Redefining Relatedness in Corporate Acquisitions and Mergers: An Alternate View for Managing Corporate Diversification

by

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Dissertation Proposal submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of Doctor of Philosophy in General Business (Management)

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(ABSTRACT)

This dissertation proposes an alternative perspective for studying the relationship between corporate performance and diversification. Extensive research into the relationship between diversification and economic performance has been conducted using two different perspectives. One perspective, pursued mainly by industrial organization economists, examined the effect that a firm’s level (or degree) of diversity had on its performance. A second perspective, utilized by strategic management researchers, uses Rumelt’s (1974) notion of product-market relatedness to explain performance differences among diversified firms. Rumelt (1974) hypothesized that firms which diversify into areas related to the original business by either products or markets would financially outperform those firms that diversify into areas unrelated (in a product or market sense) to the original business.

Blackburn and Shrader (1990, pg. 1) argue that "a consensus seems to be forming that related corporate acquisitions are superior to unrelated acquisitions." This
consensus view is not without its critics, however. Other research results (e.g. Barton, 1988) suggest that unrelated acquisitions need not produce inferior performance. This debate suggests that further research into the nature of the relationship between corporate diversification and its financial performance may be productive, especially if new ways of examining it can be devised.

An alternative perspective for studying the relationship between corporate performance and diversification is proposed. Other dimensions of relatedness, such as the strategic similarity between a corporation’s business units, may provide alternative means of defining relatedness. It will be argued that a redefinition of relatedness will prove valuable in expanding our ability to predict the effect corporate diversification strategy has on corporate performance.
Acknowledgements

It is not in my nature to express myself openly, yet I wish to acknowledge three groups of people I associated with while working on my Ph.D. The first group is the management faculty at Virginia Tech. I especially appreciate the initial trust shown by my acceptance into the program. If imitation is the sincerest form of flattery, my committee members should be highly flattered because they have all had an important effect on my development. I hope I represent this group well during my academic career.

The second group is the staff of the management department. Sandy, Alice, and Dinah have been encouraging, helpful and kind throughout this process. Their intelligence and resourcefulness have come to my aid on many occasions. I wish them well and want them to know that I will always appreciate them.

The third group is my family. They have sacrificed much and I hope that I can now repay their patience and sacrifice. Without them, not only would this undertaking have been impossible, it would have been without meaning.
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Redefining Relatedness in Corporate Acquisitions and Mergers: An Alternate View for Managing Corporate Diversification

Introduction

Diversification by large American firms proceeded at a rapid pace after World War II. In fact, two-thirds of the Fortune 500 firms were diversified by 1970 and similar patterns of diversification existed in both Western Europe and Japan. Consequently, interest in the relationship between corporate diversification and the economic performance of the firm has grown in both the public and private sectors (Bettis and Hall, 1982).

Diversification can be accomplished in one of two ways. A firm can diversify internally or it can diversify externally through acquisition or merger. The relationship between corporate performance and diversification should not be
affected by the method of diversification, but this research has focused on diversification through acquisition and merger because of data accessibility.

Extensive research into the relationship between diversification and economic performance has been conducted using two different perspectives. One perspective, pursued mainly by industrial organization economists, examined the effect that a firm’s level (or degree) of diversity had on its performance. Researchers (Gort 1962, Arnould 1969, and Markham 1973) using this perspective hypothesized that firms with a greater level of diversification would out perform those with a lower level of diversification. The rationale for this thesis is discussed during the literature review in Chapter Two.

A second perspective, utilized by strategic management researchers, uses Rumelt’s (1974) notion of product-market relatedness to explain performance differences among diversified firms. Rumelt (1974) hypothesized that firms which diversify into areas related to the original business by either products or markets would financially outperform those firms that diversify into areas unrelated (in a product or market sense) to the original business. Using this notion of relatedness, Rumelt (1974) found empirical support for his hypotheses. This was seen as an important break-through since industrial organization economists using the level of
diversity perspective had not been able to demonstrate empirically any relationship between diversification and performance.

