial, outspoken, and/or egocentric CEOs or chairpersons. Many have more than one member of the same family among top managers and/or on the board.

Descriptions and Examples

Even though it is operating under Chapter 11 (in 1994), Charter, like many of the other organizations in this configuration, uses superlatives liberally: “Charter Medical Corporation is the largest investor-owned provider of behavioral healthcare in the United States” (Charter, Annual report, 1994). HealthSouth is “the largest provider of rehabilitative healthcare in America” (HealthSouth, Annual report, 1994). The chairman and CEO of Abbey says, “I am dedicated to attracting the very best and most experienced personnel to this company and to provide (*sic*) for them a corporate environment in which they can excel” (Abbey, Press release, January 3, 1995).

The companies with this configuration often have stated strategies. However, the language may be unclear about specifics. National Medical Enterprises, now Tenet, states, “The Company’s strategic objective is to provide quality, cost-effective healthcare services in selected geographic areas” (Tenet/National Medical Enterprises, Prospectus, 1995). CareLine writes, “CareLine’s approach is aligned with the current mandate within the health care industry for more efficient delivery of higher levels of care. The Company seeks to acquire well-managed companies with strong franchises in strategic locations throughout the United States to create regional networks of providers” (CareLine, Annual Report, 1993).

Many of these organizations have “holding company” or “specified purpose acquisition” companies through which acquisitions are made. In organization after organization among this configuration, there are many pages in the 10-K reports or the prospectuses detailing “Certain Relationships and Related Transactions” among members

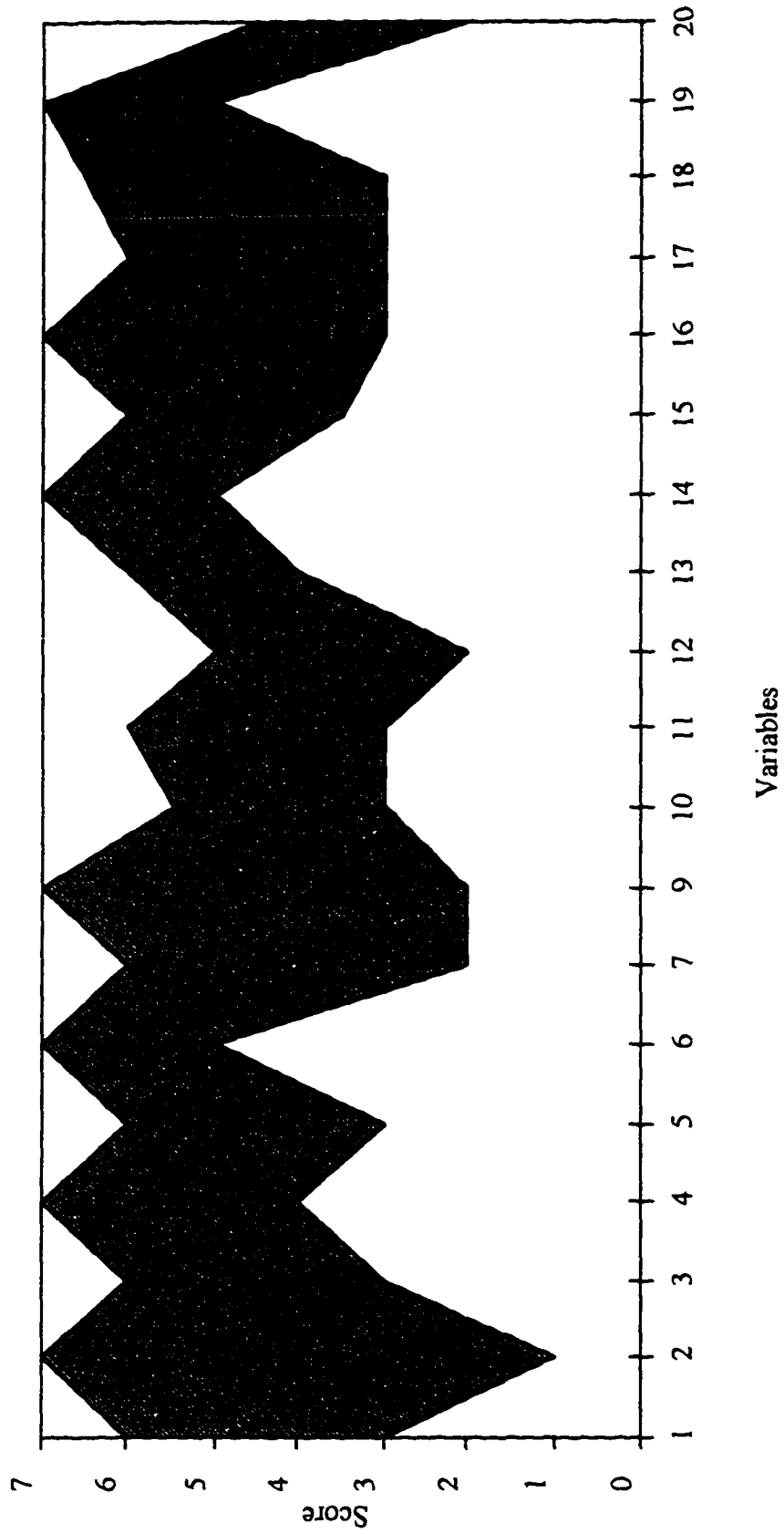


Figure 17. Less Successful Archetype 1 region of scores ($n = 13$).

Table 20

The Bloated Raptors

<u>Organization name</u>	<u>Major line of business</u>
Abbey Healthcare Group, Inc.	Home health care of all types
CareLine, Inc.	Prehospital care, medical transport
Charter Medical Corp.	Behavioral health care
Concord Health Group, Inc.	Geriatric care
Coram Healthcare Corp.	Alternative site health care: infusion, intravenous, at home therapy
FHP International Corp.	Managed care, insurance/HMO
GranCare	Rehabilitation, skilled nursing, pharmacy, nursing homes
HealthSouth	Rehabilitation, mental health care
Leeway, Inc.	AIDS care and nursing homes
OrNda HealthCorp	Primary to tertiary with home health, outpatient and psychological services
Surgical Care Affiliates, Inc.	Free standing outpatient surgery and managed care
Tenet Healthcare Corporation/National Medical Enterprises, Inc.	Hospitals and related health care facilities
Transworld Home HealthCare, Inc.	Alternative site health care services and products

of management, members of the board, and the organization. Family relationships are common among the Bloated Raptors top management and/or board members: The chairman and CEO's brother is a member of HealthSouth management; a husband and

wife serve on the board, own over 10% of the stock, and owned interests in some of the nursing homes acquired by Concord; at FHP, the founder is the chairman and a principal stockholder, and, after a reorganization in 1994, the chairman's son was named head of one of three organizational divisions of the company.

Closely held organizations are common: 57.66% of Concord Health Group's common stock is held by the managers and directors, with the chairman and CEO personally holding 18.64%; three OrNda directors own or control about 75% of the common stock and control more through various funds of which the three are partners; several principal stockholders of Careline are companies whose general partners are members of Careline's management and/or board.

Reliance on one group or payor for a major portion of revenue is common among this archetype. In 1994, HealthSouth's Medicare-derived revenue increased to about 41% of total revenues from about 31% in 1993. About 77% of GranCare's revenues come from Medicare/Medicaid, up from an already high 75% in 1993. At Tenet, about 44% of revenues are Medicaid/Medicare. At Transworld, Medicare payments comprise about 38% of revenue, and Medicaid comprises about 25%. This was not found to be the case in other configurations.

This configuration takes many risks. The organizations of this archetype borrow to acquire other organizations. They are willing to depend upon one or two payment sources. These tendencies are personified by the CEOs, who in several Bloated Raptor organizations are known as egocentric characters. For example, Joseph Raymond at Transworld began the company with a concentration on home health services. With

success, he seems to have developed an appetite for unrelated acquisitions and started buying drug companies and pulmonary rehabilitation companies along with others related to the original home health business. National Medical Enterprise, one of the precursor companies of Tenet, was started by a “visionary” who was convicted of paying kick-backs to physicians and of mis-billing for Medicare patients. The resulting fines and shareholder actions against the company resulted in the shotgun wedding out of which Tenet emerged. HealthSouth started as a rehabilitation organization, but with increased revenues, its flamboyant CEO, known for the rock-and-roll band in which he plays and for which he pays, borrowed heavily to acquire organizations in outpatient surgery and other “healthcare businesses” only peripherally associated with rehabilitation. Perhaps James Sweeney, CEO of Coram, who was featured on the front page of the *Wall Street Journal*, serves as a good example of the archetype in general.

Mr. Sweeney currently envisions an even-bigger Coram, assembled through rapid mergers and providing an array of home-health services: home infusions, respiratory and physical therapy, and equipment such as crutches and wheelchairs. . . . Other home-care companies, too, are entertaining such ideas, and there is no certainty he can beat them to the punch--or that Coram can continue to acquire companies, trim costs and maintain or enhance the revenues of its new acquisitions (Coram, Burton, 1995).

Mr. Sweeney was fired from one company for his ideas about home health care (he characterizes it as being ahead of the times in thinking), and another company he founded went bankrupt. Coram is only a few years old, having been another company started by Mr. Sweeney to sell home health care. Helicopter-flying Mr. Sweeney could be speaking for the archetype when he says, as quoted in the *Wall Street Journal*, “Some of these companies (the ones being acquired by Coram) were perceived as tainted, or poorly

managed, or also-rans, but people tend to fall in love with the conventional wisdom. I figured any of these problems could be overcome. . . . I take on more risk than most people, but I try to see through the risk to the endgame” (Coram, Burton, 1995). He is not unlike all the other CEOs of the Bloated Raptors.

Less Successful Archetype 2: The Overwhelmed

Only two organizations were classified as the second less successful archetype, or about 2.6% of the total sample. The Overwhelmed are in highly hostile environments without resources to cope. The configuration has low means on many structure/organizational variables. Figure 18 depicts the region and Table 21 lists the organizations.

Main Features of the Overwhelmed

The main features of the Overwhelmed are a highly hostile environment, a lack of resources, and problems with professional expertise. Not surprisingly, the organizations in this configuration are relatively small rural healthcare providers. *Internal Communications* are above the middle score, but lack of scanning ability leaves these organizations without a clue about the situation which they currently inhabit.

Table 21

The Overwhelmed

<u>Organization name</u>	<u>Major line of business</u>
Calumet Community Hospital	Rural hospital
Lamprey Health Care	Rural community health center

Descriptions and Examples

Both of the organizations in the Overwhelmed archetype operate in rural settings, and both face similar problems: decreases in income, shortages of physicians, worn-out or divided staff, and obsolete facilities or facilities that are rapidly becoming too small. Calumet's income problems are due to declining occupancy rates and to a heavy reliance on Medicare reimbursement, while Lamprey has the problems of Medicare and Medicaid compounded by providing prenatal care for poor women.

Physicians willing to practice in the settings of these organizations are hard to find. "Family physicians who also provide obstetrics care were a truly scarce resource" for Lamprey (Lamprey, Merenda & Edlund, 1995, p. 925), and at Calumet, there is "a shortage of physicians," exacerbated by the fact that "the active medical staff membership declined during the past five years" (Calumet, Arnold, 1995a, pp. 1035, 1031). The hospital administrator must spend a great deal of time solving problems "created by the doctors" and often "works late into the evening on his paperwork" (p. 1030). At Lamprey, even though there was a search being made for an obstetrician, the number of patients continued to increase "beyond levels appropriate for continuity of care" with the result that the number of deliveries was too high and "pull-outs for deliveries increased, patient wait time increased, and staff burnout strongly underscored the need for an additional family physician" (Lamprey, Merenda, & Edlund, 1995, p. 942).

Because of financial difficulties, neither of the organizations in the Overwhelmed archetype has funds to make necessary renovations to existing facilities or to contemplate needed new facilities. Further, neither of them appears to be in a position from which

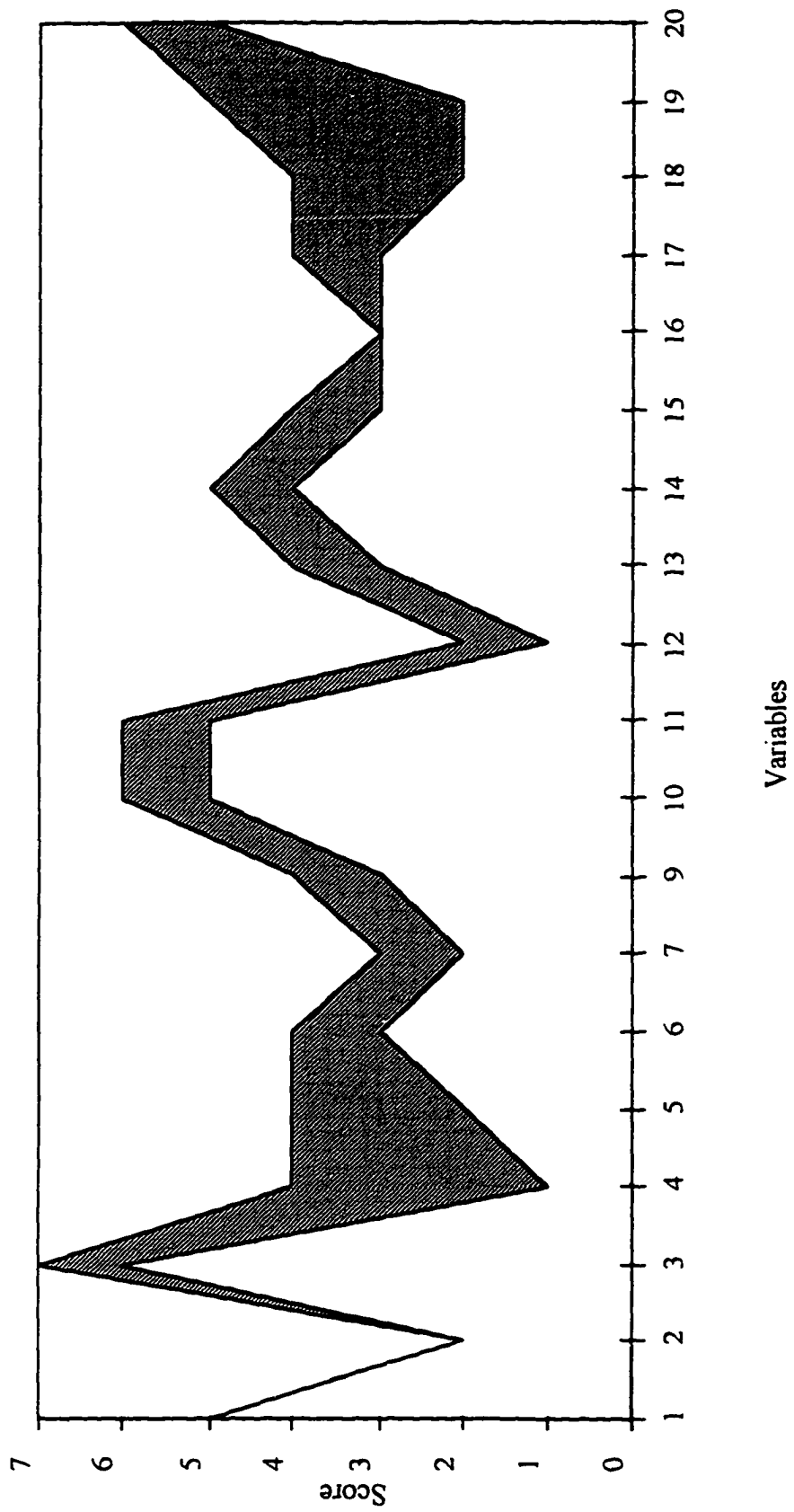


Figure 18. Less Successful Archetype 2 region of scores ($n = 2$).

funds can be secured for the future. Clearly, both of these organizations must either go under or make some radical change in operations, but neither seems inclined to do so.

Less Successful Archetype 3: The Broke Multispecialists

Slightly less than 8%, or 6 organizations, of the total sample are Broke Multispecialists. Of all the less successful archetypes, the Broke Multispecialists have larger standard deviations, in general, than the other less successful configurations. Table 22 shows the organizations, and the regions are shown in Figure 19.

Main Features of the Broke Multispecialists

The Broke Multispecialists face a relatively threatening environment measured by the average of all three environmental variables. This does not explain their lack of success; the more successful Conservative Controllers have a higher average for these three variables. The Broke Multispecialists archetype has the highest score on *Organizational Differentiation* of all the archetypes, and its level of *Multiplexity* is greater than the other less successful configurations. The score for this archetype on *Risk Taking* is the lowest of all the configurations, both more and less successful.

Descriptions and Examples

All of the Broke Multispecialists are somehow associated with academic medicine, although not always officially, and all of them have the same problems endemic to academic medical centers: multiple foci and, as a result, multiple constituencies.

Most have restrictions on how they may use their funds and uncertainty about the sources of funding. All of the organizations in this configuration have at least two foci. For example, Curative Technologies, Inc. (CTI) says, "Our first goal is to strengthen

Table 22

The Broke Multispecialists

<u>Organization name</u>	<u>Major line of business</u>
Beth Israel Hospital	Teaching hospital
Curative Technologies, Inc.	Wound care and biopharmaceuticals
Lincoln Medical Center	Inner-city hospital
Mediq, Inc.	Life support, critical care equipment, imaging, diagnostic centers, health testing, case management
University of Texas Health Center at Tyler	Academic medical center
<u>Veterans Administration</u>	<u>All kinds of health care for veterans</u>

CTI's leadership position in the high technology wound care market. . . . Second, we are committed to highly focused research and development programs" (Curative Technologies, Annual report, 1993). "Lincoln Medical Center supports the community through the provision of critical services such as emergency and obstetric services. In addition, they play an integral role in the continuation of community care through their established teaching program" (Lincoln Medical Center, Tinder, Ditchek-Goldberg, & Myrtle, 1994, p. 13). "Mediq Incorporated is a healthcare services company with principal business activities in rental of critical care and life support equipment, and the provision of diagnostic imaging services" (Mediq, Annual report, 1993). Beth Israel, University of Texas Health Center at Tyler (UTT), and the Veteran's Administration (VA) not only provide patient care, but also are research and teaching organizations. In addition, the VA is developing a "specialty" geriatric care, and UTT is known for its

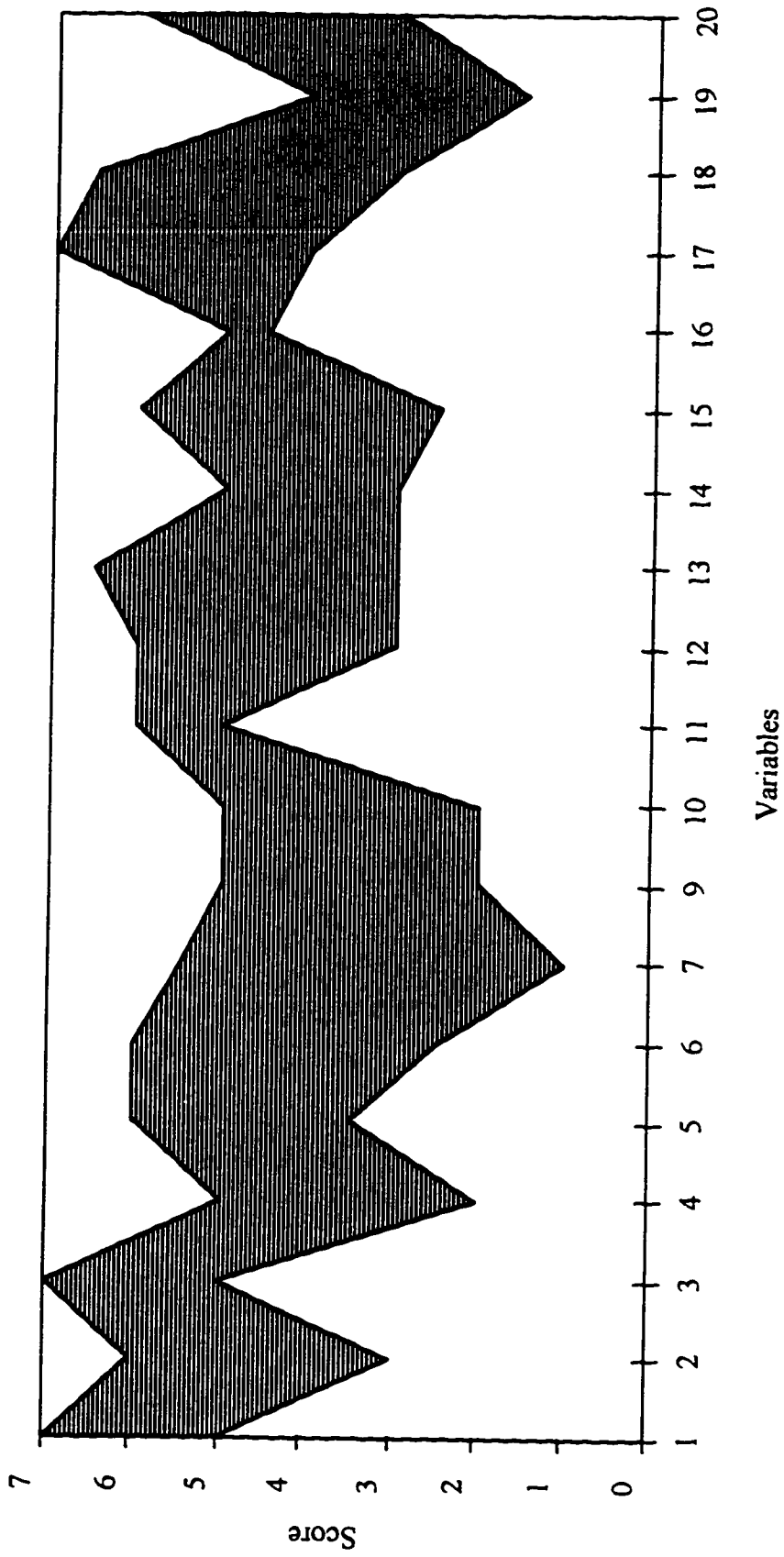


Figure 19. Less Successful Archetype 3 region of scores ($n = 6$).

cardiopulmonary care. Thus, in addition to being bi- or trifurcated in focus, most of the Broke Multispecialists are specialists within one or more of their foci.