Blackburn and Shrader (1990, pg. 1) argue that "a consensus seems to be forming that related corporate acquisitions are superior to unrelated acquisitions." This consensus view, initially developed by Rumelt (1974), argues that related acquisitions produce superior performance because they provide greater opportunity to exploit synergies and reduce risk since a firm remains concentrically diversified. This consensus view is not without its critics, however. Other research results (see Barton, 1988) indicate that unrelated acquisitions need not produce inferior performance. This debate suggests that further research into the nature of the relationship between corporate diversification and its financial performance may be productive, especially if new ways of examining it can be devised.

This dissertation proposes an alternative perspective for studying the relationship between corporate performance and diversification. The way in which the relatedness perspective, as presented by Rumelt (1974), conceptualizes relatedness is not the only way in which it can be conceived. Other dimensions of relatedness, such as the strategic similarity between a corporation's business units, may provide an alternative means of defining relatedness (Blackburn and Chapter One: Introduction
Shrader, 1990). It will be argued in this dissertation that a redefinition of relatedness will prove valuable in expanding our ability to predict the effect corporate diversification strategy has on corporate performance.

Summary of Research

A summary of the research conducted by both perspectives into the diversification-performance relationship is presented in this section. Since they differ on assumptions, methodology, etc. and have arrived at different conclusions, it is important to have an understanding of both perspectives.

Level of Diversification Perspective

Industrial organization economists examine the impact diversity (on a continuum from highly diversified to no diversification) has on a firm's performance. Although they hypothesize that highly diversified firms should outperform less diversified ones, empirical research (Gort 1962, Arnold 1969, and Markham 1973) does not support this position.

Industrial economic researchers use product count measures based on the continuous Standard Industrial Code (SIC) to depict the level of firm diversity. There are
several different product count approaches that can be used to measure diversity. One of the simplest approaches is derived from the ratio of primary industry output to total firm output (a measure of homogeneity). The complement to this ratio (a measure of diversification) gives the relationship of non-primary industry output to total output (Gort, 1962).

A limitation of the primary industry output to total firm output measure is that it fails to show the way in which the non-primary industry output is allocated. That is, one firm could have output in five different industries and another in only one. Most researchers, as well as practitioners, very likely consider a firm with output in five industries to be more diversified than a firm with output in only one. Interestingly, however, no difference in the level of diversity between the two firms would be revealed by this ratio.

Another measure simply counts the number of industries in which a firm operates. This measure is very objective and easy to compute but an important limitation is that it gives undue weight to total dispersion if this activity accounts, in aggregate, for only a small proportion of the firm's total output (Gort, 1962).

One way to minimize the limitations of simple product count measures is to use some type of weighted index. Typical of weighted index measures are the entropy measure (Jacquemin Chapter One: Introduction
and Berry, 1979) and the Berry-Herfindahl index (Montgomery, 1982). Weighted indexes consider not only the percentage of a firm's total sales in each of the SIC codes in which it participates but also the firm's share of each of those markets.

**Relatedness Perspective**

Researchers using this perspective have theorized that corporate performance is affected by the relatedness (in a product and/or market sense) of a firm's diversity. It is hypothesized that better corporate performance is obtained when the firm follows a related diversification strategy because this strategy provides greater opportunity to exploit synergies and reduce risk. Richard Rumelt (1974), building on the work of Wrigley (1970), was the first researcher to hypothesize that there would be a significant performance difference between related and unrelated diversification strategies.

Rumelt (1974) proposed nine specific diversification strategies a firm could pursue. Rumelt’s typology was based on the degree of relatedness a new business had with the old businesses. Rumelt defined a related business as one in which more than 70 percent of the diversification had been achieved.
by relating new activities to old activities. Businesses are considered related if they serve similar markets and use similar distribution systems, employ similar production technologies, or exploit similar science based research (Salter and Weinhold 1979).