Because of divided focus, these organizations have many constituents. “The VA is scrutinized by congressional committees, veterans’ service organizations, and the President’s Office of Management and Budget” (Veteran’s Administration, Topping & Ginter, 1995, p. 951). Beth Israel, is one of the largest recipients of NIH funding in the United States and is one of the major teaching hospitals of Harvard University; nonetheless, it has to maintain the good will of Boston’s Jewish community for whom it was founded. The UTT must maintain its position as one of the universities in the Texas system of higher education and, as such, be subject to Texas legislative scrutiny, while continuing to search for research funding and to teach. CTI, founded and still affiliated with a University of Minnesota faculty member, is having financial difficulty because too much revenue is spent on the research to develop new wound-healing products. It appears that part of the reason Mediq, again founded by an academic physician whose son and wife are still on the board, has a split focus is that the board cannot agree about what the organization’s business should be. Lincoln is caught between its mission, to serve the low income community in which it is located and for whom it was founded with a full range of all medical services including trauma, cancer, and neonatal intensive care, and its parent organization, which wants it to develop a center of excellence hospital with only one or two specialties.

The Broke Multispecialists are not broke because they lack concern for their employees—both CTI and Beth Israel recently revamped their structures to focus on

quality, including the employee training and development which are a part of good quality programs. Beth Israel was the pioneer of the concept of primary nursing, a concept later adopted by almost all of Boston's major teaching hospitals, and it developed a program under which all employees could contribute ideas for improving efficiency, for which they would be rewarded with part of the savings from the improvement. Even the VA has tried to remedy its high turnover problem using several programs for employees.

The Broke Multispecialists' problems stem from political disunity. They have problems between physicians and administration, or between physicians and lay people. At Beth Israel, the doctors are administratively independent of the hospital. Only the residents and interns are paid by Beth Israel. Other Beth Israel employees like the incentive for improving efficiency program, but the physicians will not buy into the program as they think it only makes more paper work. Yet, like the physicians at UTT and the VA system, doctors at Beth Israel are one of the important constituencies as well as being part of the staff which must be efficient if Beth Israel is to survive.

All of the members of this archetype have been in existence for longer than many of the other organizations in the sample, and especially longer than some of the other less successful configurations. In the past, they have been able to continue through gradual changes or boosts from some governmental entity. It remains to be seen if that approach will work again.

Less Successful Archetype 4: The Orderly Accountants

There are six organizations which are classified as the Orderly Accountants, or slightly less than 8% of the total sample. In none of the individual means and ranges does

any outstanding value distinguish this configuration. The region for this archetype can be seen in Figure 20, and the organizations are shown in Table 23.

Main Features of the Orderly Accountants

The Orderly Accountants have almost as much centralization of strategy-making power as their more successful green-eye-shaded comrades, the Conservative Controllers, but the level of control in this configuration is not so high as for the equally boring Conservative Controllers. Nor are the Orderly Accountants as conscientious about strategic analysis as the Conservative Controllers. However, the Orderly Accountants do delegate more authority for operations. Although they are not high-risk takers, the Orderly Accountants are not wedded to precedents, and they try to look to the future when making decisions. This configuration does not lose money, but the net income for most organizations in the configuration is less than average for their sector of the industry. The major financial problem faced by most of these organizations is lack of financial flexibility.

Descriptions and Examples

The top managers in the Orderly Accountant archetype are relatively good financial managers who have fragmentary visions or no vision about their role in the industry and who are unsure in which direction to lead their organizations. For example, the vision of Universal is "To provide healthcare services that: patients recommend to their families and friends, physicians prefer for the patients, purchasers select for their clients, employees are proud of, and investors seek for long-term returns." To accomplish this, "Universal Health Services, Inc. [has] focused [its] efforts on managing acute care and psychiatric hospitals and, recently, a newly formed business group, freestanding ambulatory surgery

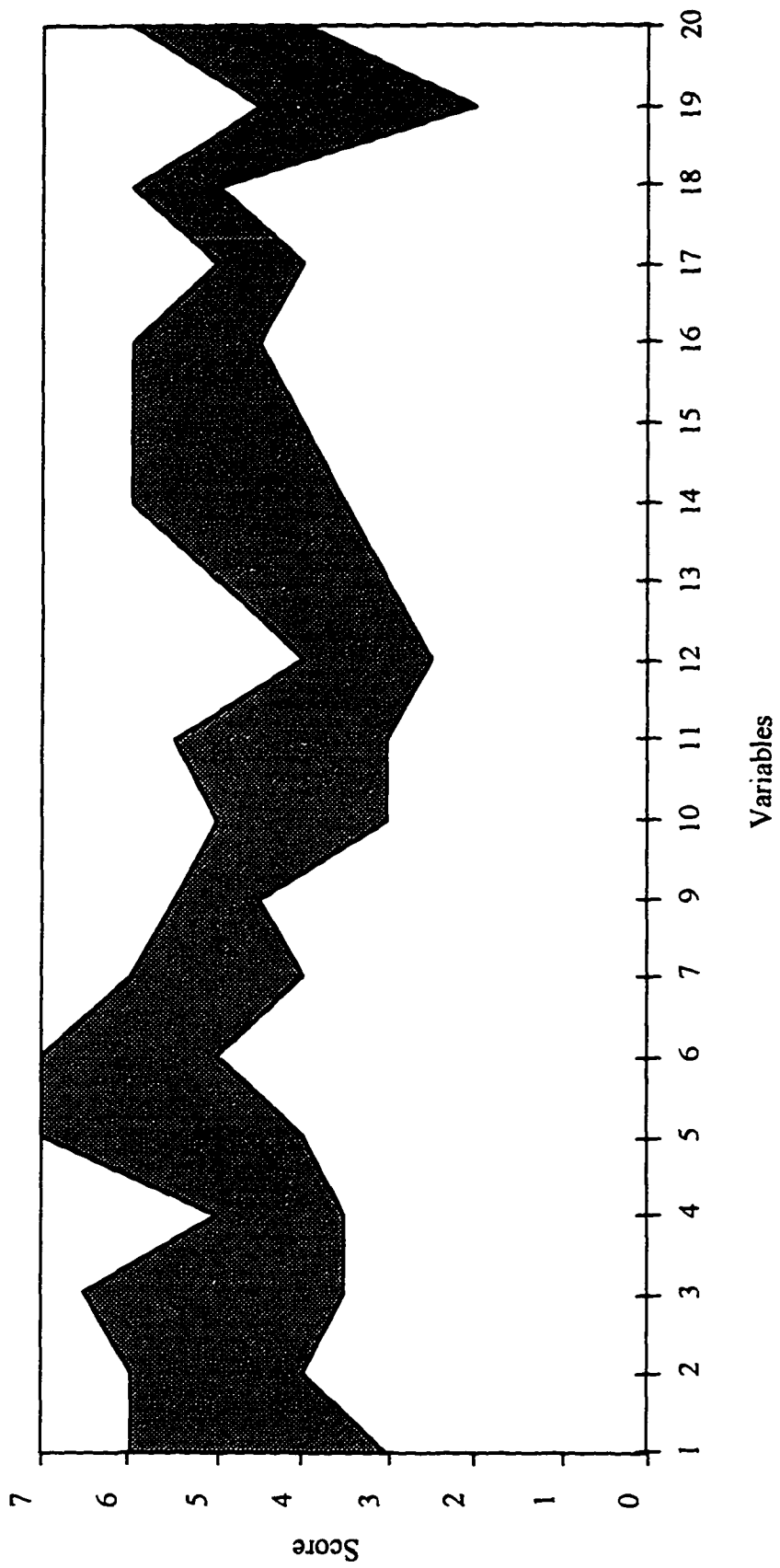


Figure 20. Less Successful Archetype 4 region of scores ($n = 6$).

and radiation treatment centers” (Universal Health Services, Annual report, 1993). HealthWise, spun off from Surgical Care Affiliates, started as an HMO in Kentucky with the idea of “concentrating on building share and entering underpenetrated rural markets” (HealthWise, Kerns & Ockers, 1994). Immediately, it purchased an HMO in Maryland, and shortly thereafter, HMOs in Nashville, TN, and Little Rock, AR, while contracting to manage a facility in Toledo, OH. “Mercy Health System is diversified across the healthcare delivery spectrum” (Mercy Health Services, Lynn, 1995a, p. 1122) with managed care facilities, adult day care and clinical services for the elderly, home health services, and insurance products. The organizations in this archetype all seem to have the best intentions, but no discipline to keep with the plan.

Table 23

The Orderly Accountants

Organization name	Major line of business
Apogee, Inc.	Outpatient mental health
HealthWise of America	HMOs and re-insurance
Homedco Inc. /Abbey Healthcare Group, Inc.	Home health
Mercy Health Services	Hospitals and home health
Ramsay Health Care, Inc.	Behavioral health
Universal Health Services, Inc.	Psychiatric hospitals, ambulatory surgery, radiation

This archetype is very difficult to describe clearly. The strategies of the archetype are unfocused and unclear, the managers are unwilling or unable to take any risks, and the financial picture lacks flexibility. The archetype might be a more successful one, albeit just

barely, in less turbulent times, but with the changes occurring in the overall industry, the Orderly Accountants may have to risk a major shakeup or else go down with the ship.

Less Successful Archetype 5: The Overachievers

There are only three organizations in the last less successful type, the Overachievers, which is about 4% of the total sample. On many of the variables, this configuration has relatively low standard deviations, but the standard deviations on the environmental variables, on Variable 19, *Risk Taking*, and on Variable 20, *Precedents*, are relatively high. The region of scores is shown in Figure 21, and Table 24 shows these organizations.

Main Features of the Overachievers

The Overachievers may be having trouble with making changes and getting everything together, but they all appear to be on the right track and are all team players. Of all the archetypes, the organizations in this archetype have the highest scores on *Delegation of Operating Authority* and *Internal Communications*. They also have relatively high scores on *Conscious Strategic Analysis* and *Futurity of Decisions*, in a relatively less threatening environment. This configuration has above the middle of the score range on almost all variables, but they do not seem to be completely coordinated yet.

Descriptions and Examples

The Overachievers are among the less successful archetypes because of large debt load and/or large goodwill or restricted assets on the balance sheet, or because of below sector average earnings. However, the organizations seem to be making every effort to lead their teams to victory, maybe too much of an effort. For example, Living Centers of America has relatively clear vision and mission statements inside the cover of their annual

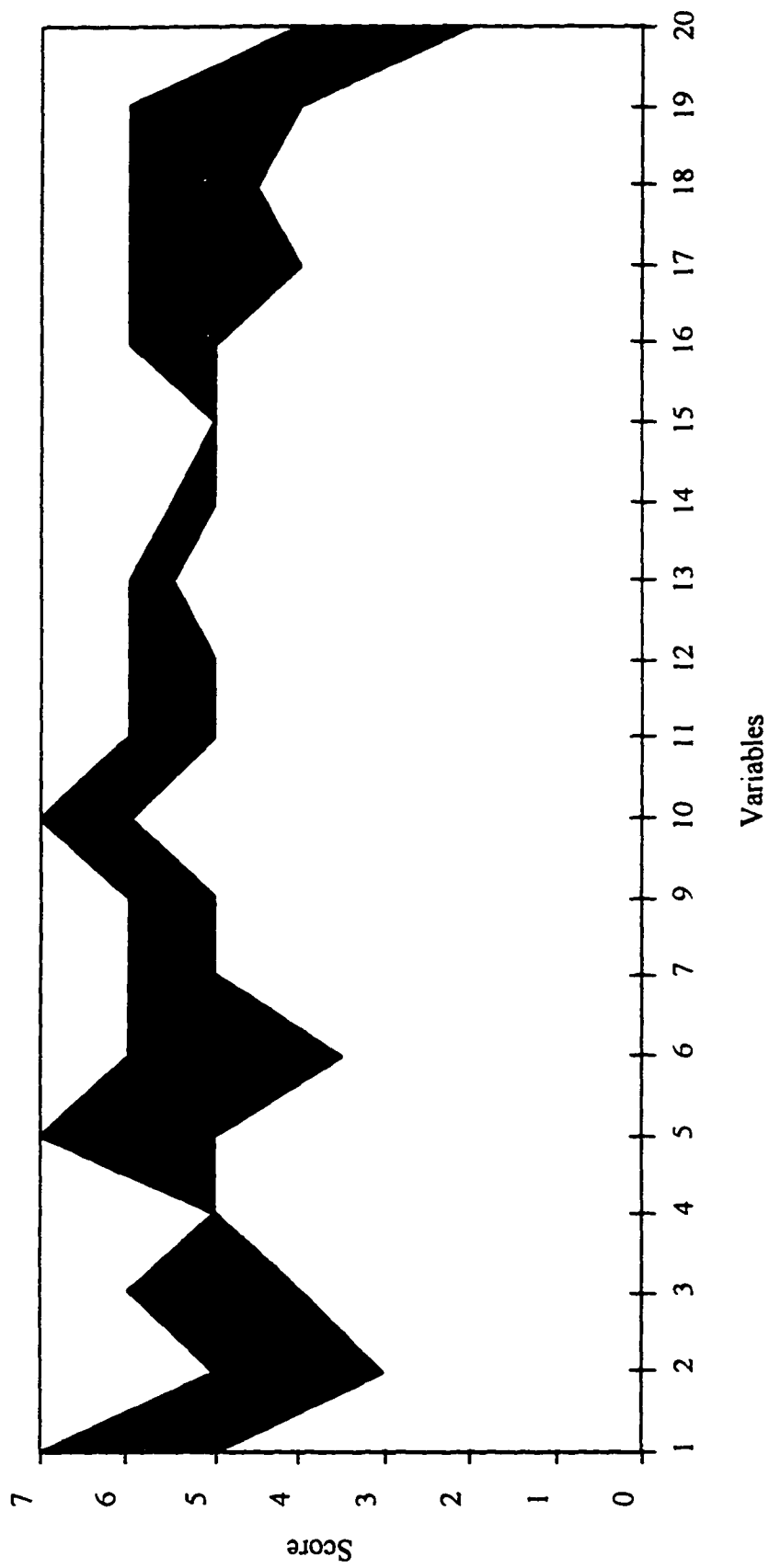


Figure 21. Less Successful Archetype 5 region of scores ($n = 3$).

report. The following “overarching goals” are included in the Chairman’s letter in the Annual Report:

- We will distinguish our Company by responsively developing and continually improving the quality of our programs and services and by exceeding the expectations of our customers.
- Our Company will be an enlightened leader in the health care industry. We will demonstrate leadership by setting high standards, contributing to positive national change, and being a good corporate citizen.
- Since the principal strength of our Company is its people, we will invest in both their development and the recognition of their achievements, as keys to our success.
- We will make a relentless effort to produce superior shareholder returns by continually improving our financial performance and through excellent stewardship of the Company’s resources (Living Centers of America, Annual report, 1994, p. 3).

Living Centers has defined its geographical market, limited its products to two or three related ones, and developed three “broad strategies” concerning its markets.

Further, Living Centers has articulated “five broad long-range strategic goals of the organization: “1) Become a \$1 + billion diversified health care company by the year 2000; 2) Develop a market driven organization; 3) Create a quality-centered culture; 4) Build value in our Company by investing in our people; and 5) Create exceptional value for our shareholders” (Living Centers of America, Annual report, 1994, p. 7).

Table 24

The Overachievers

Organization name	Major line of business
Brigham and Women’s Hospital	Teaching/research hospital
Complete Health	IPA HMO
Living Centers of America	Nursing homes, subacute care

Living Centers publishes four or five newsletters for employees, for individual facilities, and for the families and friends of the organization. In all of these, the mission and vision are referenced. Much of the copy is about outstanding employees and improvements in quality, but there is also a great deal written of direct educational value. For example, "The Medical Directors' Update" is billed as "A Newsletter for Physicians Involved in Long-term Care." It contains articles, written at the lay level, about reducing restraints in nursing facilities, how to predict subclinical hypothyroidism and the effects it might have on nursing home residents. "The Alzheimer's Caregiver" features "An Alzheimer's Disease Bill of Rights" and "Tips for Avoiding the Holiday Blues." However, Living Centers is carrying a big debt load and part of the assets are intangibles. It seems probable that the company needs to put more emphasis on activities which promote its financial performance and less emphasis on good "touchy-feely" activities.

Brigham and Women's Hospital (BWH) has good physician-administrator relationships, a relatively streamlined organization with only eight clinical departments that work closely together. The nursing staff is "the highest paid in the United States" (Brigham and Women's Hospital, Teisberg, 1993a, p. 9) and operates under the primary nursing concept developed by Beth Israel. Although the nurses are unionized, BWH has never had a work stoppage. BWH receives "more funds than any other independent hospital in the nation" (p. 11) from the NIH. Thus, it fits the mold of hard working, try-hard, model citizen. However, it has large board-restricted assets and has not had

consistently increasing profits. As a well-known and highly respected teaching hospital, its major problem will be to survive in the changing environment.

The third organization among the Overachievers, Complete Health, begun by an entrepreneur, was not, as of the time the case was written, earning more than average income. Its information systems may not be adequate for the rapid rate at which the organization has grown, and there may be more employee dissatisfaction than at BWH, but like the other organizations in this configuration, Complete Health seems to have most of the pieces poised ready to put into place.

The Overachievers spend a great deal of effort to "do it right." However, each is hamstrung in a different way. Living Centers has large debt and intangibles on its balance sheet; BWH labors with restricted assets; Complete Health needs to increase net income and upgrade information systems. All must either soon join the more successful organizations, probably in the ranks of the Alert Artisans, or each will be subsumed in the entity of a larger organization.

The Outlier Organizations

There were three organizations that were outliers: Diagnostek, Lovelace Medical Center, and Oxford Health Plans. These three were quite different. Diagnostek should not have been included in the sample in the first place as it sells mail order-drugs, and unlike Chronimed, it has almost no contact with patients. Lovelace is a combination organization with a not-for-profit research institute under the same umbrella as a for-profit hospital. Oxford, one of the most interesting organizations in the total sample, stands out in almost every respect. Founded in 1985 by a 28-year-old as a managed care

organization which provides service in the greater metropolitan New York City area, it has developed into a profitable, debt-free organization that scores very high on almost every variable except for Variable 20, *Precedents*. Oxford has a clear mission and has developed a unique slant on its position in the health services arena, a position stated by no other organization examined in this research. In his 1994 Letter to Shareholders in the annual report, Stephen Wiggins, the chairman and CEO, said,

I believe a critical component of our success is our collective recognition of the delicate role we play in people's lives. . . . The ability of everyone at Oxford to understand the special responsibility we bear in carrying out our role may ultimately determine how great a company we can be (Oxford, Annual report, 1994).

Oxford is the only organization in the sample that clearly states its understanding of the important role health services organizations have in the lives of each individual.

Testing Statistical Significance of the Archetypes

The total Cartesian product space into which organizations could fall was complicated, being described in 20 dimensions (Miller, 1976; Miller & Friesen, 1984b). There are 13 possible scores for each of Variables 1 through 7 and 9 through 20. After averaging the raters' scores, either whole numbers or numbers measured to the half interval (.5) were possible. There are 141 possible scores for Variable 8: *Management Tenure* was measured in years to the closest 0.1 of a year, and the range of years was 1 to 14. Thus, the total space is the product of all the ranges for all variables, or $13^{19} \times 141$.

To determine if the region of an archetype is significantly different than a region occurring by chance, the size of each archetypal region was compared to the size that might have been expected by chance. That is, the space occupied by a region as a

proportion of the total space was compared to the proportion of organizations in an archetype as a proportion of the total sample. It was expected that the sizes of the archetypal regions would be significantly smaller than the size expected by chance. Specifically, let A equal the ratio of the number of different possible profiles, or combinations of points in a region to the number of all possible profiles, and B equal those profiles expected by chance.

Then, A was compared to the lower limit of a 95% confidence region about B. In other words, A consists of a fraction with numerator equal to $(2 [V_{1,2} - V_{1,1}] + 1)(2 [V_{2,2} - V_{2,1}] + 1) \dots (2 [V_{20,2} - V_{20,1}] + 1)$, when $V_{i,2}$ is the upper limit on the range of scores on the i th variable, and when $V_{i,1}$ is the lower limit, and the denominator is equal to $(13^{19} \times 141)$. This value was compared to the lower limit of a 95% confidence interval about B, the proportion of organizations in a tentative archetype.

The profile of any organization either will or will not be in a region. That is, each profile can be classified as either successfully falling within a region or failing to fall into a region. Thus, the appropriate inference procedure uses the binomial test. The lower limit of a 95% confidence interval was formed about the fraction of organizations that fell into a given archetype, using the formula suggested for binomial tests by Gibbons (1985) and a p value from the .025 tail of the normal distribution table. This was compared to the value of A. The 95% confidence interval was selected as appropriate, as it is the confidence level most often used in organizational studies.

Miller and Friesen (1984b) used only those organizations that were not in the subsample to test the hypothesis. In the study described here, the test was performed on

the organizations not selected to be in the subsample following Miller and Friesen, but more importantly, it was also performed on the whole sample. Tables 25 and 26 show the archetype in the first column, the proportion of organizations in the second column, the lower limit of the 95% confidence interval for the proportion in the third column, the archetype region size in the fourth column, and the proportion of the archetype region size to the total space size in the last column. Table 25 shows the information for those organizations not randomly chosen for the 60% subsample, and Table 26 shows the total sample. The total space $(13^{19} \times 141) = 2.061 \times 10^{23}$.

In all instances, the lower bound of the 95% confidence interval of the proportion of organizations in an archetype is thousands of times larger than the proportion of the space occupied by the profiles of the organizations in the archetype to the total possible profiles in the space. Thus, the archetypes into which the remainder of the sample is classified, after removing the randomly selected 60%, are statistically significant.

The archetypes were also tested for significance using all organizations in the sample, except the outlier organizations. Again, as with the subsample, in all instances, the lower bound of the 95% confidence interval of the proportion of organizations in an archetype is thousands of times larger than the proportion of the space occupied by the profiles in the archetype to the total possible profiles in the space. As shown in Table 26, the archetypes into which the total sample is classified also are statistically significant.

Table 25

Values Used for Test of Significance of Archetypes: Organizations Not Included in the Subsample

Archetype	Proportion of organizations <u>not</u> chosen in 60% subsample in each archetype	Lower limit of the 95% confidence interval of the proportion	Archetype region size	Archetype region size as a proportion of total space size
More Successful Type 1	.2580	.1254	9.836×10^{16}	4.772×10^{-7}
More Successful Type 2	.03226	.001685	5.444×10^{15}	2.641×10^{-8}
More Successful Type 3	.1613	.06094	1.648×10^{18}	7.996×10^{-6}
More Successful Type 4	.001685	.01043	1.494×10^{14}	7.249×10^{-10}
More Successful Type 5	.1290	.04216	1.909×10^{17}	9.262×10^{-7}
Less Successful Type 1	.12900	.04216	1.205×10^{18}	5.847×10^{-6}
Less Successful Type 2	0 ^a	0 ^a	6.510×10^8	3.159×10^{-15}
Less Successful Type 3	.09677	.02533	6.466×10^{16}	3.137×10^{-7}
Less Successful Type 4	.1290	.04216	8.902×10^{14}	4.319×10^{-9}
Less Successful Type 5	.09677	.02533	8.201×10^{10}	3.979×10^{-13}

^a All of the organizations in Less Successful Type 2 were randomly chosen for the subsample; therefore, none of them were in the category shown here.

Table 26

Values Used for Test of Significance of Archetypes: All Organizations in the Total Sample

Archetype	Proportion of organizations in the archetype	Lower limit of the 95% confidence interval of the proportion	Archetype region size	Archetype region size as a proportion of total space size
More Successful Type 1	.2208	.0835	9.836×10^{16}	4.772×10^{-7}
More Successful Type 2	.1169	.0299	5.444×10^{15}	2.641×10^{-8}
More Successful Type 3	.0909	.01933	1.648×10^{18}	7.996×10^{-6}
More Successful Type 4	.06493	.01043	1.494×10^{14}	7.249×10^{-10}
More Successful Type 5	.07792	.01465	1.909×10^{17}	9.262×10^{-7}
Less Successful Type 1	.1688	.05479	1.205×10^{18}	5.847×10^{-6}
Less Successful Type 2	.02597	.00147	6.510×10^8	3.159×10^{-15}
Less Successful Type 3	.07792	.01465	6.466×10^{16}	3.137×10^{-7}
Less Successful Type 4	.07792	.01465	8.902×10^{14}	4.319×10^{-9}
Less Successful Type 5	.03896	.003693	8.201×10^{10}	3.979×10^{-13}

CHAPTER 7

CONCLUSIONS AND IMPLICATIONS

It is appropriate to return to the questions asked in chapter 1: Are there common configurations of environment, organization, and strategy that tend to be found in more successful health services organizations and certain configurations found in less successful organizations? What are the attributes of the more successful organizations, and what are those of the less successful organizations? Or are there an infinite number of ways in which environment, organization, and strategy can configure in both more and less successful organizations? Which health services organizations are likely to follow strategies that lead to greater success and financial viability? What is it about those organizations that allows or forces them to follow the particular strategies? Why are some health services organizations more successful, using financial measurements, than others?

This study found that there are five archetypes in which the attributes of more successful health services organizations tend to be configured and five archetypes in which the attributes of less successful health services organizations tend to configure. The archetypes are represented by their mean scores on each variable in Figures 22 and 23. The archetypes and the attributes associated with each are shown in Tables 27 through 29. Table 27 shows the configurations or archetypes found among more successful health

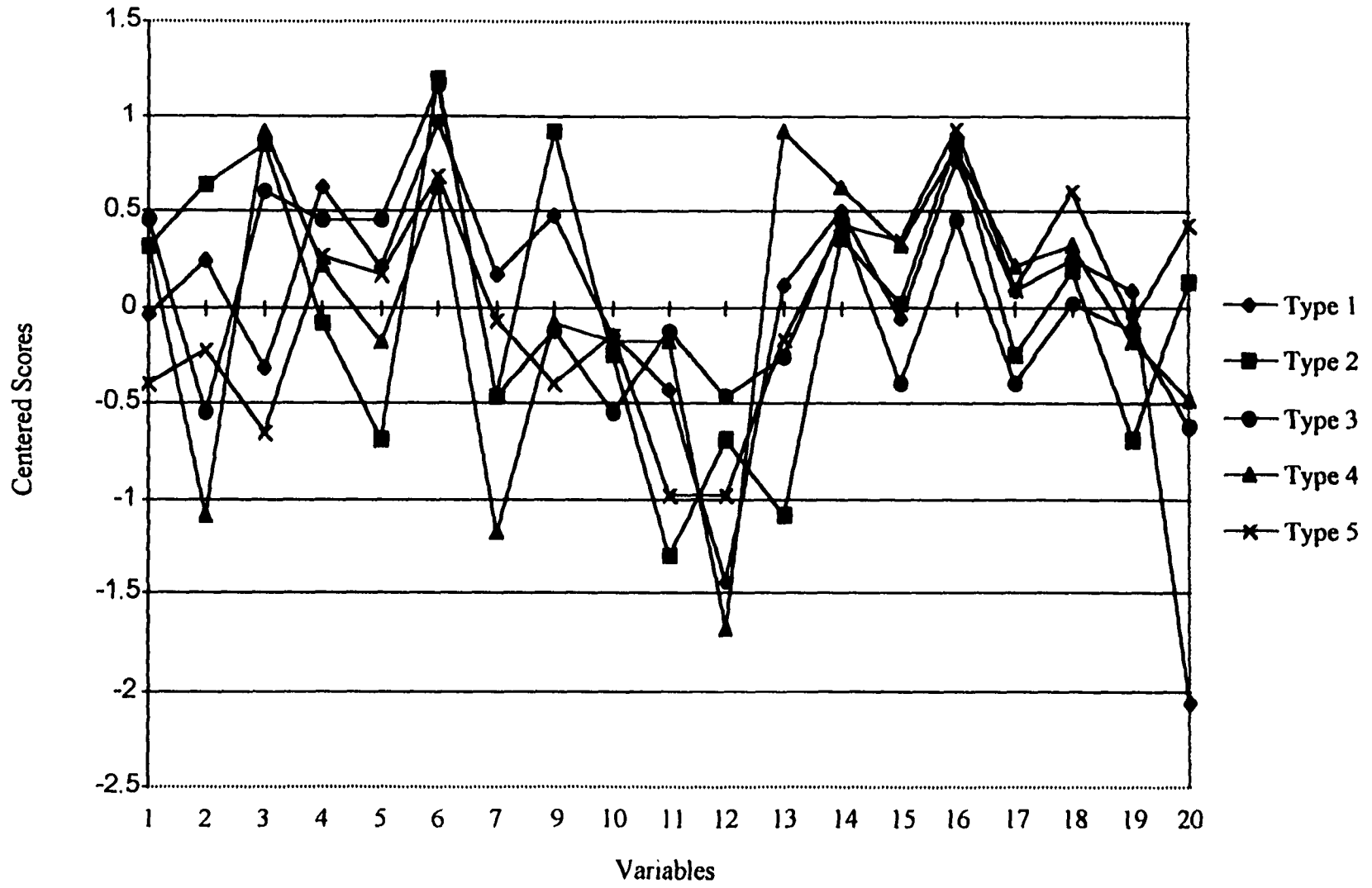


Figure 22. The more successful archetypes' mean scores. Each archetype is represented by the mean centered score.

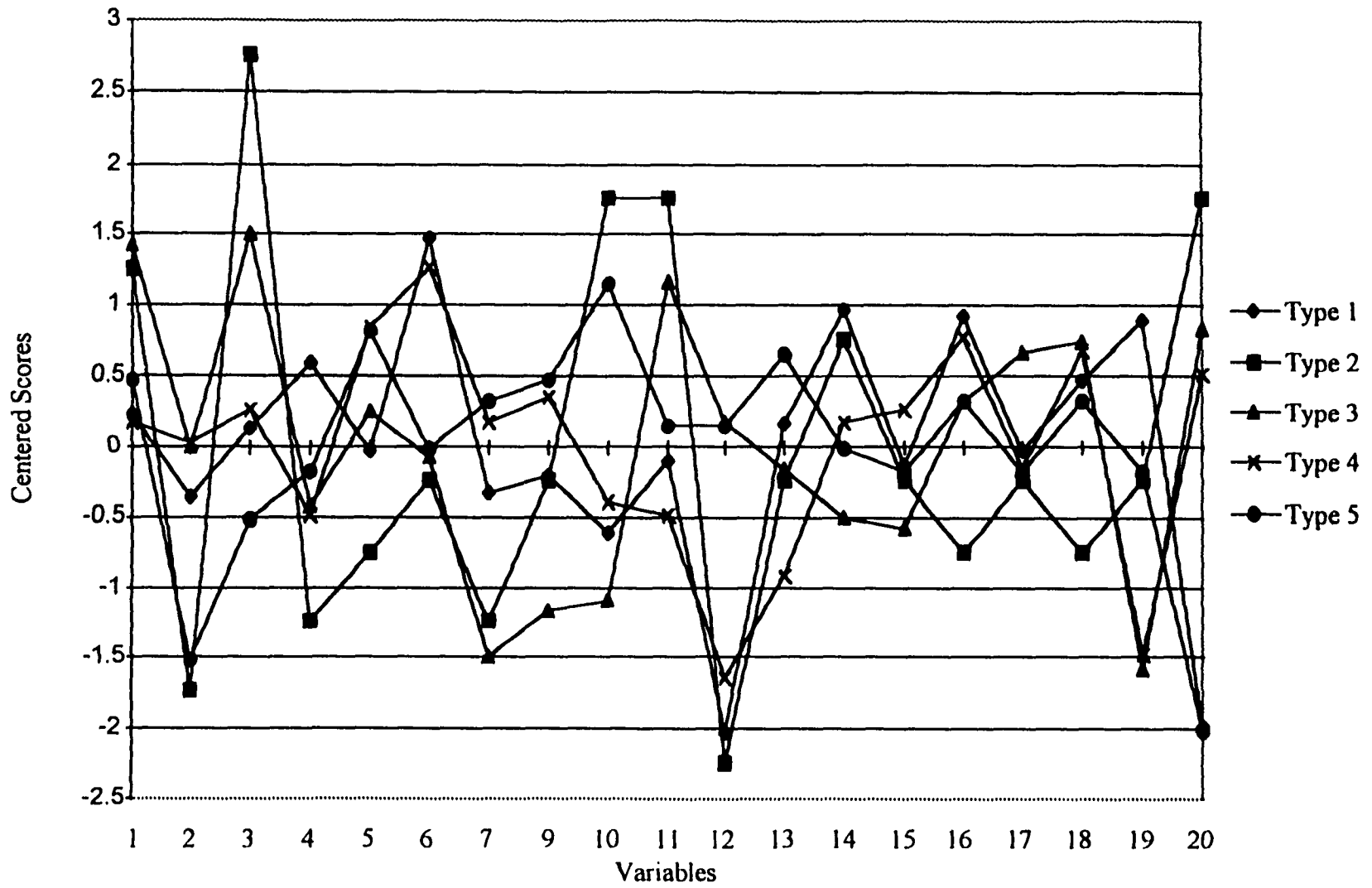


Figure 23. The less successful archetypes' mean scores. Each archetype is represented by the mean centered score.

services organizations and the attributes of each archetype. Table 28 shows the less successful archetypes and their attributes, and Table 29 shows the organizations and the archetypes.

The Industry

In this study, only one industry was examined, unlike the work of Miller (1976), and Miller and Friesen (1984b) upon which this research was based. Any confounding of variables which might have been due to industry was eliminated. Organizations of all types from the health services industry were included in the study as long as they met the criteria that most revenues of the organization be related to patient care. Like Miller (1976) and Miller and Friesen (1984b), the study showed that organizations tend to group in archetypes.

The Archetypes

Miller (1976) and Miller and Friesen (1984b) found six "successful" archetypes and four "unsuccessful" archetypes, whereas, this study found five more successful and five less successful archetypes. In this study the less successful Overachiever organizations were each categorized as unsuccessful because of a financial problem, as determined by the scoring of the success variable. Miller (1976) and Miller and Friesen (1984b) used a more subjective success measure, relying on the raters to give each organization a score on the current success variable based on material in cases. Had the same ways of measuring success been used in this study, the Overachievers would probably have been rated as more successful, and there would have been four less successful archetypes and six more successful archetypes.

Table 27

Summary of More Successful Organizational Archetypes and Their Associated Attributes

<u>Archetype</u>	<u>Way of viewing the environment</u>	<u>Strategy formation¹</u>	<u>Structure¹</u>	<u>Power²</u>	<u>Decision making</u>	<u>Organizational focus</u>
Alert Artisans	use high scanning for high uncertainty	Planning--explicit strategies	usually divisional	widely dispersed	based on analysis	ethics, quality
Conservative Controllers	very uncertain--must be analyzed	Positioning--incremental changes to adapt	centralized with tight controls	at the top	based on information systems	efficiency
Adapting Professionals	seen as dynamic but not affecting position of professional	Cultural--try to change as needed but with control by profession	simple missionary	professionals at top	based on idea of dominant profession at top of organization	deliver the "message"
Technophilic Niche Carvers	create new niches in environment	Positioning in niche relying on high innovation	centralized or simple	technology managers	based on input from "field workers"	use innovative technology
Clear-eyed Strategists	not too uncertain, using high analysis	Positioning/Configurational--very focused, long-term, single "market"	centralized	at the top	based on analysis	maintain adaptive stance at all times

¹ Based on Mintzberg, H. (1990). Strategy formation: Schools of thought. In J. W. Fredrickson (Ed.), *Perspectives on strategic management*. New York: Harper Business and Kets de Vries, M. F. R., & Miller, D. (1989). *The neurotic organization*. San Fransisco: Jossey-Bass Publishers.

² Based on Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Table 28

Summary of Less Successful Organizational Archetypes and Their Associated Attributes

<u>Archetype</u>	<u>Way of viewing the environment</u>	<u>Strategy formation</u>	<u>Structure²</u>	<u>Power²</u>	<u>Decision making</u>	<u>Organizational focus</u>
Bloated Raptors	buy it	Dramatic/Entrepreneurial--over-extend, buying things top manager wants	centralized	all at the top	based on impulse of leader, impulsive, risky	acquisitions
Overwhelmed	highly volatile and uncontrollable	Schizoid/Political--drifting or grasping at anything that might work	functional fragmented uncoordinated	various among management/board members	not based on anything--fragmented or not at all	none or various
Broke Multi-specialists	different depending upon focus	Paranoid/Political--muddle through	decentralized, fragmented, political	whoever has most political clout	based on politics	varies among units, but may be quality
Orderly Accountants	mostly ignored	Compulsive/Cognitive--keep on doing what we always do	functional or divisional	centralized	based on what worked in the past	varies but usually order
Overachievers	rapidly changing	Positioning--clear usually single focus, relatively long-term	divisional or functional	at divisional or functional level	based on scanning and analysis	"do it right" for patient and employee

¹ Based on Mintzberg, H. (1990). Strategy formation: Schools of thought. In J.W. Fredrickson (Ed.), *Perspectives on strategic management*. New York: Harper Business and Kets de Vries, M.F.R., & Miller, D. (1989). *The neurotic organization*. San Francisco: Jossey-Bass Publishers.

² Based on Mintzberg, H. (1979). *The structuring of organizations*. Englewood Cliffs, NJ: Prentice-Hall.

Table 29

The Organizations and Their Archetypes

Archetype	Organizations
<u>The More Successful Archetypes</u>	
1. The Alert Artisans	Alliant Health Systems Caremark International, Inc. Columbia/HCA Healthcare Corporation Health Management, Inc. LifeSpan, Inc. Lincare Holdings, Inc. The Multicare Companies, Inc. NovaCare, Inc. Orthopedic Services, Inc. PacifiCare Health Systems, Inc. Pediatric Services of American, Inc. Quorum Health Group, Inc. RehabCare Sun Healthcare Group, Inc. Systemed, Inc. United HealthCare Corp. Vivra
2. The Conservative Controllers	Humana, Inc. Mid Atlantic Medical Services, Inc. Pacific Physicians Services, Inc. RightChoice Riverview Regional Medical Center Sierra Health Services, Inc. Summit Care Corporation U.S. Healthcare, Inc. The WellCare Management Group, Inc.
3. The Adapting Professionals	American Nursing Services, Inc. Coastal Healthcare Group, Inc. Health Care & Retirement Corp. Manor Care, Inc. Olsten Corporation Physicians Health Services, Inc. Wills Eye Hospital

Table 29 (Continued)

Archetype	Organizations
4. The Technophilic Niche Carvers	American Medical Response, Inc. Chronimed, Inc. Medical Diagnostics, Inc. Newmarket Regional Health Center Vencor, Inc.
5. The Clear-eyed Strategists	AdvantageHEALTH Corporation Assisted Living Concepts, Inc. MedCath, Inc. Mueller O'Keefe Memorial Home & Retirement Village Rural/Metro Corp. South Eye Institute
The Less Successful Archetypes	
1. The Bloated Raptors	Abbey Healthcare Group, Inc. CareLine, Inc. Charter Medical Corp. Concord Health Group, Inc. Coram Healthcare Corp. FHP International Corp. GranCare HealthSouth Corp. Leeway, Inc. OrNda HealthCorp Surgical Care Affiliates Tenet Healthcare Corp./ National Medical Enterprises, Inc. Transworld Home HealthCare, Inc.
2. The Overwhelmed	Calumet Community Hospital Lamprey Health Care
3. The Broke Multi-specialists	Beth Israel Hospital Curative Technologies, Inc. Lincoln Medical Center Mediq, Inc. University of Texas Medical Center at Tyler Veterans Administration

Table 29 (Continued)

Archetype	Organizations
4. The Orderly Accountants	Apogee, Inc. HealthWise of America, Inc. Homedco Group Inc. Mercy Health Services Ramsay Health Care, Inc. Universal Health Services, Inc.
5. The Overachievers	Brigham and Women's Hospital Complete Health Living Centers of America
Outlier Organizations	
	Diagnostek Lovelace Medical Center, Inc. Oxford Health Plans, Inc.