He defined an unrelated business as one in which less than 70 percent of the firm's diversification was related to its original skills or strengths. An unrelated diversifier pursues growth in product markets where the key success factors are unrelated to each other. Despite whether the firm is an actively managed conglomerate or a more passively managed holding company, it expects little or no transfer of functional skills between its various business units (Salter and Weinhold 1979).

Rumelt's (1974) scheme for classifying diversification strategy identified nine different categories:

(1) Single business that derives 95 percent or more of its revenue from one distinct business.

(2) Dominant business that derives 70-94 percent of its revenues from its largest distinct business. Dominant firms can be further divided into four sub-classifications:

(a) Dominant vertical has a high vertical ratio.

(b) Dominant constrained is characterized by its businesses sharing a common single
strength or resource associated with the original business.

(c) Dominant linked is characterized by any pair of businesses sharing a particular strength or resource associated with the firm.

(d) Dominant unrelated where any diversification activities are not related to the primary activity of the firm.

(3) Related business that derives less than 70 percent of its sales from a single business but possessing a high relatedness ratio. The relatedness ratio is the proportion of a firm’s total revenues to its largest group of related businesses. Rumelt selected a related ratio of 70 percent as the cut-off point between related and unrelated firms. Setting this ratio’s cut-off point the same as the specialization ratio’s cut-off point ensured that a company could not qualify for the dominant category based on its specialization ratio and simultaneously qualify for the unrelated category based on its related ratio. Related firms were further sub-divided into two classifications:

(a) Related constrained is characterized by all its businesses sharing a single strength or resource associated with the original firm.

(b) Related linked is characterized by any pair of businesses sharing a particular strength or resource associated with the firm.

(4) Unrelated business derives less than 70 percent of its sales from a single business and possess a lower relatedness
ratio. Unrelated firms are divided into two sub-classifications:

(a) Multi-business is an unrelated firm containing a few large unrelated businesses.

(b) Unrelated portfolio is an unrelated firm containing many unrelated businesses.

Researchers have found it convenient and acceptable to collapse the nine strategies into the following four (Salter and Weinhold, 1979): firms committed to a single business (single product firms); firms primarily committed to a single business but with some diversification representing an insignificant part of the total business activity (dominant product); firms where significant diversification activity has taken place in areas bearing a product or market relation to current activities (related product); and firms where significant diversification activity has been undertaken without regard to such relatedness (unrelated).

Rumelt (1974) compared the performance of corporations pursuing related strategies with those corporations pursuing unrelated strategies. He found that related strategies produced higher performance than unrelated strategies. He also found significant performance differences between related firms based on the relatedness strategy they were pursuing. Related constrained firms (where each business unit of the corporation can be logically related to each and every one of
the other business units) were found to have superior performance to related linked firms (those characterized by each separate business unit being logically related to at least one other business unit within the corporation).

Rumelt’s (1974) findings motivated additional research into corporate diversification using his model of relatedness (for example see, Bettis, 1981; Christensen and Montgomery, 1981; Palepu, 1985; Dubofsky and Varadarajan, 1987; Amit and Livnat, 1988; Blackburn and Shrader, 1990). Many of these studies modified and refined his notion of relatedness, and results have been inconclusive and sometimes contradictory. A plausible explanation for such results will be presented as part of the discussion of Hypothesis Two in Chapter Two.

Differences in the Two Perspectives

Palepu (1985) believed that the methodology used to measure corporate diversification was what accounted for the difference in findings between the level of diversification and the relatedness perspectives. Researchers using the level of diversification perspective employed product count indices that measure the total diversity of a firm. Relatedness perspective studies use either the same or some variation of Rumelt’s (1974) classification scheme.
When Montgomery (1982) compared the product count measures with Rumelt's (1974) classification scheme, she found a fair amount of correlation in terms of measuring a firm's total diversity. She argued, however, that Rumelt's (1974) scheme tapped a dimension of diversification missed by the product count indices. This dimension is the level of relatedness between business units of a firm based on product or market factors. Relatedness based on products or markets is now widely regarded as an important dimension to consider in any investigation of the diversification-performance relationship.