The findings suggest that in looking “beyond contingency theory” (Meyer et al., 1993, p. 1176), the concept of equifinality is found among organizations, whether in one industry or in many. There are several configurations in which an organization may be successful in several types of contexts, just as there are several configurations in which an organization may be less successful in the same or slightly different settings. For example, in this study, highly uncertain environments were faced by both the Alert Artisans and the Conservative Controllers, both more successful organizations, and by the less successful Overwhelmed. The other characteristics of the Alert Artisans are different than the Conservative Controllers, yet both are more successful organizational archetypes. The characteristics of the less successful Overwhelmed are different than either the Alert Artisans or the Conservative Controllers, yet all three archetypes have similar

environments. This study corroborates the Miller (1976) and Miller and Friesen (1984b) studies, which reached the general conclusion that contingency theory is not the most appropriate view of organizations.

Consistent similarities between any of the 10 archetypes found in this study and the archetypes found by Miller (1976) and Miller and Friesen (1984b) can be found only among the less successful archetypes as shown in Table 30. The Bloated Raptors have similarities to the Impulsive firms found in the Miller studies. Whereas Impulsives acquire organizations in industries other than the one in which they currently function, Bloated Raptors acquire organizations in other segments of the healthcare industry. Like Impulsives, Bloated Raptors tend to make relatively quick acquisitions and to overextend themselves, to have powerful leaders, and to have problems with power and control because little authority is delegated to managers below the top.

Orderly Accountants have some similarities to the firms found among the Miller and Friesen (1984b) Stagnant organizations: Both archetypes remain committed to old strategies; both tend to have centralized structures; both tend to ignore their environmental circumstances; and both tend to be conservative in outlook. The Stagnant organizations tend to be much more rigid and mechanistic than the Orderly Accountants, who appear more rudderless than rigid. However, in both archetypes, power is concentrated at the top, although in the case of the Orderly Accountants, there may be some confusion about who is at the top, the administrators or the physicians.

The Broke Multispecialists are similar to the Miller and Friesen (1984b) Headless Giants. Headless Giants tend to be loosely coupled organizations composed of highly

Table 30

Similarities Between Less Successful Archetypes and Miller and Friesen's Unsuccessful Archetypes

Less Successful archetypes	Attributes in common	Miller and Friesen's Unsuccessful archetypes
Bloated Raptors	Acquire many organizations some in unrelated sectors or businesses Make quick decisions Have powerful leaders Overextend themselves Have power/control problems	Impulsives
Orderly Accountants	Committed to old strategies Centralized structures Ignore environment Conservative in outlook Power at the top	Stagnant
Broke Multispecialists	Loosely coupled Diversified fiefdoms Multiple foci Political power Muddle through strategies	Headless Giant
Overwhelmed	Piecemeal or no attempts to adapt to environment Decisions made without planning or not made at all Grasp at strategic straws	Aftermath

diversified fiefdoms. The Broke Multispecialists have multiple, diversified foci, each often championed by leaders who may maintain their positions through politics. Both archetypes tend to muddle through with some of the parts of the organizations pursuing different strategies than other parts of the organizations.

In contrast with the Aftermath organizations found in the Miller studies, the Overwhelmed do not have new leadership struggling to turn the organization around. Although the Overwhelmed tend to view their environments as volatile, they expend little effort to adapt, whereas the Aftermath organizations attempt adaptation, but in a piecemeal manner. Both archetypes may make decisions without planning, but the Aftermaths tend to make risky decisions, and the Overwhelmed make no decisions. The archetypes are similar in their strategic stance, which may consist of grasping at anything that might work, but the new management of the Aftermaths is more likely to try something. In contrast, the old managers of the Overwhelmed are more likely to try nothing.

Among the more successful archetypes, none found in this study matches those found in the Miller studies. There are similarities on some characteristics, as shown in Table 31, but not in general. For example, both the Technophilic Niche Players and the Niche Innovators try to create new niches in their environments using niche strategies. Both archetypes tend to have centralized structures, but power is at the apex among the Niche Innovators and tends to be in the hands of the technology managers in the Technophilic Niche Players. However, among the Technophilic Niche Players, top managers and technology managers may be the same people. The Technophilic Niche Players rely on input from employees in the field in making decision, whereas the Niche Innovators tend to use analysis. The Niche Innovators tend to focus on innovating through engineering and research and development, compared with the Technophilic Niche Players, who tend to make use of technological innovations instead of actually developing the technology.

The Adapting Professionals have some similarities to the Miller studies' Adaptive #1 organizations. Both adapt to their environments and may lead their competitors, for example, and both have centralized power, albeit not usually with a charismatic leader in the case of the Adapting Professionals. However, the Adapting Professionals may make cataclysmic changes in the face of environmental necessity, whereas the Adaptive #1s tend to make only incremental changes. Decisions are made at the top of the Adapting Professional organizations, not through intuition and analysis, as in the Adaptive #1s. In a similar fashion to Miller and Friesen's (1984b) Giants, the Conservative Controllers tend to have elaborate management information systems which are used to make decisions, but control among Conservative Controllers still rests with top management and is not shared with managers lower down in the organization. Like the Giants, the Conservative Controllers tend to use incremental changes to adapt, but, unlike them, the Conservative Controllers usually have centralized structures. Their focus is on efficiency, not marketing. The marketing focus of the Giants is most closely matched in this study by the Adapting Professionals' focus on delivering a message.

The Alert Artisans have some qualities of the Adaptive #2 organizations: Both adapt to the environment using high degrees of scanning; power is dispersed throughout the organization; and they focus on research and development or engineering (quality). However, instead of developing new technologies, the Alert Artisans tend to rely on carefully crafted strategies which will keep them successful over long periods of time. In

Table 31

Similarities and Differences Between More Successful Archetypes and Miller and Friesen's Successful Archetypes

More Successful archetype	Similarities	Differences between More Successful and Successful	Successful archetypes
Technophilic Niche Players	Try to create new niches Centralized structure	Power with technological managers, not top managers Decisions based on input from field, not just analysis Use technology, not develop new technology	Niche Innovators
Adapting Professionals	Centralized	May make cataclysmic change if needed, not just incremental Decisions based on dominant profession, not on intuition and analysis	Adaptive #1
Conservative Controllers	Elaborate MIS Incremental change	Control at top, not shared with lower managers Centralized control, not decentralized Focus is efficiency, not marketing	Giants
Alert Artisans	Use high scanning Power dispersed	Rely on crafted strategic planning, not innovation Divisional, not technocratic structure	Adaptive #2
Clear-eyed Strategists	Niche market strategies Centralized structure Power at the top	Adaptation based on analysis, not creating new environments	Niche Innovators

addition, Alert Artisans tend to have divisional structures instead of functional or technocratic structures.

Although Clear-eyed Strategists often have niche market strategies, centralized structures, and power concentrated at the top of the organization, like Niche Innovators of the Miller studies, Clear-eyed Strategists adapt to their environments using high degrees of analysis like the Adaptive #2s, instead of creating new environments like the Niche Innovators. None of the Miller archetypes have such a focus on maintaining an adaptive stance in the face of a changing environment as do the Clear-eyed Strategists.

The differences between successful archetypes found in this study compared to those in the Miller studies may be due to differences between the health services industry and other industries. It is clear that there are many similarities of strategy formation and structure, despite the bifurcated managerial/physician reporting methods and loyalties often found in health services organizations. However, in health services organizations, there are fewer strategy-formation and structure types.

Miller's studies were first done 20 years ago. Time may account for some difference between this study and the Miller studies. The environment may have changed, or new studies about the characteristics of organizations may be influencing present day perceptions. It would appear that increased volatility in the environment may explain some differences. Almost all health services organizations, with the exception of the Clear-eyed Strategists and the Overwhelmed, tend have turbulent environments, but even the Clear-eyed Strategists focus on maintaining an adaptive stance. In contrast, the environment was not as turbulent for many of the Miller organizational archetypes.

Influencing perception are recent studies about the characteristics of more successful hospital organizations (e.g., Shortell et al., 1992). However, health services organizations are not all hospitals. Today, many health services organizations are trying to replace or avoid association with hospitals. The characteristics of hospitals may not be generalizable to those other organizations. Therefore, for health services organizations, the impact of time may be of greater importance in environmental changes than in perceptual changes.

Finally, it may be that each industry has several unique successful configurations. In contrast, only a few configurations may lead organizations to less success. An explanation for this may be that less successful organizations, whether in this study or in the Miller studies, all appear to be without clear directional strategies or mission, vision, and values. In all the less successful archetypes, either the directional strategies are only known by the top manager(s), or there are none. Having directional strategies, many different configurations of other attributes may be possible for more successful archetypes.

The archetypes found in this study may not be generalizable to other health services organizations whose major revenues come from nonpatient sources. Diagnostek, an organization originally included in the 60% subsample, would not group with any other organizations on the Q-factor analysis and was, thus, excluded from the sample. Upon a careful reading of the SEC materials, it was found that Diagnostek was the only organization that should have been excluded from all analysis because almost none of its revenues came from patient care services. No other organizations failing to meet the patient care criteria were included during any part of the analysis. This example suggests that the configurations of characteristics found in nonpatient care health services

organizations are dissimilar to patient care organizations. Of course, an examination of many more nonpatient care health services organizations would be necessary to strengthen this suggestion. Given that the successful archetypes for patient care health services organizations are different than those for other industries, an interesting hypothesis to test in future studies would be as follows: In each industry, there will be approximately 10 archetypes, approximately half of which will be more successful organizations and about half of which will be less successful archetypes; the more successful archetypes in one industry will be different than those in another industry.

The Variable Groupings

The variables were found to group differently for health services organizations than they did in other industries (Miller, 1976; Miller and Friesen, 1984b). This corroborates the difference between archetypes in this study and the archetypes in the Miller and Miller and Friesen studies. Also, it suggests either that health services organizations are different than other organizations or that organizational characteristics tend to be different now than they were 20 years ago, or some combination of these two.

In the Miller (1976) and Miller and Friesen (1984b) studies, there were three groupings of variables, excluding the success variables: environmental, organizational, and strategy-making. This general grouping scheme appeared to fit, in general, with groupings found in the literature. It was adapted for use in this study as environmental variables (variables 1 through 3), organization/structural variables (variables 4 through 12), and strategy-making variables (variables 13 through 20), albeit with somewhat different

variables and with definitions that were more appropriate for health services organizations based on the literature.

An R-factor analysis on the variables showed that six underlying groupings of variables characterized the health services organizations in this study. For the more successful organizations, these six dimensions consisted of the following: (a) the stance of successful organizations toward strategy-making, (b) the perception of the environment, (c) the method of coping with the environment, (d) the organizational temperament or character, (e) the organizations' approach to originality, and (f) the way in which the organizations made use of employees. For the less successful organizations, the six dimensions were the following: (a) the perceptions the organizations had of strategy-making, (b) the way in which the organizations actually make strategy, (c) one dimension comprised of the same variables as found among more successful organizations which characterized organizations' environmental stance, (d) one dimension with a single variable loading on it representing internal communication, (e) organizational unity, and (f) age and power. These are shown in Tables 32 and 33 .

The groupings of these variables and the differences in groupings between more successful and less successful organizations may suggest why the more successful organizations are more successful than the less successful, without implying causality. The more successful organizations appear to have configurations more closely aligned with strategic management theory expectations for successful organizations. Among the successful organizations, the first group of variables, named Strategizing Stance, suggests that the more successful organizations in this study have an organizational wide

commitment to strategic decisions (*Integration of Strategic Decisions*), which is related to a breadth of factors in their conscious development of strategy (*Multiplexity*) and which is also related to a high degree of *Internal Communication*. More successful organizations may also better manage potential conflict between physicians and administrators (Ashmos, McDaniel, & Duchon, 1990). Among the more successful organizations, this grouping accounts for 33.5% of the variation.

The second group of variables among the successful organizations suggests that when health services organizations perceive their environments as relatively more turbulent, they may tend to rely more heavily on employees with technological expertise, or vice versa. Miller and Shamsie (1995) noted that when organizations perceive increased hostility and dynamism in the environment, they may react by hiring more technically or professionally trained managers, or, conversely, that technically or professionally trained managers may perceive more hostility and dynamism in the environment. That *Hostility, Dynamism, and Technocratization* grouped together on one factor in this study conforms with Miller and Shamsie's (1995) study.

The third variable grouping, named Environmental Coping Mechanism, may denote the way in which the more successful organizations deal with their environments. *Heterogeneity* has to do with differences in competitive tactics, somewhat like the amount of rivalry among competing organizations (Porter, 1980). *Controls* pertains to the number and amount of feedback sources about organizational performance. *Without Resource Availability*, an organization will cope differently with the environment than it would with resources. Related to these three variables for the more successful organizations was their

Table 32

Groups of Variables Among More Successful Archetypes

Variable group name	Variable name
Strategizing Stance	Integration of Decisions Conscious Strategic Analysis Multiplicity Internal Communication
Environmental Stance	Hostility Dynamism Technocratization
Environmental Coping Mechanism	Heterogeneity Controls Resource Availability Futurity of Decisions
Temperament	Risk Taking Management Tenure Centralization of Strategy-making Power Adaptiveness/Proactiveness Organizational Differentiation
Originality	Innovation Precedents
Using the Troops	Delegation of Operation Authority Scanning

Futurity of Decisions. In more successful organizations, futurity of decisions is related to how an organization copes with its environment.

Because this study examined configurations, neither the individual variables nor the individual groups of variables are of primary importance. However, except for the Alert Artisans, who were ranked first on each of these first groups of variables (see chapter 5, Table 12), among the other archetypes, a relatively lower ranking on the third group of

Table 33

Groups of Variables Among Less Successful Archetypes

<u>Variable group name</u>	<u>Variable name</u>
Strategy Perceptions	Conscious Strategic Analysis Futurity of Decisions Heterogeneity Multiplexity Resource Availability Controls
Strategy-making	Risk Taking Precedents Adaptiveness/Proactiveness Centralization of Strategy-making Power Scanning Innovation
Environmental Stance	Dynamism Hostility Technocratization
Communication	Internal Communication
Organizational Unity	Organizational Differentiation Integration of Decisions
Age and Power	Management Tenure Delegation of Operating Authority

variables, Environmental Coping Mechanism, was accompanied by a higher ranking on the second Environmental Stance grouping, and vice versa. This suggests that the more successful organizations in this study are aware of and have some method of dealing with their environments, either in the stance they take or in their coping mechanisms.

The final three variable groupings account for 19.4% of the total, whereas the first three groupings accounted for 54.1% of the total variation. Of note concerning the final

three groupings are the following: In the fourth variable grouping, called Temperament, *Delegation of Operating Authority* is not grouped with *Centralization of Strategy-making Power*. This fourth variable grouping supports the findings of Wiersma and Bantel (1992) that the length of *Management Tenure* is inversely related to *Adaptiveness/Proactiveness*. *Organizational Differentiation* in the fifth grouping of variables for more successful organizations is not grouped with *Integration of Decisions*, in contrast to the less successful organizations. Finally, the variables that group together in the using the troops grouping suggests that higher *Scanning* and greater *Delegation of Operating Authority* and the converse are associated in successful health services; having greater authority may make managers more aware of the environment, or becoming more environmentally aware may better prepare them for authority.

The variables grouped differently for the less successful organizations, providing further corroboration of the differences in configuration between more and less successful organizations. The first two groupings of variables, although they were given names containing the word strategy, do not actually correspond to any strategic management precepts. Rather, they are a jumble of variables that may represent, in the first grouping, what the less successful organizations think must be present to make strategy and, in the second grouping, how they react to the environment. Based on these two variable groupings, less successful organizations in this sample do not appear to understand the strategy-making processes found most effective by management scholars. The two groupings account for 47.9% of the total variance in the less successful organizations.

The variables of the third group, named Environmental Stance, are identical to the environmental group in the more successful organizations, but among less successful organizations accounts for less variation (8.6%) than among more successful organizations (11.8%). That *Internal Communication* is in a group by itself is curious and could suggest that less successful organizations have very poor internal communication, or, at least, that internal communication is not related to any other organizational/structure or strategy-making variable. The reversed sign of the two variables (*Organizational Differentiation* and *Integration of Decisions*) in the fifth group suggests that, among less successful organizations, greater integration of decisions is only associated with homogeneity among units, but not with any other organizational/structure or strategy-making variables. In contrast, among the more successful organizations, these two variables were not associated with each other. The final grouping among the less successful organizations again contrasts with the more successful. The two variables, *Management Tenure* and *Delegation of Operating Authority*, are associated with each other among less successful organizations, whereas, among more successful organizations, greater *Delegation of Operating Authority* and greater *Scanning* are associated, suggesting a synergy between devolved operating authority and environmental scanning that is not found among less successful organizations.

The Methodology

The methodology used in this study is not common in health services research, although it has been used in general organizational studies. The methodology can successfully provide insight about health services organizations. In addition, the

methodology avoids a focus on bivariate relationships that may not be characteristic of the true circumstances in which today's organizations operate and avoids the single case approach, which is less generalizable. The methodology makes no assumptions about linearity or unidirectionality among variables and takes into account the complicated and varied relationships among many of the constituent characteristics of organizations. The methodology does not impose a predetermined strategic type; it does not assume that all health services organizations are hospitals; and it attempts to account for some of the interactions between managerial perceptions and organizational variables. Using this methodology, researchers may be able to capture the organizational nuances often found in organizations and may, therefore, be able to provide more direction for health services managers.

Because the methodology is unusual for health services research, the findings should be replicated. Replication could be accomplished using cluster analysis or multi-dimensional scaling, and future studies are planned using these techniques. Causality could be more clearly suggested with the use of structural equation modeling, and this, too, is intended for future research. Both another sample and a longitudinal sample of the same organizations are projects planned for future research.

Strategic Implications

How can this research be useful to health services managers? First, the findings of this research can be used as a guide by managers. Managers can compare the characteristics of their organization with those of the 10 archetypes. If their organization seems best characterized by a less successful archetype, managers can see which attributes

need to be altered in order for the organization to fit a more successful archetype. Conversely, managers may find one or two characteristics in their more successful organization that need careful monitoring because the characteristics are close to the edge of the archetypal region. Managers should also be guided by the findings that organizational configuration is based upon many attributes, not upon just a few. On the one hand, this implies that managers must focus on many aspects of their organizations. However, on the other hand, it implies that change in any one attribute will not necessarily be detrimental to the organization's success, particularly in the short term.

Managers can also view the results of this research as a form of moral support: Even though the health services environment is turbulent, organizations may not need to change all characteristics in order to adapt. More successful organizations can be configured in several archetypes, so managers do not need to search for the only way to greater success. Even in the most turbulent environments, the results of this study suggest that relatively small alterations in organizational configuration may have large effects on the organization's success.

Another use managers may have for this research could be in its ability to predict where organizations in a particular archetype are headed. Because the research reported here was not longitudinal, predictions for the futures of the various archetypes can only be hypothetical. However, the discussion will be based on the findings of Miller and Friesen (1984b), whose study design was longitudinal, with suggestions about how health services organizations may differ from the organizations in Miller and Friesen's sample.

Nine possible transition patterns were found by Miller and Friesen (1984b).

Fragmentation, as its name suggests, represents a breaking apart of the organization into subunits with less leadership and direction from top management. This transition may be triggered by the departure of a strong management team. *Entrepreneurial Revitalization*, almost the converse of fragmentation, occurs when a new top manager or top management team revives a sagging organization by devising a more effective strategic direction; power and influence tend to gravitate to the top management as an organization tends to move away from established ways of doing things into unfamiliar territory.

Consolidation may occur when an organization attempts to conserve resources and to reverse lack of financial success. Unprofitable products or units may be discarded or sold, greater attention may be focused on cost control, and conservatism will probably increase. When an archetype moves *Toward Stagnation*, passivity may become more predominate as strategies become less focused, the environment may be ignored or disregarded, and any organizational unity may disintegrate. Archetypes moving toward *Centralization With Entrepreneurship* are similar to those undergoing entrepreneurial revitalization, except that strategies being developed tend to be the personal goals of the top management instead of a reflection of the organization and its environment. If the organization must suddenly face a large and cataclysmic change in the environment, *Initiation by Fire* may occur when the top managers of organizations in an archetype are inexperienced and have delegated little responsibility or power and situational awareness is relatively undeveloped. Organizations in an archetype may move toward *Maturation* when they respond to increasingly turbulent environments with more sophisticated administrative structures,

more elaborate information systems, and a more gradual and conservative approach toward adaptive strategies. After the organizations in an archetype have undergone a major shock such as a major loss or a take-over attempt, a top manager or team of managers may be given great power under a *Troubleshooting* mandate from the organization and may also be given the authority to take remedial actions. Finally, an archetype may merely undergo *Formalization and Stability*, which results in very little change in any of the configurational variables.

Table 34 shows hypothetical transitions each of the archetypes in this study might make.

Health services managers have tended to focus on statements like the following:

American health care is in a state of hyper-turbulence characterized by accumulated waves of change in payment systems, delivery systems, technology, professional relations, and societal expectation. It can be likened to an earthquake in its relative unpredictability, lack of a sense of control, and resulting anxiety. (Shortell, Gilies, & Devers, 1995, p. 131)

If the environment is perceived as being so threatening, unified, and earthquake-like in its ability to alter the landscape upon which the organizations in health services operate, managers may feel overwhelmed. Many may not be confident they can lead their organizations toward greater success in such environments.

However, this study shows that managers should not focus only on the waves of change. They should consider the example of Lorentz (1979), who asked the question, "Does the flap of a butterfly's wings in Brazil set off a tornado in Texas?" He showed that the answer was probably, yes. A small wing flap may influence the weather. The example of Lorentz's chaos theory for health services managers may have two

Table 34

Possible Transitions of Archetypes

(MS = more successful archetype; LS = less successful archetype)

	From	Transition type	Possible fulcrum		To
MS	Conservative Controllers	Fragmentation	management control loss	LS	Overwhelmed
MS	Adapting Professionals		central power loss	LS	Broke Multispecialists
LS	Bloated Raptor		top management loss	LS	Overwhelmed
LS	Orderly Accountant		decentralization	LS	Overwhelmed
LS	Overwhelmed	Entrepreneurial Revitalization	centralize management	LS	Orderly Accountant
LS	Orderly Accountants		technological focus adaptive stance	MS MS	Technophilic Niche Player Clear-eyed Strategists
MS	Technophilic Niche Player	Consolidation	more control & no innovation	MS	Conservative Controllers
			loss of niche	LS	Overwhelmed
LS	Broke Multispecialists		one business & centralization	LS	Orderly Accountants
LS	Bloated Raptors		change management & focus change management & focus	MS MS	Conservative Controllers Clear-eyed Strategists
MS	Alert Artisans	Toward Stagnation	ignore environment	LS	Overwhelmed
MS	Adapting Professionals		ignore environment	LS	Orderly Accountants
			fragmented decision making	LS	Overwhelmed
LS	Bloated Raptors		decentralize power decentralize & stop buying	LS LS	Broke Multispecialists Overwhelmed

Table 34 (Continued)

	From	Transition type	Possible fulcrum		To
MS	Conservative Controllers	Centralization With Entrepreneurship	buy to adapt & change focus	LS	Bloated Raptors
MS	Adapting Professionals		buy to adapt & change focus	LS	Bloated Raptors
MS	Clear-eyed Strategists		buy to adapt & change focus	LS	Bloated Raptors
MS	Technophilic Niche Players	Initiation by Fire	lose niche	LS	Overwhelmed
LS	Overachievers		fix financials	MS	Alert Artisans
MS	Technophilic Niche Players	Maturation	adaptation not creation	MS	Alert Artisans
MS	Adapting Professionals		change structure	MS	Alert Artisans
LS	Bloated Raptors	Troubleshooting	replace top management	MS	Clear-eyed Strategists
	MS archetypes except Technophilic Niche Players	Formalization and Stability	more centralization	MS	The same MS archetypes Clear-eyed Strategist

implications. First, managers should not feel overwhelmed. Just as the butterfly wing flaps can affect the weather, so managers and their organizations can affect their environments. Secondly, if the weather can be influenced by something as small as a butterfly's wing flap, health care managers can also look at the attributes of their organizations. By making adjustments in one or in several of these attributes, perhaps only by being aware of and managing the attributes, the manager may be able to set the future on a new course, both for the organization and for the larger environmental context. As a writer long before Lorentz put it:

For want of a nail, the shoe was lost;
For want of a shoe, the horse was lost;
For want of a horse, the rider was lost;
For want of a rider, the battle was lost;
For want of a battle, the kingdom was lost!
(George Herbert, 1593-1633)

The basis for this study is that metaphorical kingdoms may be lost because of missing metaphorical nails: Health services organizations that are more successful may be that way because they attend to an aspect of their content or context that is ignored by their less successful cohorts, and it is the total contribution of all aspects in configuration that determines which organizations will be more or less successful. However, just as the loss of a nail may not cause the loss of the shoe, the aspects or attributes attended to by any one more successful health services organization may be different than those attended to by another organization. In other words, the assumption of this study was that equifinality exists among health services organizations, as among kingdoms, and that it is the configuration of organizational or kingdom attributes, not the individual attributes, which

tend to make an organization or a kingdom more or less successful. Specifically, the study built on the thesis that there exists a small number of richly defined organizational configurations or archetypes among health services organizations which may be useful for determining whether an organization will tend to be more or less successful. The objective of the research was to identify and describe those archetypes.

This research represents only the initial steps needed to identify the types of health services organizations whose configurations make them more or less successful archetypes. As such, it is hoped that the findings of the study may prove useful for policy makers faced with deciding which health organizations can most appropriately provide services for various subpopulations of their constituents. More importantly, it is hoped that it will be useful for health services managers seeking to move their organizations in the direction of continued viability and success through choice of the appropriate strategies, contents, and contexts. If the study provides the health services manager with a guide to a metaphorically correct horse-shoe nail for his or her organization, it will have served one of its most important purposes.

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APPENDIX A

RATER INSTRUCTIONS AND SCORING SHEET

Following are (1) the descriptions of all the variables upon which each organization needs to be rated, (2) a set of statements to help you think about each variable. Variables are to be rated in comparison to other organizations in the same sector. All of the statements may be applicable, none of them may be applicable, or some may apply. The statements are only to get you thinking about the variable, but you can probably think up much better statements yourself. Use your judgment and your knowledge of health care organizations in general. If there is absolutely no information on a particular variables, just leave it blank.

The Environmental Variables

1. **Dynamism** in the environment is shown by the amount and unpredictability of changes in such things as technology, customer desires, and competition in the industry sector.

If all of the following statements are very true, the organization rates a high score (7). If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Technology in the industry sector is changing rapidly.
- New technology is vital to this organization's success.
- Customers' tastes change all the time.
- Customers don't know what they want.
- There are numerous direct competitors for this organization.

2. **Heterogeneity** in the environment is shown by differences in service/product line, competitive tactics, customer tastes, service/distribution channels, etc. in the industry sector, and the resulting differences required in marketing, administration, and/or delivery/production systems.

If all of the following statements are very true, the organization rates a high score (7). If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- The marketing effort differentiates this organization from its competitors.
- Much attention is paid to advertising and distribution.
- The products/services of this organization are unique.
- The brand names of the organization are a tremendous asset.
- The firm differentiates its products from the competitor's via marketing prowess.
- The distribution system is a big competitive advantage for this organization.

3. **Hostility** in the environment is shown by more competition. It is shown by factors such as regulatory restrictions, by technology, price, or service competition, by shortages of labor or materials, or by unfavorable demographic trends.

If all of the following statements are very true, the organization rates a high score (7). If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Customers buy from the competitors if prices are increased at all.
- The industry sector is highly regulated by governmental entities.
- Projected demographic trends will adversely affect this organization.
- Unions are a problem in the industry sector.

The Organization/Structure Variables

4. Scanning denotes the search by the organization for threats or opportunities in the environment external to the organization. Scores will be based on (a) the amount of search for changes in competition, technology, customer preferences/needs, and administrative behavior of other organizations, and (b) the number of organizational members involved in scanning. The greater the amount of search and the greater number of participants, the higher the score.

Use the same responses, with 1 representing "completely false," 4 representing "about the same," and 7 representing "very true."

- Customers are often consulted about their preferences and reactions.
- This organization is seldom surprised by a competitor's actions.
- This organization makes its own products or services obsolete prematurely.
- There is a policy which encourages scanning of the environment by all members of the organization.

5. Delegation of Operating Authority involves the amount of authority and responsibility for day-to-day operations transferred from top managers to lower- and middle-level managers and/or workers. Operations include such things as service/production planning and scheduling, equipment replacement and inventory purchases, hiring lower-level personnel, adjusting basic services/products to meet competition and/or customer needs, and other activities having to do with the ongoing activities of the organization, but not pertaining to long-term or strategic activities.

Use the same responses, with 1 representing "completely false," 4 representing "about the same," and 7 representing "very true."

- Workers feel that they contribute to the success of the overall organization.
- The formal hierarchy can be ignored when making operating decisions.
- Heads of divisions or departments are given responsibility for profits and growth.
- Top executives pay relatively little attention to operating strategies, e.g., marketing tactics, service policies.

6. Centralization of Strategy-making Power denotes the distribution of power in making decisions of a long-term, strategic nature: those decisions that affect the entire organization and must depend upon a variety of functional areas, those decisions that affect the performance of the organization or are important to the success/failure of the organization, those decisions that define the organization's relationship to its environment, or those decisions that provide direction for or put constraints on administrative and operating activities throughout the organization. Centralization is high if top managers make most of the strategic decisions with a minimum of consultation with lower-level people, and low if lower- or middle-level managers or workers determine strategy whether by default or by intent.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- The management style in this organization is highly authoritarian in comparison to other organizations.
- Power is centralized at the top of this organization.
- There is more top-down communication than bottom-up communication.
- Strategic direction always comes from top management.
- Lower levels of management have very little impact on organizational policies.
- "Head-office" or "up-stairs" corporate planning staffs are large and powerful.
- Lower-level workers are never asked for input on strategic directions for this organization.

7. Resource Availability concerns the amounts of available labor, materials, capital, facilities, and/or other resources necessary for the organization to function. An organization receives a high score on this variable if these resources are abundant.

Use the same responses, with 1 representing "completely false," 4 representing "about the same," and 7 representing "very true."

- The bond rating of this organization is at least A.
- The high cost of labor or materials is never mentioned and relations with workers are good.
- Specific resources are never described as "scarce" or "unavailable" for this organization.

8. Management Tenure measures the amount of time top managers have held positions at the organization. Scores are the actual average tenure of the most important top strategists or executives/managers.

This is the only variable that will be continuously measured.

9. Controls are those systems that measure trends or outcomes pertaining to organizational performance. Organizations which emphasize controls such as management information systems, employee appraisals, management by objective, budgeting, cost accounting, or quality control would receive high scores on controls.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Our quality controls are very sophisticated.
- Much emphasis is placed on cost controls and budgets.
- Information and budgeting systems are very sophisticated and complex.
- There is a strong emphasis on formal information systems.
- This organization has a Management By Objective policy in place.

10. Internal Communication Systems involves the openness and fidelity with which information flows throughout the organization. Organizations score high on this variable when relevant information reaches those who must make decisions quickly and accurately, and when communication flows top-down, bottom-up, and laterally in the organization.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Leaders have not lost touch with their operations.
- Top managers make sure that all levels of the organization know what's going on in the organization.
- Managers practice "management by walking around."
- Managers have open door policies.
- "Town hall" type meetings are frequently held.
- There is a great deal of communication across different functional areas or divisions.

11. Organizational Differentiation concerns the degree of difference between units or divisions in an organization in terms of overall goals, administrative, marketing, or operating methods, behavioral styles, or management style. The more disparate the units or division, the higher the score on this variable.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Managers in engineering (or R & D, operations, marketing, etc.) are far more influential than marketing (or R & D, operations, etc.).
- The organization has been losing promising managers in marketing (or operations, etc.) to competitors.
- The finance and accounting functions dominate those of operations and marketing.
- R & D or new product development department has much power compared to marketing, finance, and operations departments.
- Marketing departments have much more influence on strategy than other departments.

12. Technocratization measures the percent of staff with professional qualifications. The higher the percent, the higher the score.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- The organization is run by scientists and R & D types.
- The majority of the management at this organization have professional or advanced degrees.
- Engineers or scientists are vital to the success of the firm.

The Strategy-making Variables

13. **Innovation** measures the amount of innovation used by the organization in terms of number and novelty of new services/products or new approaches. Higher scores denote higher innovation.

Use the same responses, with 1 representing "completely false," 4 representing "about the same," and 7 representing "very true."

- Significant new products/services are frequent in this organization.
- The organization is always looking into new areas of business.
- The organization spends a great deal on R&D compared to its major competitors.
- The rate of innovation is increasing.
- Goals of innovation and technical accomplishment are more important than those of growth and profitability.
- Leaders have a missionary do-or-die attitude toward new product/service development.
- The organization's products/services are much more advanced technologically than those of its competitors.

14. **Adaptiveness/Proactiveness** concerns the organization's responsiveness to external environmental conditions, the appropriateness of decisions made concerning the conditions, and the degree to which the organization attempts to shape its environment by the introduction of new technologies, services, products, or administrative techniques. Highly adaptive/proactive organizations make appropriate decisions in response to environmental factors such as competitive pressures, regulatory pressures, demographic changes, for example, while organizations that merely react to things in their environments are given low scores.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Significant new product introductions are common from this organization.
- The organization is moving into new areas of business.
- The organization's customers are mostly those who prefer state-of-the-art products.
- A high percentage of the product/service line has been introduced over the last two years.
- Managers are seldom puzzled by customer or competitor behavior.

15. **Integration of Decisions** involves the degree to which actions in one unit or division of an organization complement or support those of other units or divisions. In highly integrated organizations, a concerted, coordinated strategy would be found, while in a poorly integrated organization, conflicting or mutually inhibiting strategies manifested by fragmented or clashing actions would be found.

If all of the following statements are very true, the organization rates a high score (7) on integration. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- There is open and intensive communication among the different functional areas.
- Interdepartmental feuds or difficulties in coordination are seldom a problem.

- The firm is split into divisions based on type of market or geographic region.
- Organization-wide decisions are made by cross-functional teams.
- Marketing departments have much more influence on strategy than operations, manufacturing, production, and engineering units.
- This organization operates extensively in areas of business that are unrelated to one another.
- Interdepartmental conflict is rare.

16. Conscious Strategic Analysis reflects the amount of time and thought devoted by decision makers to problems and responses to problems. If little time or effort is spent and strategic decisions appear to be made intuitively, or if managers appear to have unclear goals and strategies, a low score is given. Conversely, when there appears to be analysis of issues manifest by such things as time delays for strategic decisions, numerous and/or regular meetings or discussions, written reports, staff analysis, or commitment to explicit strategies, a high score is given.

If all of the following statements are very true, the organization rates a high score (7) on centralization. If all the statements are false, the organization rates a low score (1). A score of 4 represents "about the same."

- Head office corporate planning staffs are large and powerful.
- Marketing research is carried out extensively.
- Important decisions take a long time to make.
- Everyone in the organization knows what's in the strategic plan.
- Specialized staff groups help in the expansion of this organization.
- Information and budgeting systems are very sophisticated and complex.

17. Multiplexity addresses the range of factors used by top managers in making strategic decisions. In a multiplex organization, the managers consider financial, marketing, production, delivery, administrative, demographic, and other factors when making a strategic decision, and a high score results. If the organization focuses on one factor only when making such decisions, a low score is given.

Use the same scoring, 1 through 7.

- Operations departments are no more influential than marketing and R & D departments in setting organizational goals.
- Legal and financial staff play an important role in implementing strategies.
- Top managers rely on input from all functional areas when making strategic decisions.
- Managers have access to many outside online sources of information, as well as our internal sources of information.

18. Futurity of Decision concerns the time frame used by the organization in planning strategies and operations. A time frame as long as 5 years warrants a high score, while decisions based on the current crises warrant a low score.

Use the same 1 through 7 scoring mechanism: 7 means "very true," 1 means "very false," and 4 means "about the same."

- Efficiency is more important than market share growth.
- Goals of innovation and technical accomplishment are more important than those of growth and profitability.
- Goals of long-run profitability dominate those of short-term growth.
- This organization is in the business for the "long haul."
- This organization has a long-term strategic plan.

19. **Risk Taking** measures the degree to which top managers are risk adverse, for a low score, or willing to take risky chances which have a high degree of failure, for a high score.

Use the same 1 through 7 scoring mechanism, with 7 representing "very true," 1 representing "very false," and 4 representing "about the same as other organizations."

- Managers love taking risks.
- The CEO is an adventurous entrepreneur.
- Expansion projects absorb or place at risk a large percentage (more than 20%) of capital.
- Managers favor risky decisions.
- Risk taking is accelerating.
- The organization has expanded much more rapidly than competitors.

20. **Precedents** denotes the degree to which an organization rethinks its strategies and the way in which strategies will be attained. An organization whose strategies are tied to precedent would receive a high score on these variables while an organization that often rethinks strategies would receive a low score.

Again, 7 represents "very true," 1 represents "very false," and 4 represents "about the same as other organizations."

- Top management hates to change strategies.
- The most important thing this organization has going for it is its history.
- The organization seldom moves into new areas of business.
- The organization is large and well established.

Rater _____

NAME OF ORGANIZATION _____

On all variables, a score of 1 will represent a low score, meaning that, in the experience of the rater, most organizations score higher than this organization on this variable. A score of 7 will represent the opposite, and a score of 4 implies that this organization is about average in comparison to other organizations.

Circle the value that you think best represents the characteristic for this organization compared to other organizations according to the following.

	This organization has much more of this characteristic		This organization is about the same as other organizations.			This organization has much less of this characteristic				
	7	6	5	4	3	2	1			
1. Dynamism				7	6	5	4	3	2	1
2. Heterogeneity				7	6	5	4	3	2	1
3. Hostility				7	6	5	4	3	2	1
4. Scanning				7	6	5	4	3	2	1
5. Delegating of Operating Authority				7	6	5	4	3	2	1
6. Centralization of Strategy-making Power				7	6	5	4	3	2	1
7. Resource Availability				7	6	5	4	3	2	1
8. Management Tenure _____ (number of years average)										
9. Controls				7	6	5	4	3	2	1
10. Internals Communication Systems				7	6	5	4	3	2	1
11. Organizational Differentiation				7	6	5	4	3	2	1
12. Technocratization				7	6	5	4	3	2	1
13. Innovation				7	6	5	4	3	2	1
14. Adaptiveness/Proactiveness				7	6	5	4	3	2	1
15. Integration of Decisions				7	6	5	4	3	2	1
16. Conscious Strategic Analysis				7	6	5	4	3	2	1
17. Multiplexity				7	6	5	4	3	2	1
18. Futurity of Decisions				7	6	5	4	3	2	1
19. Risk Taking				7	6	5	4	3	2	1
20. Precedents				7	6	5	4	3	2	1

APPENDIX B

LETTER SENT TO ORGANIZATIONS ASKING FOR INFORMATION



Department of Health Care Organization and Policy

March 6, 1995

Patterson Dental Co.
1100 East 80th St.
Minneapolis, MN 55420-1426

Dear Madam or Sir:

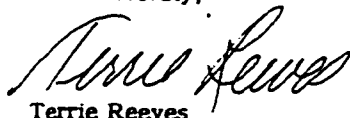
I am a Ph.D. student working on my dissertation in Administration-Health Services. Using a carefully chosen, relatively large set of variables, I hope to show that health care organizations can be grouped into several specific types and that, in general, each type will fall into one of two broad categories: those organizations whose characteristics will tend to denote success, and those whose characteristics will tend to denote unsuccessful organizations. Based on a sample of organizations from all areas of health care, I hope to capture organizational nuances instead of just the broad brush outlines. Thus, I need as much organizational detail as is possible to obtain from public sources. Accordingly, I would be very appreciative if you could send me copies of the following:

- Annual Reports for the past two or three years.
- Forms 10-K or 10-KSB and Forms 10-Q or 10-QSB (or other 10 Forms if appropriate).
- Registration Statements on Forms S-1-2-3, F-1-2-3, or SB-1-2-3.
- Form S-K.
- Prospectus(es) from the past two or three years.
- Management's Discussion and Analysis if available.
- Offering or Blue Sky Memorandums if available.
- Any other available company communications, publications, or business plans developed for dissemination to the public, the press, stockholders and/or to customers.