A New Perspective of Relatedness

This dissertation argues that relatedness in a diversified firm can be conceived of in a manner other than the traditional (product/market) dimension. Another dimension is the degree of similarity among the separate business unit strategies of a single corporation. Conceiving of relatedness in this way, it can be said that the greater the similarity of business level strategies among distinct business units of a corporation, the greater is the degree of relatedness between them, despite their product or market correlation.
This paper accepts the argument presented by the relatedness perspective that the distinction between related and unrelated diversification is important in explaining the difference in levels of financial performance among diversified firms. It suggests, though, that conceiving of relatedness in terms of the strategic similarity among business units rather than product-market relatedness may help resolve some of the inconclusive results of prior research in this area.

Definitions

The following section defines several concepts used in this dissertation. These definitions are included because they are central to the development of the arguments presented here. Before actually presenting them, however, some additional comments will be helpful.

The business policy literature distinguishes between two levels of organization strategy (Hofer, 1975). Corporate level strategy is concerned with questions about what businesses to compete in. Business level strategy is concerned about questions of how to compete within a particular industry (Beard and Dess, 1981). Since both levels
of strategy are dealt with in this dissertation, both need to be defined.

Relatedness is defined as well. This concept has a traditional dimension as well as a new dimension proposed by this dissertation and both dimensions have their own specific meanings. The traditional meaning of relatedness is based on the degree of product and/or market similarities among distinct business units within a firm. Because this dissertation offers another dimension of relatedness, confusion could arise about which meaning is being applied at any given time. To avoid this confusion, it will be helpful to devise a short hand method of distinguishing between the two meanings. These will be presented as part of the definition.

Diversification

Although Rumelt (1974) lamented that there was no one generally accepted definition of diversity, most definitions share key notions. Gort (1962) and Ansoff (1965) defined diversification as participation in different markets, Kamien and Schwartz (1975) and Berry (1975) as participation in different industries, and Pitts and Hopkins (1982) as participation in different businesses. While these various
definitions of diversity differ in certain respects, they are similar in that they view diversity as the entry into new product and/or market activity. For the purpose of this dissertation, diversification is defined as the entry of a firm into new product and/or market activity.

**Strategy**

Strategy can be identified at different levels within an organization. Corporate level strategy defines what business or businesses the firm should be in. Diversification is a corporate level strategy. Business level strategy defines how each business unit competes within its industry. Business level strategy will be identified as the resource allocation patterns at the business unit level. A resource is anything that can be thought of as a strength or a weakness of a given firm. That is, any asset (tangible or intangible) over which the firm exercises direct control. This approach to strategic definition is reflected in the strategic management literature (Wernerfelt, 1984). The specific resource allocation variables used in this dissertation are discussed in Chapter Three.
Product-Market Relatedness

R-relatedness will be the term used to designate the traditional meaning of the term as employed by researchers using the relatedness perspective. Specifically, R-relatedness will denote related diversification activity while R-unrelatedness will be the term used to denote unrelated diversification.

Relatedness in Terms of Strategic Similarity

S-relatedness will be the short hand term used to denote relatedness as a function of the similarity of strategies among separate business units of the corporation.

Research Issues

Several issues arise when relatedness is viewed from an S-related rather than R-related perspective. The most fundamental question of interest for this paper is whether there is a difference in performance based upon the degree of a firm’s S-relatedness and independent of its R-relatedness. Another issue of import is whether there is any relationship
between the S-related and the R-related dimensions. A final issue deals with the possibility of performance differences among different categories of R-related firms. Rumelt (1974) and others have found that some R-related categories outperform others. Will this phenomenon still be observed when diversified firms are classified by the S-related dimension? The theoretical expectation (presented in chapter two) is that it will not. All firms exhibiting the same level of S-relatedness should perform equally well despite their R-related category. It is hoped that by exploring these issues, an explanation can be developed to help explain the often contradictory and inconclusive results of previous studies.