If you would be interested in a summary of the results of my study, please let me know and I will be happy to forward it to you when it is completed sometime in 1996.

Please accept my most grateful thanks in advance for your help.

Most sincerely,


Terrie Reeves

*Yes
Please*

The University of Alabama at Birmingham
858 Mortimer Jordan Hall • 1825 University Boulevard
Birmingham, Alabama 35294-2010 • (205) 934-3748 • FAX (205) 934-3347



APPENDIX C

**SPREAD SHEET PRINTOUT OF NUMBERS AND RATIOS USED
TO COMPUTE THE SUCCESS VARIABLE**

2. Org No	1
3. fp/mfp(1/0)	1
4. yr	1994
5. Revenues	329135
6. discounts	22910
7. non-op income	
8. Tot Expenses	305582
9. op exp	305102
10. int exp	9326
11. taxes	7599
12. depreciation	1393
13. non-op exp	480
14. minority	1642
15. extraordinary	
16. **Ck NIBIT	=B17+B10+B14+B15
17. NIBT(&ex+min)	21911
18. Net income	14312
19.	
20.**Ck NIBIT	=B5-B8+B10
21. **Ck NI	=B17-B11
22.	
23. Assets:tot	470969
24. a/c rec. net	93027
25. cash&mrk sec	46127
26. inventory	23224
27. prepaids	11786
28. PP&E	87054
29. Other assets	21072
30. intangibles	188679
31. **CK aset	=SUM(B24:B30)
32. Liab:tot	361188
33. liab:curr	63223
34. LTD	287323
35. other LT	10642
36. **CKliab	=SUM(B33:B36)
37. Equity	109781
38. restEq	
39. 1st yr eq	38533
40.	
41. Princ. on debt	8777
42. Capital outlays	33428
43. dep allow	52827

Tot Mar	=B18/(B6)
ROA	=B18/B23
ROE	=B18/B37
Current	=(B24+B25+B26+B27)/B33
Eq/Assets	=B37/B23
LTD	=B34/B37
Bondrt	17
FxAssTrm	=B5/B28
CurAssTrm	=B5/(B24+B25+B26+B27)
TAT	=B5/B23
Op Mar	=(B5-B8+B12)/(B5)
WC/rev	=(B24+B25+B26+B27)-B33/B5
TAT	=B5/B23
NI/EqCng	=B18/(B37-B39)
liab/eq	=B32/B37
capl/rev	=(B18+B12)/B5
rev/bases	=B5/B28
avpage	=B43/B12
Allow Dep	=B12/B43
Reid Equ	=B38/B37
Fx Ass Fin	=B34/B28
Cash FV/Debt	=(B18+B12)/(B34+B35)
Trms Int	=(B18+B10)/B10
Debt Crv	=(B18+B12+B10)/(B41+B10)
Days Rec	=B24/(((B5)-(B9))/365)
Avg Pay	=B33/((B9+B11)/365)
Days CoH	=B25/((B9+B11-B12)/365)

APPENDIX D
FACTOR ANALYSIS

- - - - - F A C T O R A N A L Y S I S - - - - -

100% of More Successful Organizations

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
YV2	1.00000	1	13.13428	28.6	28.6
YV3	1.00000	2	6.82489	14.8	43.4
YV4	1.00000	3	4.84838	10.5	53.9
YV5	1.00000	4	3.51795	7.6	61.6
YV7	1.00000	5	3.16590	6.9	68.5
YV12	1.00000	6	2.58157	5.6	74.1
YV14	1.00000	7	2.39611	5.2	79.3
YV15	1.00000	8	2.19358	4.8	84.0
YV16	1.00000	9	1.66646	3.6	87.7
YV24	1.00000	10	1.15263	2.5	90.2
YV25	1.00000	11	1.10130	2.4	92.6
YV29	1.00000	12	.91700	2.0	94.6
YV32	1.00000	13	.74314	1.6	96.2
YV33	1.00000	14	.55635	1.2	97.4
YV36	1.00000	15	.40224	.9	98.3
YV37	1.00000	16	.35157	.8	99.0
YV39	1.00000	17	.26165	.6	99.6
YV39	1.00000	18	.18501	.4	100.0
YV40	1.00000	19	.00000	.0	100.0
YV43	1.00000	20	.00000	.0	100.0
YV44	1.00000	21	.00000	.0	100.0
YV45	1.00000	22	.00000	.0	100.0
YV46	1.00000	23	.00000	.0	100.0
YV47	1.00000	24	.00000	.0	100.0
YV48	1.00000	25	.00000	.0	100.0
YV50	1.00000	26	.00000	.0	100.0
YV51	1.00000	27	.00000	.0	100.0
YV52	1.00000	28	.00000	.0	100.0
YV53	1.00000	29	.00000	.0	100.0
YV54	1.00000	30	.00000	.0	100.0
YV55	1.00000	31	.00000	.0	100.0
YV57	1.00000	32	.00000	.0	100.0
YV58	1.00000	33	.00000	.0	100.0
YV59	1.00000	34	.00000	.0	100.0
YV60	1.00000	35	.00000	.0	100.0
YV61	1.00000	36	.00000	.0	100.0
YV62	1.00000	37	.00000	.0	100.0
YV63	1.00000	38	.00000	.0	100.0
YV64	1.00000	39	.00000	.0	100.0
YV66	1.00000	40	.00000	.0	100.0
YV70	1.00000	41	.00000	.0	100.0
YV71	1.00000	42	.00000	.0	100.0
YV74	1.00000	43	.00000	.0	100.0
YV75	1.00000	44	.00000	.0	100.0
YV76	1.00000	45	.00000	.0	100.0
YV77	1.00000	46	.00000	.0	100.0

PC extracted 5 factors.

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
YV71	.87251	-.08755	-.18972	-.03667	-.30712
YV55	.85196	.17556	-.05885	-.14683	-.13448
YV66	.81680	-.22085	-.19812	-.17195	.18861
YV46	.81251	-.12410	.00472	-.31271	-.17677
YV57	.79919	-.03504	.34136	-.21922	.26321
YV44	.76358	.20385	.02555	-.32720	-.07935
YV12	.76006	-.39198	.08522	.26655	.18962
YV64	.74666	.00368	-.15918	-.26159	-.34917
YV16	.69612	-.09349	.08006	.10466	-.17549
YV53	.69415	.54072	.17475	-.02111	-.17920
YV29	.64608	.38280	-.03769	.25199	-.26416
YV74	.64309	.11958	.25918	.15600	.33778
YV33	.63976	.24106	.48054	-.24099	-.22081
YV24	.63624	-.31596	-.06956	-.14735	-.05417
YV47	.61719	.19975	.19407	-.46009	-.19326
YV52	.60351	-.25069	.35179	-.09858	.02800
YV39	.59756	-.55246	-.31028	.09673	.10920
YV59	.59545	.03675	.00535	.36936	-.38231
YV63	.53970	.34994	-.04137	.34738	-.02620
YV75	.52604	-.26800	.44370	-.08689	-.12779
YV50	.49485	-.30645	-.25000	.00292	.10482
YV32	.49216	-.48504	.31177	-.23208	.10697
YV58	.48529	.38744	-.07858	.35082	.22846
YV2	.10290	.81048	.14098	-.33234	.19870
YV62	.46108	-.70476	.04038	.19509	-.06202
YV37	.20304	.70216	-.34521	.10459	-.16251
YV43	-.12071	.65796	.46690	-.07277	.18861
YV3	.45261	-.65132	.14132	-.10236	.15923
YV76	.44997	.61950	.06300	.23149	.05119
YV60	.22375	.61356	.46033	.04828	-.31567
YV7	.20131	.56361	.18170	-.25971	.22982
YV38	-.07964	-.05365	.67562	.48933	-.15325
YV51	.63289	.01212	-.65107	-.01688	.04134
YV25	-.00329	.03142	.64113	.18999	.21154
YV15	.62589	-.24122	-.63345	.03642	.12924
YV48	.16500	-.45940	.60536	.16360	-.35519
YV54	.28783	.52019	-.54392	.16797	-.24857
YV70	.36379	-.12484	.07546	.84749	-.11595
YV61	.10961	.38792	-.34391	.62556	-.12607
YV14	.50775	-.05103	.01454	.54554	.27613
YV36	.08977	-.27729	-.27294	-.31044	-.08773
YV40	.10285	-.28840	-.03621	.22132	.64880
YV5	.31676	.28529	-.35371	-.06419	.63689
YV45	.31322	-.03761	.45322	.14602	.51525
YV4	.39617	.39976	.23922	-.06995	.50727
YV77	.37706	.35522	-.29353	-.09015	.37932

Final Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
YV2	.83728	1	13.13428	28.6	28.6
YV3	.68488	2	6.82489	14.5	43.4
YV4	.63620	3	4.84838	10.5	53.9
YV5	.71659	4	3.51795	7.6	61.6
YV7	.51147	5	3.16590	6.9	68.5
YV12	.84561				
YV14	.63449				
YV15	.86922				
YV16	.54149				
YV24	.53412				
YV25	.49289				
YV29	.69865				
YV32	.63999				
YV33	.80516				
YV36	.26351				
YV37	.69076				
YV38	.72861				
YV39	.77984				
YV40	.56499				
YV43	.70634				
YV44	.73863				
YV45	.59173				
YV46	.80463				
YV47	.70752				
YV48	.75767				
YV50	.41229				
YV51	.82659				
YV52	.56133				
YV53	.83732				
YV54	.73930				
YV55	.79977				
YV57	.87380				
YV58	.56705				
YV59	.63853				
YV60	.74040				
YV61	.68800				
YV62	.75282				
YV63	.53680				
YV64	.77320				
YV66	.82032				
YV70	.88531				
YV71	.90060				
YV74	.63346				
YV75	.56929				
YV76	.64644				
YV77	.50652				

VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 14 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
YV46	.87991	-.02662	.08122	.15188	.00409
YV71	.81616	-.18555	.39778	.19435	-.06368
YV64	.79127	-.02146	.22932	.22639	-.20685
YV57	.77503	.20379	.00069	-.00802	.48118
YV55	.77474	.15059	.35745	.21693	.04529
YV44	.76386	.27918	.17178	.21606	.03196
YV47	.74651	.36859	.00439	.05703	-.10543
YV33	.73493	.42384	.13201	-.26061	.00717
YV66	.72547	-.17690	.09920	.38263	.32631
YV24	.65947	-.25483	.03144	.14089	.11591
YV52	.65881	-.05207	-.03293	-.20134	.28803
YV75	.64462	-.06060	-.04645	-.35008	.15929
YV16	.63122	-.12205	.33393	-.06821	.10948
YV32	.63062	-.20381	-.29018	-.15003	.30667
YV12	.59531	-.37634	.25181	-.04434	.53311
YV53	.57814	.49390	.50895	-.00613	.00788
YV3	.53513	-.44444	-.26089	-.06497	.35874
YV50	.40957	-.34025	.09145	.27491	.21174
YV2	.04280	.88583	.08736	.20530	.03118
YV43	-.15641	.78194	.04536	-.22332	.13612
YV7	.14559	.66903	.05022	.13222	.15054
YV62	.47421	-.66677	.01046	-.16188	.23886
YV60	.21939	.61810	.37313	-.37995	-.16318
YV39	.49573	-.60451	.10136	.27232	.29021
YV61	-.24543	-.04085	.78229	.11473	-.03073
YV70	.05815	-.40461	.71296	-.35627	.28805
YV29	.44459	.17290	.68538	.01986	-.03083
YV54	.04713	.14287	.65672	.44989	-.28806
YV63	.26688	.14677	.64072	.04745	.17680
YV59	.45650	-.16422	.61206	-.15922	-.05657
YV76	.18462	.46713	.60079	.05309	.17429
YV37	-.01925	.40551	.59338	.34705	-.23115
YV58	.14525	.20315	.58559	.15995	.36903
YV38	-.08246	.00024	.18113	-.81389	.16305
YV48	.35914	-.28501	-.07710	-.73587	-.00176
YV51	.41834	-.21932	.38364	.67376	.04845
YV5	.02876	.23034	.13574	.62915	.49845
YV15	.42152	-.43322	.27926	.62828	.17643
YV25	-.01241	.22203	-.04725	-.53525	.39334
YV77	.14900	.28082	.22107	.52191	.29017
YV36	.21833	-.23612	-.23154	.27918	-.17274
YV45	.18255	.15428	-.01516	-.22106	.69679
YV40	-.10102	-.23936	-.07810	.14058	.68675
YV74	.43918	.18322	.28170	-.04190	.57088
YV14	.17801	-.19753	.50388	-.03642	.55548
YV4	.21697	.52291	.11059	.11482	.53877

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	.85810	-.01076	.39704	.15645	.28537
Factor 2	-.18416	.84688	.45375	.15919	-.13286
Factor 3	.18295	.36112	-.22898	-.84982	.24797
Factor 4	-.37535	-.35941	.72500	-.34297	.29444
Factor 5	-.23535	.15199	-.24170	.33220	.86760

----- FACTOR ANALYSIS -----

60% of More Successful Organizations

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
V4.0	1.00000	*	1	8.04009	29.8	29.8
V7.0	1.00000	*	2	3.83386	14.2	44.0
V14.0	1.00000	*	3	2.96648	11.0	55.0
V29.0	1.00000	*	4	2.56042	9.5	64.4
V32.0	1.00000	*	5	2.24416	8.3	72.8
V38.0	1.00000	*	6	1.57768	5.8	78.6
V40.0	1.00000	*	7	1.41124	5.2	83.8
V44.0	1.00000	*	8	1.21706	4.5	88.3
V45.0	1.00000	*	9	.74997	2.8	91.1
V47.0	1.00000	*	10	.65636	2.4	93.5
V48.0	1.00000	*	11	.48042	1.8	95.3
V50.0	1.00000	*	12	.33937	1.3	96.6
V52.0	1.00000	*	13	.30163	1.1	97.7
V54.0	1.00000	*	14	.22617	.8	98.5
V55.0	1.00000	*	15	.15317	.6	99.1
V57.0	1.00000	*	16	.12026	.4	99.5
V58.0	1.00000	*	17	.08476	.3	99.9
V59.0	1.00000	*	18	.03689	.1	100.0
V61.0	1.00000	*	19	.00000	.0	100.0
V62.0	1.00000	*	20	.00000	.0	100.0
V63.0	1.00000	*	21	.00000	.0	100.0
V64.0	1.00000	*	22	.00000	.0	100.0
V70.0	1.00000	*	23	.00000	.0	100.0
V71.0	1.00000	*	24	.00000	.0	100.0
V74.0	1.00000	*	25	.00000	.0	100.0
V75.0	1.00000	*	26	.00000	.0	100.0
V76.0	1.00000	*	27	.00000	.0	100.0

PC extracted 5 factors.

- - - - - F A C T O R A N A L Y S I S - - - - -

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V55.0	.84745	-.09785	-.32793	-.14752	-.03139
V71.0	.82476	-.02855	-.13131	-.40091	-.17933
V57.0	.80555	.29613	-.14026	.36977	-.01830
V44.0	.76912	-.04051	-.42470	.05467	.02073
V74.0	.70876	.01803	.09030	.42537	.16271
V29.0	.69182	-.37869	.09058	-.18180	-.04745
V64.0	.67312	-.01727	-.29775	-.26455	-.38090
V59.0	.66176	-.10627	.21384	-.40377	.03944
V47.0	.63792	.05367	-.43426	-.02508	-.12160
V52.0	.62384	.45498	-.10885	.03973	.02751
V63.0	.57802	-.47744	.24822	.26469	-.28812
V76.0	.55583	-.45929	.15601	.06416	.23628
V54.0	.25265	-.74866	-.03860	-.19461	-.17637
V32.0	.46850	.69998	-.11514	-.06778	.11456
V61.0	.15166	-.68542	.55510	-.13773	-.08351
V48.0	.19929	.60695	.39121	-.04489	-.41424
V62.0	.41214	.53620	.32147	-.41775	-.12091
V70.0	.44397	-.07717	.76343	-.19033	.01628
V38.0	.04661	.27403	.65422	.32764	-.21948
V14.0	.51437	-.10380	.53888	.25770	-.01003
V7.0	.20677	-.38523	-.28498	.69377	-.18824
V50.0	.43017	.19158	-.12613	-.56274	.45338
V4.0	.41203	-.13987	-.22063	.45074	.39179
V45.0	.41502	.35824	.18246	.34848	.59346
V75.0	.52157	.39497	.07919	.37278	-.56864
V58.0	.51545	-.33278	.12357	-.04230	.51741
V40.0	.05301	.24961	.35129	.05921	.50677

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
V4.0	.59467	*	1	8.04009	29.8	29.8
V7.0	.78912	*	2	3.83386	14.2	44.0
V14.0	.63225	*	3	2.96648	11.0	55.0
V29.0	.66553	*	4	2.56042	9.5	64.4
V32.0	.74044	*	5	2.24416	8.3	72.8
V38.0	.66079	*				
V40.0	.44883	*				
V44.0	.77697	*				
V45.0	.80749	*				
V47.0	.61382	*				
V48.0	.73476	*				
V50.0	.75989	*				
V52.0	.61037	*				
V54.0	.69479	*				
V55.0	.85803	*				
V57.0	.89334	*				
V58.0	.66120	*				
V59.0	.65954	*				
V61.0	.82688	*				
V62.0	.74985	*				
V63.0	.77674	*				
V64.0	.75711	*				
V70.0	.82238	*				
V71.0	.89117	*				
V74.0	.71824	*				
V75.0	.89663	*				
V76.0	.60418	*				

VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 10 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V55.0	.87298	.27126	-.08259	.12367	.01533
V44.0	.82652	.11645	-.09657	.22203	-.14712
V71.0	.82616	.35836	.07258	-.05642	.26788
V64.0	.81149	.17868	.10026	-.23187	.05342
V47.0	.77620	.00192	-.02195	.05414	-.08895
V57.0	.70421	.01658	.35334	.47627	-.21323
V52.0	.59998	-.11362	.30760	.35113	.13989
V32.0	.50493	-.34289	.32874	.37873	.34119
V61.0	-.20990	.87194	-.02091	-.14793	-.01470
V70.0	-.02691	.69551	.41365	.19825	.35710
V63.0	.29780	.69266	.22450	.01550	-.39703
V54.0	.20343	.63779	-.32789	-.32927	-.17519
V29.0	.50404	.63771	-.03387	.04457	.04076
V76.0	.25846	.63423	-.15784	.31428	-.10701
V14.0	.08248	.56222	.42111	.35067	-.09512
V59.0	.46221	.53045	.06951	.09551	.38804
V58.0	.21847	.51857	-.29614	.49757	.09636
V48.0	.11075	-.10441	.79643	-.04807	.27384
V75.0	.47787	-.04197	.76866	.01741	-.27453
V38.0	-.28240	.15634	.72420	.17275	-.04786
V45.0	.11053	-.02515	.14892	.87624	.06830
V74.0	.42988	.28623	.22835	.57658	-.25869
V4.0	.28799	.08671	-.20694	.56711	-.37388
V40.0	-.22174	.02709	.08098	.56022	.28024
V7.0	.20520	.11346	-.03885	.07992	-.85220
V50.0	.43119	.04538	-.27187	.28175	.64700
V62.0	.31011	.04002	.50669	.06046	.62585

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	.80605	.43230	.20469	.34707	.03223
Factor 2	.11261	-.69662	.53779	.25318	.38564
Factor 3	-.52609	.55759	.55412	.17513	.27314
Factor 4	-.15095	-.12853	.26238	.43384	-.83883
Factor 5	-.19504	-.02014	-.54128	.77237	.26834

----- FACTOR ANALYSIS -----

100% of Less Successful Organizations

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	1.00000	1	9.06427	29.2	29.2
V6.0	1.00000	2	5.51170	17.8	47.0
V8.0	1.00000	3	3.19921	10.3	57.3
V9.0	1.00000	4	2.37507	7.7	65.0
V10.0	1.00000	5	1.95813	6.3	71.3
V11.0	1.00000	6	1.79405	5.8	77.1
V13.0	1.00000	7	1.39972	4.5	81.6
V17.0	1.00000	8	1.27778	4.1	85.7
V18.0	1.00000	9	1.13433	3.7	89.4
V19.0	1.00000	10	.69982	2.3	91.7
V20.0	1.00000	11	.60036	1.9	93.6
V22.0	1.00000	12	.55989	1.8	95.4
V23.0	1.00000	13	.39525	1.2	96.6
V26.0	1.00000	14	.36521	1.2	97.8
V27.0	1.00000	15	.30535	1.0	98.8
V28.0	1.00000	16	.15305	.5	99.3
V30.0	1.00000	17	.13994	.5	99.8
V31.0	1.00000	18	.07685	.2	100.0
V34.0	1.00000	19	.00000	.0	100.0
V35.0	1.00000	20	.00000	.0	100.0
V41.0	1.00000	21	.00000	.0	100.0
V42.0	1.00000	22	.00000	.0	100.0
V49.0	1.00000	23	.00000	.0	100.0
V56.0	1.00000	24	.00000	.0	100.0
V65.0	1.00000	25	.00000	.0	100.0
V67.0	1.00000	26	.00000	.0	100.0
V68.0	1.00000	27	.00000	.0	100.0
V69.0	1.00000	28	.00000	.0	100.0
V72.0	1.00000	29	.00000	.0	100.0
V73.0	1.00000	30	.00000	.0	100.0
V21.0	1.00000	31	.00000	.0	100.0

----- FACTOR ANALYSIS -----

PC extracted 5 factors.