Significance of the Study

This study has significance for the strategic management field because it adds a new perspective for understanding how the management of corporate diversification affects a firm's performance. The traditional relatedness perspective has commonly been interpreted to mean that various diversification strategies will lead to differing levels of financial performance. Since Rumelt's (1974) schema is correlational rather than causal in nature, it cannot support such
conclusions (Christensen and Montgomery, 1981). This is something that Rumelt (1974) himself noted.

He was unable to explain theoretically why his research showed that related diversification strategies produced superior organization performance compared to unrelated diversification strategies (Bettis, 1981). Rumelt (1974) speculated, however, that R-related diversifiers gained a performance advantage over R-unrelated diversifiers because R-related diversifiers were able to extend core skills (e.g., scientific research and common management expertise) into related areas while R-unrelated diversifiers did not have (to the same degree) this opportunity (Bettis, 1981). The inability to explain why R-related diversification strategies produce superior performance results when compared to R-unrelated strategies is a weakness of the R-relatedness perspective.

Additionally, in Rumelt's 1982 study, the data showed a shift by related firms into unrelated categories. He wondered why R-related firms would choose an R-unrelated strategy if there was in fact performance benefits to be gained through the perusal of R-related strategies.

Rumelt (1982, pg. 368) wrote:

The core-factor theory advanced here, for example, does not explain why so many related-constrained firms have changed their strategies and moved into unrelated business postures. An adequate theory of this phenomenon would have to explain not only why
unrelated business diversification can be an attractive strategy, but also why it is eschewed by so many firms.

The use of an S-related rather than R-related perspective will include a theoretical explanation about why R-related firms tend to outperform R-unrelated ones. This may be one reason R-unrelated strategies are eschewed by so many firms. On the other hand, this theory will also explain why firms may choose to follow an R-unrelated strategy. This theoretical development will be presented in Chapter Two.

Outline of Chapters

Chapter Two looks at the assumptions and theories that underlie past and current research into corporate diversification strategies. A new theoretical framework predicting the effect different corporate diversification strategies will have on corporate performance will be discussed. Some hypotheses will be offered for testing this new theory.

Chapter Three focuses on the methodological issues pertaining to this study. Specifically, issues relating to construct operationalization, methods of data collection, and data analysis, are addressed.
Chapter Four reviews the results of the study. The results of Hypotheses testing, as well as other issues are also discussed.

Chapter Five is a discussion of the results. Implications for current studies, recommendations for future studies, and conclusions are offered.
CHAPTER TWO:

Literature Review and Theory Development

Introduction

This chapter reviews past research into the relationship between corporate diversification strategies and financial performance. The level of diversification perspective is reviewed first, followed by a review of the R-related perspective literature. This Chapter also will develop a justification for examining diversification strategies from the S-related perspective and will present a theoretical explanation why and under what conditions some corporate level diversification strategies produce superior performance results. Additionally, hypotheses for testing this theoretical framework will be discussed.
Literature Review

A significant trend toward diversification has taken place among large United States’ corporate enterprises during the past four decades. The length and intensity of diversification activity might initially lead one to believe that there are significant performance benefits available to firms by diversifying. A substantial amount of empirical research has been undertaken to investigate the impact of corporate diversification strategies on corporate performance. Two different research perspectives, the level of diversification and the R-related perspectives, have examined the impact that corporate diversification strategies have on corporate performance. Unfortunately, neither perspective has produced a strong consensus about how corporate diversification strategies affect performance. Consequently, few if any, generally accepted recommendations are available to a firm for managing their diversification strategies.

Level of Diversification Perspective Literature

Investigation into the effect diversification strategies have on a corporation’s performance began with industrial organization economists (see, for example, Gort 1962, Arnould
1969, Bass et al. 1978, and Markham 1973). These studies arose, in part, out of questions public officials, scholars and others had about the effect of diversification on public policy. Researchers assumed that the amount or level of diversity, as measured on a continuum from highly diversified to no diversification, was the key variable in understanding the impact diversification has on corporate performance. The theoretical expectation of this perspective was that the further a firm was positioned along the continuum toward highly diversified, the better its performance would be when compared with less diversified firms.

The question of what impact diversification might have on corporate performance was viewed as a public policy issue. That is, should the government regulate and control the amount of diversity a firm can engage in to ensure that highly diversified firms do not have an unfair competitive advantage over their less diversified competitors. It was thought that an unfair competitive advantage might arise due to the fact that diversity itself would bestow upon a firm some type of market power unavailable to less diversified competitors. Market power was defined as the ability of a competitor in a market to influence the price, quality and nature of the product (Carson, 1978).

The economic theory of market power argued that diversified firms (due primarily to their larger size when
compared with undiversified firms) bring a generalized collusive (unregulated price making) power to the new markets they enter. Examples of collusive power include the ability of a diversified firm to engage in predatory pricing or the ability to extract favorable terms of purchase from suppliers. Collusive market power allows a firm to gain higher than average profits at the expense of less powerful competitors. Assuming that this theory was valid, industrial economics researchers reasoned that they would be able to observe empirically a significant performance difference between more highly diversified firms and their less highly diversified competitors.

Results from organizational economics studies were, not withstanding the seemingly plausible theory of market power, inconclusive. Gort (1962, page 77) in a classic study of 110 companies found that "the influence of diversification upon profits is not, alone, sufficient to overcome other sources of variation in rates of return." Weiss (1969, page 369), in a review of empirical work using the industrial economics paradigm concluded that "the typical result has been a significant but fairly weak positive relationship." Bass et al. (1978) speaking about the public policy implications of this stream of research noted that the Federal Trade Commission cannot rely on findings produced by the industrial economics paradigm for the direction of public policy efforts.

Chapter 2: Literature Review
Montgomery (1985, page 789) notes that "for the most part, the results of these studies have been inconclusive and contradictory and have not demonstrated a clear relationship between diversification and profitability." She offered two reasons why the market power theory failed in predicting superior performance for diversified firms. The first reason is that, depending on the distance from core markets, diversified firms may be at a disadvantage with non-diversified firms because they have developed less skill in dealing with the crucial variables that lead to success. A second reason is that diversification into areas unrelated to the firm's core markets may be a defensive rather than offensive action. That is, a firm may diversify in search of opportunities that are unavailable to it in its core market. Whatever the reasons, this research stream adds little to our understanding of the effect diversification strategies have on corporate performance.

R-related Perspective Literature

Interest in diversification by researchers in the business policy area was sparked, in part, by the work of Chandler (1962). His work on the historical development of corporate strategy and structure showed that new
organizational structures resulted when firms diversified. Building on Chandler’s work, Wrigley (1970) recognized that there were significant differences in the diversification strategies chosen by firms. Wrigley identified four diversification strategies, he called categories of diversification, a firm could pursue. Rumelt (1974) extended Wrigley’s work by refining his categorical scheme (see Chapter One). Unlike the work done by researchers using the level of diversification perspective, Wrigley (1970) and then Rumelt’s (1974) work was based on empirical observation instead of theory. The implications that empirical observation not grounded in theory have for research using the R-related perspective will be discussed later in this Chapter. Rumelt (1974) was the first researcher using either perspective to establish empirically a link between corporate diversification strategy and financial performance. Other researchers also investigated the diversification-performance link using the R-relatedness perspective. The results of this large body of research, however, have been inconclusive. Due to the number of studies, it is impossible to present an exhaustive review. The purpose of the following review is to illustrate this inconclusiveness by providing example of works that either support or contradict Rumelt’s (1974) initial study.

Bettis (1981) investigated the performance difference between R-related and R-unrelated firms. He sampled eighty
different firms (thirty-one related-constrained firms, twenty-four related-linked firms, and twenty-five unrelated firms). The sample represented all Rumelt's (1974) original sample of related-constrained and related-linked firms for which data was available on the COMPSTAT tapes. Additional unrelated firms were chosen from the Fortune 500 to obtain an adequate sample size.