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V1.0	.89416	-.04433	-.17889	.07521	.12624
V26.0	.83689	-.14414	-.18266	-.20690	.11999
V23.0	.80622	-.36316	.20200	.05526	-.02671
V19.0	.80223	-.15378	.04057	-.22970	.06195
V67.0	.80218	.16564	-.15532	-.10317	-.07707
V11.0	.76074	.14846	-.12165	.22774	-.25220
V49.0	.74361	.33092	-.02241	-.13078	.13455
V68.0	.69172	-.04291	-.00008	-.42851	-.28779
V13.0	.68856	-.05910	.29442	-.04305	.37344
V18.0	.68739	-.02148	-.28002	.10355	-.16664
V6.0	.67227	.02084	.34947	.33885	-.12270
V65.0	.66382	-.18229	.14154	-.47422	.17284
V41.0	.58480	.56875	-.24541	.14950	.42041
V22.0	.56816	.23773	.07466	-.16961	-.14976
V31.0	.54755	.07661	-.48167	.27628	-.05349
V9.0	.46400	-.05917	-.25286	.23954	.31321
V73.0	-.17836	.85572	.03428	-.16009	.26612
V42.0	.29326	.82952	.22435	.11575	-.29938
V69.0	-.05844	.74315	-.01477	-.00873	.29066
V10.0	-.09281	.71567	-.20478	.33312	-.35816
V34.0	-.26769	.69238	-.11877	-.33913	.08891
V72.0	.04781	.63343	.43886	.29647	.02981
V20.0	-.01314	.58741	-.05587	-.07077	.41686
V17.0	-.14645	-.51024	.15898	.27385	.27566
V8.0	-.36089	.49429	.30779	.19454	.36023
V56.0	.30073	-.01418	.82099	.22447	-.27741
V28.0	.55927	.02413	.69023	.09121	.05367
V30.0	.11370	.41202	-.59423	.37226	-.41988
V27.0	.12723	.45379	.57446	-.11239	-.22850
V35.0	.39157	-.26306	-.17813	.73193	.32405
V21.0	.23815	.29119	-.30690	-.50398	-.02173

- - - - - F A C T O R A N A L Y S I S - - - - -

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	.85509	*	1	9.06427	29.2	29.2
V6.0	.70439	*	2	5.51170	17.8	47.0
V8.0	.63692	*	3	3.19921	10.3	57.3
V9.0	.43821	*	4	2.37507	7.7	65.0
V10.0	.80198	*	5	1.95813	6.3	71.3
V11.0	.73103	*				
V13.0	.70560	*				
V17.0	.52318	*				
V18.0	.58987	*				
V19.0	.72547	*				
V20.0	.52712	*				
V22.0	.43609	*				
V23.0	.82644	*				
V26.0	.81172	*				
V27.0	.61695	*				
V28.0	.80098	*				
V30.0	.85068	*				
V31.0	.61688	*				
V34.0	.68806	*				
V35.0	.89498	*				
V41.0	.92479	*				
V42.0	.92746	*				
V49.0	.69817	*				
V56.0	.89200	*				
V65.0	.74869	*				
V67.0	.71164	*				
V68.0	.74676	*				
V69.0	.64047	*				
V72.0	.68491	*				
V73.0	.86169	*				
V21.0	.49016	*				

VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 10 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V26.0	.88265	-.10148	-.07547	-.07767	.10310
V1.0	.86255	-.03579	.04483	.09163	.31530
V19.0	.81634	-.13503	.11462	-.16427	.02659
V67.0	.81096	.04746	.08530	.21085	-.00221
V49.0	.75780	.30694	.15471	.07427	.01588
V68.0	.75206	-.21187	.10775	.02075	-.35247
V65.0	.74124	-.07362	.05941	-.41293	-.14063
V23.0	.70802	-.37435	.32084	-.15021	.24396
V11.0	.66593	-.07874	.24596	.43990	.16538
V18.0	.65749	-.16356	-.00235	.32546	.15779
V13.0	.63874	.11104	.29818	-.25864	-.26029
V22.0	.56706	.09060	.23982	.13079	-.17805
V31.0	.51971	-.02343	-.16823	.46039	.32553
V21.0	.41472	.24381	-.29216	.07937	-.40874
V73.0	-.09888	.88183	.04098	.11213	-.24504
V69.0	-.01874	.78303	.04417	.14777	-.05661
V20.0	.05243	.72127	-.06350	-.00329	.01031
V34.0	-.12475	.66508	-.15247	.13365	-.43480
V41.0	.58983	.65173	-.01921	.22151	.32046
V8.0	-.41212	.62346	.23996	-.08944	.11311
V56.0	.07511	-.18817	.91727	-.09778	.00268
V28.0	.39821	.01216	.74848	-.26188	.11598
V27.0	.05283	.25987	.64370	.03001	-.36247
V6.0	.48223	-.11195	.60297	.12517	.28297
V72.0	-.09140	.52864	.59839	.19125	.04956
V42.0	.20745	.50731	.54615	.51936	-.24299
V30.0	.08439	.08168	-.17781	.89494	.06596
V10.0	-.15373	.38909	.14024	.77387	-.09169
V35.0	.21760	-.11822	.02300	.12757	.90380
V17.0	-.22419	-.22933	-.01929	-.41957	.49388
V9.0	.43398	.07114	-.12697	.04457	.47613

----- FACTOR ANALYSIS -----

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	.94733	-.06776	.24430	.07926	.17890
Factor 2	.01861	.83652	.20239	.44119	-.25354
Factor 3	-.16054	.00940	.86028	-.47048	-.11270
Factor 4	-.26941	-.06149	.29957	.44785	.79582
Factor 5	.06215	.54016	-.26367	-.61413	.50763

----- FACTOR ANALYSIS -----

60% of Less Successful Organizations

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	1.00000	*	1	6.00659	33.4	33.4
V8.0	1.00000	*	2	2.94073	16.3	49.7
V10.0	1.00000	*	3	2.06744	11.5	61.2
V11.0	1.00000	*	4	1.68978	9.4	70.6
V13.0	1.00000	*	5	1.24184	6.9	77.5
V18.0	1.00000	*	6	1.01340	5.6	83.1
V20.0	1.00000	*	7	.88371	4.9	88.0
V21.0	1.00000	*	8	.60359	3.4	91.4
V26.0	1.00000	*	9	.42733	2.4	93.7
V27.0	1.00000	*	10	.32967	1.8	95.6
V30.0	1.00000	*	11	.28936	1.6	97.2
V31.0	1.00000	*	12	.23302	1.3	98.5
V34.0	1.00000	*	13	.12318	.7	99.2
V41.0	1.00000	*	14	.07179	.4	99.6
V49.0	1.00000	*	15	.05194	.3	99.9
V56.0	1.00000	*	16	.02219	.1	100.0
V65.0	1.00000	*	17	.00394	.0	100.0
V67.0	1.00000	*	18	.00050	.0	100.0

PC extracted 6 factors.

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V1.0	.91278	-.11942	-.08099	.00499	-.04403
V67.0	.87533	.05022	-.00141	-.09205	.24300
V26.0	.84614	-.19695	-.06683	-.25756	.14007
V49.0	.78875	.12387	.21197	-.23906	.13555
V18.0	.72795	.02096	-.17484	.23248	-.08711
V11.0	.72135	.06198	-.11326	.48217	-.24929
V41.0	.71580	.48330	.21710	-.19663	.04365
V31.0	.62603	.28308	-.32344	.13071	.26704
V13.0	.62425	-.34620	.43455	.09688	-.22842
V65.0	.62418	-.35157	.23462	-.28629	.05231
V10.0	-.03251	.82321	-.01858	.41104	.07816
V30.0	.23562	.70320	-.49127	.30654	.12017
V34.0	-.13628	.66303	.36434	-.29303	-.03121
V20.0	.08651	.57963	.40319	-.42824	.05618
V27.0	.05869	.06555	.70160	.51885	-.08172
V8.0	-.36033	.38550	.53398	.05237	.12079
V56.0	.13219	-.39147	.50513	.56545	.37028
V21.0	.31927	.23340	.05404	-.01713	-.87290
Factor 6					
V1.0	-.08868				
V67.0	.11210				
V26.0	-.00383				
V49.0	.16701				
V18.0	-.32392				
V11.0	-.14602				
V41.0	-.19513				
V31.0	.08353				
V13.0	-.16026				
V65.0	.27085				
V10.0	.07990				
V30.0	.12819				
V34.0	.46092				
V20.0	-.29162				
V27.0	.23453				
V8.0	-.51760				
V56.0	.15130				
V21.0	.16914				

- - - - - F A C T O R A N A L Y S I S - - - - -

Final Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	.86382	1	6.00659	33.4	33.4
V8.0	.84883	2	2.94073	16.3	49.7
V10.0	.86053	3	2.06744	11.5	61.2
V11.0	.85298	4	1.68978	9.4	70.6
V13.0	.78562	5	1.24184	6.9	77.5
V18.0	.72748	6	1.01340	5.6	83.1
V20.0	.77761				
V21.0	.95018				
V26.0	.84519				
V27.0	.83088				
V30.0	.91619				
V31.0	.67203				
V34.0	.89021				
V41.0	.87172				
V49.0	.78581				
V56.0	.90561				
V65.0	.72630				
V67.0	.84881				

VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 11 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V67.0	.89117	.17907	.13769	-.02025	.05210
V26.0	.87332	-.10082	.23098	-.08276	-.10981
V49.0	.86019	.06651	-.05952	.13245	.09175
V1.0	.79104	.04126	.44759	-.07594	.00565
V65.0	.74129	-.34447	-.07458	-.16146	.14429
V41.0	.68648	.26882	.10102	.52918	-.02960
V31.0	.56321	.54304	.18943	-.10130	-.08183
V13.0	.49926	-.36885	.39653	.09533	.39517
V30.0	.10427	.93171	.05252	-.03961	-.17335
V10.0	-.14975	.84005	-.10782	.28493	.17074
V34.0	.05494	.28879	-.78010	.34678	.07771
V18.0	.49046	.21268	.64562	.03401	-.00772
V11.0	.40523	.33122	.63402	-.08937	.21906
V20.0	.19097	.07006	-.23964	.80905	-.13377
V8.0	-.36816	.00282	-.00340	.80545	.21046
V27.0	-.02578	.05038	-.09502	.13802	.87061
V56.0	.11165	-.12174	.12929	-.14633	.95485
V21.0	.11895	.05747	.04055	-.00450	-.02609

Factor 6

V67.0	-.02185
V26.0	-.00894
V49.0	.10935
V1.0	.17388
V65.0	.07531
V41.0	.19257
V31.0	-.08420
V13.0	.27896
V30.0	.05346
V10.0	.10227
V34.0	.26255
V18.0	.15378
V11.0	.34800
V20.0	.07962
V8.0	-.14224
V27.0	.20840
V56.0	-.33078
V21.0	.96457

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	.90061	.13411	.35370	-.01948	.07630
Factor 2	-.02871	.75962	-.27584	.53324	-.13145
Factor 3	.08777	-.37594	-.25748	.53914	.69573
Factor 4	-.30981	.44780	.47100	-.24729	.64839
Factor 5	.23109	.18682	-.15135	.06267	.10132
Factor 6	.17607	.16800	-.69840	-.59960	.24938
	Factor 6				
Factor 1	.19905				
Factor 2	.21079				
Factor 3	.09976				
Factor 4	-.00965				
Factor 5	-.93520				
Factor 6	.17693				

- - - - - F A C T O R A N A L Y S I S - - - - -

60% of Less Successful Organizations (5 Factor Solution)

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	1.00000	*	1	6.00659	33.4	33.4
V8.0	1.00000	*	2	2.94073	16.3	49.7
V10.0	1.00000	*	3	2.06744	11.5	61.2
V11.0	1.00000	*	4	1.68978	9.4	70.6
V13.0	1.00000	*	5	1.24184	6.9	77.5
V18.0	1.00000	*	6	1.01340	5.6	83.1
V20.0	1.00000	*	7	.88371	4.9	88.0
V21.0	1.00000	*	8	.60359	3.4	91.4
V26.0	1.00000	*	9	.42733	2.4	93.7
V27.0	1.00000	*	10	.32967	1.8	95.6
V30.0	1.00000	*	11	.28936	1.6	97.2
V31.0	1.00000	*	12	.23302	1.3	98.5
V34.0	1.00000	*	13	.12318	.7	99.2
V41.0	1.00000	*	14	.07179	.4	99.6
V49.0	1.00000	*	15	.05194	.3	99.9
V56.0	1.00000	*	16	.02219	.1	100.0
V65.0	1.00000	*	17	.00394	.0	100.0
V67.0	1.00000	*	18	.00050	.0	100.0

PC extracted 5 factors.

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V1.0	.91278	-.11942	-.08099	.00499	-.04403
V67.0	.87533	.05022	-.00141	-.09205	.24300
V26.0	.84614	-.19695	-.06683	-.25756	.14007
V49.0	.78875	.12387	.21197	-.23906	.13555
V18.0	.72795	.02096	-.17484	.23248	-.08711
V11.0	.72135	.06198	-.11326	.48217	-.24929
V41.0	.71580	.48330	.21710	-.19663	.04365
V31.0	.62603	.28308	-.32344	.13071	.26704
V13.0	.62425	-.34620	.43455	.09688	-.22842
V65.0	.62418	-.35157	.23462	-.28629	.05231
V10.0	-.03251	.82321	-.01858	.41104	.07816
V30.0	.23562	.70320	-.49127	.30654	.12017
V34.0	-.13628	.66303	.36434	-.29303	-.03121
V20.0	.08651	.57963	.40319	-.42824	.05618
V27.0	.05869	.06555	.70160	.51885	-.08172
V8.0	-.36033	.38550	.53398	.05237	.12079
V56.0	.13219	-.39147	.50513	.56545	.37028
V21.0	.31927	.23340	.05404	-.01713	-.87290

Final Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	.85595	1	6.00659	33.4	33.4
V8.0	.58092	2	2.94073	16.3	49.7
V10.0	.85414	3	2.06744	11.5	61.2
V11.0	.83166	4	1.68978	9.4	70.6
V13.0	.75993	5	1.24184	6.9	77.5
V18.0	.62255	*			
V20.0	.69257	*			
V21.0	.92157	*			
V26.0	.84517	*			
V27.0	.77587	*			
V30.0	.89975	*			
V31.0	.66506	*			
V34.0	.67776	*			
V41.0	.83365	*			
V49.0	.75792	*			
V56.0	.88272	*			
V65.0	.65294	*			
V67.0	.83624	*			

----- FACTOR ANALYSIS -----
 VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 6 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V67.0	.90153	.14555	.00744	.02644	-.03931
V26.0	.89686	-.11010	-.12628	-.11287	-.00001
V1.0	.86702	.06786	-.21833	.03427	.22536
V49.0	.83198	.00052	.24623	.04989	.05107
V41.0	.71643	.24920	.47543	.02066	.17836
V65.0	.69396	-.40534	-.03244	.07394	.02307
V18.0	.62454	.29469	-.26423	.08520	.26188
V31.0	.59685	.53337	-.09216	-.09840	-.07856
V13.0	.57019	-.32929	-.10691	.44950	.33601
V11.0	.53668	.40212	-.32417	.27785	.44682
V30.0	.12924	.91620	.04668	-.19881	.04393
V10.0	-.14291	.81480	.37091	.16476	.07139
V20.0	.16561	.03380	.81138	-.07011	.02731
V34.0	-.09808	.13599	.80046	-.04326	.08387
V8.0	-.32948	.04727	.58191	.34448	-.11331
V56.0	.12912	-.10893	-.22609	.84103	-.30940
V27.0	-.03735	.02099	.19552	.83925	.17743
V21.0	.12645	.03019	.11222	-.06040	.94257

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	.95723	.13454	-.09459	.08412	.22266
Factor 2	-.05372	.70528	.67987	-.13053	.14293
Factor 3	.04263	-.41955	.56539	.70756	.04308
Factor 4	-.20001	.52974	-.45305	.68274	.08938
Factor 5	.19747	.16683	.06252	.09547	-.95924

- - - - - F A C T O R A N A L Y S I S - - - - -

60% of Less Successful Organizations (4 Factor Solution)

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	1.00000	1	6.00659	33.4	33.4
V8.0	1.00000	2	2.94073	16.3	49.7
V10.0	1.00000	3	2.06744	11.5	61.2
V11.0	1.00000	4	1.68978	9.4	70.6
V13.0	1.00000	5	1.24184	6.9	77.5
V18.0	1.00000	6	1.01340	5.6	83.1
V20.0	1.00000	7	.88371	4.9	88.0
V21.0	1.00000	8	.60359	3.4	91.4
V26.0	1.00000	9	.42733	2.4	93.7
V27.0	1.00000	10	.32967	1.8	95.6
V30.0	1.00000	11	.28936	1.6	97.2
V31.0	1.00000	12	.23302	1.3	98.5
V34.0	1.00000	13	.12318	.7	99.2
V41.0	1.00000	14	.07179	.4	99.6
V49.0	1.00000	15	.05194	.3	99.9
V56.0	1.00000	16	.02219	.1	100.0
V65.0	1.00000	17	.00394	.0	100.0
V67.0	1.00000	18	.00050	.0	100.0

PC extracted 4 factors.