Bettis (1981) found that, on the average, related-constrained firms outperform unrelated ones about one to three percentage points as measured by return on assets. The results, however, may have been confounded by industry participation effects and he recommended that his results need further examination to determine which parts of the performance difference are due to diversification strategy and which are due to industry effects.

Christensen and Montgomery (1981) incorporated both R-related diversification strategy and market structure variables into a study of corporate financial performance. They updated the information on a sub-sample of one hundred and twenty-eight firms from Rumelt's 1974 study in order to investigate the possibility that market structure variables might moderate or confound the results he reported.

Their study demonstrated significant performance differences for some of Rumelt's (1974) categories but did not find significance across the range of categories. They
further found that unrelated firms had lower market share and were located in less profitable and concentrated markets. Related firms, on the other hand, were found in more profitable, faster growing, and more highly concentrated markets. Christensen and Montgomery (1981, pg. 338) conclude that "differences in diversification strategy go beyond skeletal patterns of product linkage and include the characteristics of the markets in which they participate."

Rumelt (1982) sought to replicate his 1974 study using more recent and complete data. His sample included two hundred and seventy-three Fortune 500 firms chosen between the years 1949 and 1974. Each firm was assigned to one of seven diversification categories for each year it was a member of the Fortune 500. He collapsed his original nine into seven categories by combining dominant linked and dominant unrelated into one category, and multibusiness unrelated and unrelated portfolio into a single category.

Rumelt (1982) found that the related-constrained, related-linked, and the unrelated business categories demonstrated statistically significant differences in their level of performance (measured as return on capital). He viewed this as a replication of his previous study. Rumelt (1982, pg. 359) said:

Theoretical arguments are advanced that predict the association (between diversification strategy and performance) which will remain once the effects of
varying industry profitability are removed. Empirical tests verify this prediction and permit the discrimination between the effects of industry and diversification strategy on profitability.

Varadarajan and Ramanujam’s (1987) proposed a categorization scheme with similarities to Rumelt’s (1974). They developed a two-dimensional categorical measure of firm diversity that built on the work of Berry and Wood (Varadarajan and Ramanujam, 1987). One of the four cells corresponded to the single and dominant categories of Rumelt’s (1974) scheme. Another cell corresponded to the R-related category. A third cell corresponded to the R-unrelated category. The forth cell, however, had no strict correspondence to the Rumelt (1974) scheme but where viewed as highly diversified firms that were neither predominantly R-related or R-unrelated.

Their findings basically confirmed those of Rumelt’s (1974) in that R-related firms outperformed R-unrelated ones. They also highlighted, however, the dangers of generalizations regarding the relationship between diversification strategy and financial performance. When return on capital was used as the performance criterion, sixteen percent of the related diversifiers were in the very low performance category and seventeen percent of the unrelated diversifiers were in the very high performing category. Conversely, only thirty-five percent of the firms were in the high performing related

Chapter 2: Literature Review
category and only thirty-seven percent of the firms in the low performing unrelated category. These proportions are, according to Varadarajan and Ramanujam (1987, pg. 388), "not so overwhelming as to cast related diversification in a very favorable light or unrelated diversification in a very unfavorable light."

Palepu (1985) used the Jacquemin-Berry entropy measure as the method for assigning firms to either an R-related or R-unrelated category. His sample included twenty firms in the food products industry group. He used a single industry sample to control industry specific effects. Palepu (1985) found that there was no significant difference in the cross-sectional performance of related verses unrelated diversifiers. He did find, however, a significant difference in the profitability growth rate of related verses unrelated diversifiers over a seven year period. Further, for firms that continue with an R-related diversification strategy over time, the superior profitability growth rate seems to translate into superior profitability levels. Although the evidence for this assertion was not highly significant, Palepu (1985) reasoned that seven years might not have been a long enough period for the trend in superior performance to reach significance.