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
V1.0	.91278	-.11942	-.08099	.00499
V67.0	.87533	.05022	-.00141	-.09205
V26.0	.84614	-.19695	-.06683	-.25756
V49.0	.78875	.12387	.21197	-.23906
V18.0	.72795	.02096	-.17484	.23248
V11.0	.72135	.06198	-.11326	.48217
V41.0	.71580	.48330	.21710	-.19663
V31.0	.62603	.28308	-.32344	.13071
V13.0	.62425	-.34620	.43455	.09688
V65.0	.62418	-.35157	.23462	-.28629
V21.0	.31927	.23340	.05404	-.01713
V10.0	-.03251	.82321	-.01858	.41104
V30.0	.23562	.70320	-.49127	.30654
V34.0	-.13628	.66303	.36434	-.29303
V20.0	.08651	.57963	.40319	-.42824
V27.0	.05869	.06555	.70160	.51885
V8.0	-.36033	.38550	.53398	.05237
V56.0	.13219	-.39147	.50513	.56545

Final Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	.85401	1	6.00659	33.4	33.4
V8.0	.56633	2	2.94073	16.3	49.7
V10.0	.84803	3	2.06744	11.5	61.2
V11.0	.76951	4	1.68978	9.4	70.6
V13.0	.70775				
V18.0	.61497				
V20.0	.68941				
V21.0	.15963				
V26.0	.82555				
V27.0	.76920				
V30.0	.88531				
V31.0	.59375				
V34.0	.67679				
V41.0	.83174				
V49.0	.73954				
V56.0	.74561				
V65.0	.65020				
V67.0	.77719				

- - - - - F A C T O R A N A L Y S I S - - - - -

VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 6 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
V1.0	.89670	.07633	-.20620	.04008
V26.0	.87925	-.14158	-.13227	-.12218
V67.0	.87537	.10453	.00150	.00085
V49.0	.82302	-.02393	.24594	.03352
V41.0	.73405	.24237	.48390	.00386
V65.0	.68371	-.41889	-.03420	.07812
V18.0	.66751	.31638	-.24694	.09123
V13.0	.62648	-.27917	-.08111	.48038
V11.0	.61955	.46070	-.29074	.29816
V31.0	.57078	.49020	-.09976	-.13306
V21.0	.31283	.17775	.17290	.01664
V30.0	.13710	.90059	.04867	-.23039
V10.0	-.12691	.81775	.38058	.13556
V20.0	.16063	.01855	.80954	-.08895
V34.0	-.08591	.13888	.80436	-.05587
V8.0	-.35046	.03837	.58011	.32482
V27.0	-.00226	.06541	.22013	.84644
V56.0	.06610	-.14279	-.23386	.81619

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	.98360	.13751	-.08236	.08275
Factor 2	-.02820	.70793	.68819	-.15631
Factor 3	.04469	-.40178	.57643	.71015
Factor 4	-.17247	.56436	-.43283	.68148

----- FACTOR ANALYSIS -----

60% of Less Successful (4 Factor Solution without Organization 21)

Analysis number 1 Listwise deletion of cases with missing values

Extraction 1 for analysis 1, Principal Components Analysis (PC)

Initial Statistics:

Variable	Communality	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	1.00000	1	5.92142	34.8	34.8
V8.0	1.00000	2	2.90353	17.1	51.9
V10.0	1.00000	3	2.06590	12.2	64.1
V11.0	1.00000	4	1.68967	9.9	74.0
V13.0	1.00000	5	1.02505	6.0	80.0
V18.0	1.00000	6	.88823	5.2	85.3
V20.0	1.00000	7	.63524	3.7	89.0
V26.0	1.00000	8	.48975	2.9	91.9
V27.0	1.00000	9	.38239	2.2	94.1
V30.0	1.00000	10	.32653	1.9	96.0
V31.0	1.00000	11	.27140	1.6	97.6
V34.0	1.00000	12	.17337	1.0	98.7
V41.0	1.00000	13	.12281	.7	99.4
V49.0	1.00000	14	.07172	.4	99.8
V56.0	1.00000	15	.02663	.2	100.0
V65.0	1.00000	16	.00405	.0	100.0
V67.0	1.00000	17	.00232	.0	100.0

PC extracted 4 factors.

Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
V1.0	.91285	-.10537	-.08055	.00513
V67.0	.88168	.07979	.00685	-.09508
V26.0	.85579	-.17075	-.06252	-.25934
V49.0	.79066	.14482	.21836	-.24139
V18.0	.72359	.02905	-.17475	.23313
V11.0	.71116	.06019	-.11643	.48441
V41.0	.70815	.49787	.22461	-.19868
V31.0	.63338	.31728	-.31177	.12721
V65.0	.62701	-.34604	.23220	-.28625
V13.0	.62240	-.35114	.42838	.09877
V10.0	-.04655	.82518	-.01009	.40930
V30.0	.22767	.71850	-.48160	.30471
V34.0	-.15593	.64663	.36599	-.29311
V20.0	.07768	.58219	.40992	-.43039
V27.0	.04859	.04934	.69873	.51955
V8.0	-.36062	.38805	.54132	.04945
V56.0	.15485	-.36418	.51314	.56109

Final Statistics:

Variable	Communality	*	Factor	Eigenvalue	Pct of Var	Cum Pct
V1.0	.85091	*	1	5.92142	34.8	34.8
V8.0	.57611	*	2	2.90353	17.1	51.9
V10.0	.85072	*	3	2.06590	12.2	64.1
V11.0	.75758	*	4	1.68967	9.9	74.0
V13.0	.70395	*				
V18.0	.60932	*				
V20.0	.69825	*				
V26.0	.83269	*				
V27.0	.76296	*				
V30.0	.89286	*				
V31.0	.61522	*				
V34.0	.66231	*				
V41.0	.83928	*				
V49.0	.75206	*				
V56.0	.73474	*				
V65.0	.64874	*				
V67.0	.79282	*				

- - - - - F A C T O R A N A L Y S I S - - - - -

VARIMAX rotation 1 for extraction 1 in analysis 1 - Kaiser Normalization.

VARIMAX converged in 6 iterations.

Rotated Factor Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
V1.0	.89392	.09090	-.20391	.04443
V26.0	.88930	-.11873	-.11758	-.11799
V67.0	.88090	.12814	.01951	.00621
V49.0	.82682	-.00405	.25878	.03802
V41.0	.72863	.25769	.49183	.00882
V65.0	.68857	-.40886	-.03313	.07963
V18.0	.65803	.32430	-.24919	.09516
V13.0	.62259	-.27621	-.08984	.48163
V11.0	.60145	.46181	-.30239	.30187
V31.0	.57460	.51254	-.07814	-.12746
V30.0	.12470	.90726	.05606	-.22593
V10.0	-.14414	.81529	.38224	.13837
V20.0	.15913	.02440	.81529	-.08736
V34.0	-.09927	.13085	.79512	-.05584
V8.0	-.34784	.03818	.59031	.32433
V27.0	-.01612	.05487	.20908	.84616
V56.0	.08297	-.12851	-.20827	.81729

Factor Transformation Matrix:

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	.98135	.14391	-.09100	.08927
Factor 2	-.02734	.71454	.68123	-.15687
Factor 3	.04762	-.39679	.58132	.70877
Factor 4	-.18425	.55792	-.43556	.68196

APPENDIX E
DESCRIPTIVE STATISTICS OF THE ARCHETYPES

Successful Type 1

Number of valid observations (listwise) = 16.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.18	.79	4.0	6.5	17	Dynamism
V2	5.44	.88	4.0	7.0	17	Heterogeneity
V3	4.88	1.08	3.0	6.5	17	Hostility
V4	5.82	.75	5.0	7.0	17	Scanning
V5	5.41	.91	4.0	7.0	17	Delegation of Authori
V6	6.18	.56	5.0	7.0	17	Centralization of Str
V7	5.38	.88	4.0	7.0	17	Resource Availability
V8	5.28	2.18	2.2	9.3	16	Management Tenure
V9	5.68	.86	4.0	7.0	17	Controls
V10	5.06	.70	4.0	6.5	17	Internal Communicatio
V11	4.76	1.05	3.0	7.0	17	Org. Differentiation
V12	3.76	.87	2.0	5.0	17	Technocratization
V13	5.32	.50	4.5	6.0	17	Innovation
V14	5.71	.50	5.0	6.5	17	Adaptiveness/Proactiv
V15	5.15	1.01	3.5	7.0	17	Integration of Decisi
V16	5.97	.67	5.0	7.0	17	Conscious Strategic A
V17	5.29	.73	4.0	7.0	17	Multiplexity
V18	5.47	.78	4.0	7.0	17	Futurity of Decisions
V19	5.29	.59	4.0	6.0	17	Risk Taking
V20	3.15	.84	1.0	4.5	17	Precedents

Successful Type 2

Number of valid observations (listwise) = 9.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.28	.44	5.0	6.0	9	Dynamism
V2	5.61	.55	5.0	6.5	9	Heterogeneity
V3	5.83	.75	4.5	7.0	9	Hostility
V4	4.89	1.02	3.0	6.0	9	Scanning
V5	4.28	.97	2.0	5.0	9	Delegation of Authority
V6	6.17	.56	5.5	7.0	9	Centralization of Structure
V7	4.50	1.30	2.0	6.0	9	Resource Availability
V8	7.17	1.88	5.0	10.3	9	Management Tenure
V9	5.89	.89	4.0	7.0	9	Controls
V10	4.72	.87	3.5	6.0	9	Internal Communication
V11	3.67	.97	3.0	5.5	9	Org. Differentiation
V12	4.28	1.39	2.0	6.5	9	Technocratization
V13	3.89	.74	3.0	5.0	9	Innovation
V14	5.33	.43	5.0	6.0	9	Adaptiveness/Proactiveness
V15	5.00	.56	4.0	6.0	9	Integration of Decisions
V16	5.83	.71	4.5	7.0	9	Conscious Strategic Action
V17	4.72	.51	4.0	5.5	9	Multiplexity
V18	5.17	.66	4.0	6.0	9	Futurity of Decisions
V19	4.28	1.00	3.0	6.0	9	Risk Taking
V20	5.11	.65	4.0	6.0	9	Precedents

Successful Type 3

Number of valid observations (listwise) = 7.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid	
					N	Label
V1	5.00	1.15	3.0	6.0	7	Dynamism
V2	4.00	1.41	2.0	6.0	7	Heterogeneity
V3	5.14	1.21	4.0	7.0	7	Hostility
V4	5.00	1.15	3.0	6.0	7	Scanning
V5	5.00	1.15	4.0	7.0	7	Delegation of Authori
V6	5.71	1.11	4.0	7.0	7	Centralization of Str
V7	4.07	1.30	2.0	5.0	7	Resource Availability
V8	7.44	4.26	1.0	14.0	7	Management Tenure
V9	4.43	1.13	3.0	6.0	7	Controls
V10	4.00	1.15	2.0	5.0	7	Internal Communicatio
V11	4.43	1.72	2.0	7.0	7	Org. Differentiation
V12	4.07	2.13	1.5	6.0	7	Technocratization
V13	4.29	.76	3.0	5.0	7	Innovation
V14	5.00	1.00	4.0	6.0	7	Adaptiveness/Proactiv
V15	4.14	1.46	2.0	5.0	7	Integration of Decisi
V16	5.00	1.00	4.0	6.0	7	Conscious Strategic A
V17	4.14	.69	3.0	5.0	7	Multiplexity
V18	4.57	1.27	3.0	6.0	7	Futurity of Decisions
V19	4.43	1.62	3.0	7.0	7	Risk Taking
V20	3.93	1.17	2.0	5.5	7	Precedents

Successful Type 4

Number of valid observations (listwise) = 5.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.10	.74	4.0	6.0	5	Dynamism
V2	3.70	.97	2.5	5.0	5	Heterogeneity
V3	5.70	.45	5.0	6.0	5	Hostility
V4	5.00	.71	4.0	6.0	5	Scanning
V5	4.60	1.52	3.0	6.0	5	Delegation of Authori
V6	5.40	.42	5.0	6.0	5	Centralization of Str
V7	3.60	.89	3.0	5.0	5	Resource Availability
V8	6.72	2.34	3.0	8.8	5	Management Tenure
V9	4.70	.84	4.0	6.0	5	Controls
V10	4.60	.55	4.0	5.0	5	Internal Communicatio
V11	4.60	1.14	3.0	6.0	5	Org. Differentiation
V12	3.10	1.14	2.0	5.0	5	Technocratization
V13	5.70	.45	5.0	6.0	5	Innovation
V14	5.40	.55	5.0	6.0	5	Adaptiveness/Proactiv
V15	5.10	1.24	3.5	6.0	5	Integration of Decisi
V16	5.60	.55	5.0	6.0	5	Conscious Strategic A
V17	5.00	1.00	4.0	6.0	5	Multiplexity
V18	5.10	.89	4.0	6.0	5	Futurity of Decisions
V19	4.60	1.08	3.0	5.5	5	Risk Taking
V20	4.30	.45	4.0	5.0	5	Precedents

Successful Type 5

Number of valid observations (listwise) = 5.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid	
					N	Label
V1	4.17	1.94	2.0	7.0	6	Dynamism
V2	4.33	1.63	2.0	6.0	6	Heterogeneity
V3	3.92	1.74	2.0	6.0	6	Hostility
V4	4.83	1.17	3.0	6.0	6	Scanning
V5	4.75	.99	4.0	6.0	6	Delegation of Authori
V6	5.25	1.25	3.0	6.5	6	Centralization of Str
V7	4.50	1.38	2.0	6.0	6	Resource Availability
V8	5.83	4.99	1.0	11.1	5	Management Tenure
V9	4.17	.98	3.0	5.0	6	Controls
V10	4.42	.66	3.5	5.0	6	Internal Communicatio
V11	3.58	1.91	2.0	6.0	6	Org. Differentiation
V12	3.58	1.11	2.0	5.0	6	Technocratization
V13	4.50	.84	4.0	6.0	6	Innovation
V14	5.00	1.05	3.0	6.0	6	Adaptiveness/Proactiv
V15	4.92	.66	4.0	6.0	6	Integration of Decisi
V16	5.50	.55	5.0	6.0	6	Conscious Strategic A
V17	4.67	.61	4.0	5.5	6	Multiplexity
V18	5.17	.75	4.0	6.0	6	Futurity of Decisions
V19	4.50	1.76	2.0	6.0	6	Risk Taking
V20	5.00	1.55	3.0	6.0	6	Precedents

Less Successful Type 1

Number of valid observations (listwise) = 13.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.23	.93	3.0	6.0	13	Dynamism
V2	4.62	1.63	1.0	7.0	13	Heterogeneity
V3	5.12	.85	3.0	6.0	13	Hostility
V4	5.58	.86	4.0	7.0	13	Scanning
V5	4.96	1.05	3.0	6.0	13	Delegation of Authori
V6	6.46	.59	5.0	7.0	13	Centralization of Str
V7	4.65	1.01	2.0	6.0	13	Resource Availability
V8	5.27	3.25	1.0	12.6	13	Management Tenure
V9	4.77	1.45	2.0	7.0	13	Controls
V10	4.38	.79	3.0	5.5	13	Internal Communicatio
V11	4.88	1.06	3.0	6.0	13	Org. Differentiation
V12	2.96	.90	2.0	5.0	13	Technocratization
V13	5.15	.75	4.0	6.0	13	Innovation
V14	5.96	.59	5.0	7.0	13	Adaptiveness/Proactiv
V15	4.85	.90	3.5	6.0	13	Integration of Decisi
V16	5.92	1.10	3.0	7.0	13	Conscious Strategic A
V17	4.96	.95	3.0	6.0	13	Multiplexity
V18	5.46	.85	3.0	6.5	13	Futurity of Decisions
V19	5.88	.74	5.0	7.0	13	Risk Taking
V20	3.00	.91	2.0	4.5	13	Precedents

Less Successful Type 2

Number of valid observations (listwise) = 2.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.00	.00	5.0	5.0	2	Dynamism
V2	2.00	.00	2.0	2.0	2	Heterogeneity
V3	6.50	.71	6.0	7.0	2	Hostility
V4	2.50	2.12	1.0	4.0	2	Scanning
V5	3.00	1.41	2.0	4.0	2	Delegation of Authori
V6	3.50	.71	3.0	4.0	2	Centralization of Str
V7	2.50	.71	2.0	3.0	2	Resource Availability
V8	6.20	.00	6.2	6.2	2	Management Tenure
V9	3.50	.71	3.0	4.0	2	Controls
V10	5.50	.71	5.0	6.0	2	Internal Communicatio
V11	5.50	.71	5.0	6.0	2	Org. Differentiation
V12	1.50	.71	1.0	2.0	2	Technocratization
V13	3.50	.71	3.0	4.0	2	Innovation
V14	4.50	.71	4.0	5.0	2	Adaptiveness/Proactiv
V15	3.50	.71	3.0	4.0	2	Integration of Decisi
V16	3.00	.00	3.0	3.0	2	Conscious Strategic A
V17	3.50	.71	3.0	4.0	2	Multiplexity
V18	3.00	1.41	2.0	4.0	2	Futurity of Decisions
V19	3.50	2.12	2.0	5.0	2	Risk Taking
V20	5.50	.71	5.0	6.0	2	Precedents

Less Successful Type 3

Number of valid observations (listwise) = 5.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.92	.66	5.0	7.0	6	Dynamism
V2	4.50	1.18	3.0	6.0	6	Heterogeneity
V3	6.00	.89	5.0	7.0	6	Hostility
V4	4.08	1.11	2.0	5.0	6	Scanning
V5	4.75	.88	3.5	6.0	6	Delegation of Authori
V6	4.42	1.20	2.5	6.0	6	Centralization of Str
V7	3.00	1.70	1.0	5.5	6	Resource Availability
V8	7.71	2.58	5.0	12.0	5	Management Tenure
V9	3.33	1.03	2.0	5.0	6	Controls
V10	3.42	1.02	2.0	5.0	6	Internal Communicatio
V11	5.67	.52	5.0	6.0	6	Org. Differentiation
V12	4.67	1.08	3.0	6.0	6	Technocratization
V13	4.33	1.40	3.0	6.5	6	Innovation
V14	4.00	.89	3.0	5.0	6	Adaptiveness/Proactiv
V15	3.92	1.20	2.5	6.0	6	Integration of Decisi
V16	4.83	.26	4.5	5.0	6	Conscious Strategic A
V17	5.17	.98	4.0	7.0	6	Multiplexity
V18	5.25	1.25	3.0	6.5	6	Futurity of Decisions
V19	2.92	1.20	1.5	4.0	6	Risk Taking
V20	5.33	1.21	3.0	6.0	6	Precedents

Less Successful Type 4

Number of valid observations (listwise) = 6.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid	
					N	Label
V1	4.92	1.02	3.0	6.0	6	Dynamism
V2	4.75	.76	4.0	6.0	6	Heterogeneity
V3	5.00	1.14	3.5	6.5	6	Hostility
V4	4.25	.61	3.5	5.0	6	Scanning
V5	5.58	1.02	4.0	7.0	6	Delegation of Authori
V6	6.00	.71	5.0	7.0	6	Centralization of Str
V7	4.92	.80	4.0	6.0	6	Resource Availability
V8	7.03	2.97	2.7	11.5	6	Management Tenure
V9	5.08	.38	4.5	5.5	6	Controls
V10	4.33	.75	3.0	5.0	6	Internal Communicatio
V11	4.25	1.13	3.0	5.5	6	Org. Differentiation
V12	3.08	.49	2.5	4.0	6	Technocratization
V13	3.83	.98	3.0	5.0	6	Innovation
V14	4.92	.80	3.5	6.0	6	Adaptiveness/Proactiv
V15	5.00	.89	4.0	6.0	6	Integration of Decisi
V16	5.50	.63	4.5	6.0	6	Conscious Strategic A
V17	4.58	.49	4.0	5.0	6	Multiplexity
V18	5.42	.49	5.0	6.0	6	Futurity of Decisions
V19	3.25	.94	2.0	4.5	6	Risk Taking
V20	5.25	.76	4.0	6.0	6	Precedents

Less Successful Type 5

Number of valid observations (listwise) = 2.00

Variable	Mean	Std Dev	Minimum	Maximum	Valid N	Label
V1	5.67	1.15	5.0	7.0	3	Dynamism
V2	3.67	1.15	3.0	5.0	3	Heterogeneity
V3	4.67	1.15	4.0	6.0	3	Hostility
V4	5.00	.00	5.0	5.0	3	Scanning
V5	6.00	1.00	5.0	7.0	3	Delegation of Authori
V6	5.17	1.44	3.5	6.0	3	Centralization of Str
V7	5.50	.50	5.0	6.0	3	Resource Availability
V8	5.70	.99	5.0	6.4	2	Management Tenure
V9	5.67	.58	5.0	6.0	3	Controls
V10	6.33	.58	6.0	7.0	3	Internal Communicatio
V11	5.33	.58	5.0	6.0	3	Org. Differentiation
V12	5.33	.58	5.0	6.0	3	Technocratization
V13	5.83	.29	5.5	6.0	3	Innovation
V14	5.17	.29	5.0	5.5	3	Adaptiveness/Proactiv
V15	5.00	.00	5.0	5.0	3	Integration of Decisi
V16	5.50	.50	5.0	6.0	3	Conscious Strategic A
V17	5.00	1.00	4.0	6.0	3	Multiplexity
V18	5.50	.87	4.5	6.0	3	Futurity of Decisions
V19	5.00	1.00	4.0	6.0	3	Risk Taking
V20	3.17	1.04	2.0	4.0	3	Precedents

APPENDIX F
CONTENTS OF INVESTORS PACKAGES AND CASE MATERIALS

Abbey Healthcare Group Incorporated investors package

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