Amit and Livnat (1988) empirically investigated the benefits and costs associated with both R-related and R-unrelated diversification strategies.
unrelated diversification strategies. They examined firms that diversified for purely financial (defined as R-unrelated diversification) as opposed to synergistic (defined as R-related diversification) motives and found that pure financial diversification was associated with lower operating risk, increased levels of leverage, and lower profitability. They also found firms that diversify using an R-related strategy have, on the average, higher profitability than non-diversified firms, although the results were not always significant.

Bettis and Hall (1982) conducted a study that included all of Rumelt's (1974) original sample for which data were available on the COMPSTAT tapes. In examining the data prior to statistical analysis, these researchers noticed that four of the six highest performance firms in the R-related (constrained) category were major participants in the pharmaceutical industry. The researchers were concerned that the superior performance of the firms in the R-related category may be more an indication of the performance of the pharmaceutical industry than a measure of R-related diversification per se. Bettis and Hall (1982) found that related firms did not outperform unrelated firms when the pharmaceutical firms were removed from the sample. They concluded that the superior profitability of R-related firms
found by Rumelt (1974) in his study may be due largely to industry effects inherent in the composition of the sample.

Michel and Shaked (1984), used Rumelt’s (1974) categorization scheme in a study of fifty-one firms selected from the Fortune 250 list of largest firms in the United States. They used the market based measures of risk and return developed in the finance area as opposed to the more common accounting based measures as surrogates for firm performance. They found that firms employing R-unrelated diversification strategies generate superior performance to those pursuing R-related diversification strategies. Michel and Shaked (1984) offered several explanations for why their study contradicted the results found by Rumelt (1974). First, they noted that while market based and accounting based measures are expected to provide consistent results, this may not have been the case. Second, there could have been differences in the way firms were assigned to the various R-related categories. They noted that of the studies which have addressed this issue, some (e.g., Montgomery, 1982) have found a high degree of correspondence between their assignments and those of Rumelt’s (1974); while others (e.g., Nathanson, 1985) have found that informed executives were consistently unable to group firms into the same categories. Another factor that they felt may account for the difference in findings is industry characteristics. Heavy grouping of firms favoring
one particular industry may affect the findings (see Bettis and Hall, 1982). Lastly, they believed that the time
difference between Rumelt’s (1974) and their study could have
made a difference in the findings. Data for Rumelt’s (1974)
study were obtained during a period of stability, low interest
rates, and low inflation while their data were obtained during
a period of considerable uncertainty largely precipitated by
the Arab oil embargo of the early seventies.

Dubovsky and Varadarajan (1987), taking into account the
issues raised by Michel and Shaked (1984), reanalyzed their
study using the same firms and the same time period. They
reported a correlation of 0.96 between the classification of
firms by Michel and Shaked (1984) and their study. They
found, however, a negative correlation between the market
based measures used by Michel and Shaked (1984) and the
accounting based measure they also included in their study.
Additionally, the results revealed that R-unrelated firms
significantly outperformed those that were highly R-related;
thus, confirming the results obtained by Michel and Shaked

The inconsistent findings, as illustrated in this review,
may result from several factors. One factor may be that
different performance measures are used in various research
studies. A common characteristic of diversification research
in the field of strategic management is the use of accounting
data to measure performance. Accounting data reflects a firm’s performance over past years. Other researchers (Michel and Shaked, 1984) employ market based measures such as risk and return. These measures are based on the price of a firm’s stock, which conceptually reflects the market’s perception of a firm’s future performance. Dubofsky and Varadarajan (1987) state that the disagreement between Michel and Shaked’s (1984) findings and the results reported in studies employing accounting measures of performance raise intriguing issues. Although they expect that results based on these two performance measures should be consistent, they acknowledge that the difference in measures may be a factor accounting for the inconsistent findings.

Additionally, samples favoring a particular industry without controlling for industry effects may help explain some of the inconsistent findings (Bettis and Hall, 1982; Dubofsky and Varadarajan, 1987). Diversified firms are collections of business units and these businesses may compete in different industries. Different industries have different structural characteristics that result in different profit potentials in each industry. Studies with samples favoring profitable or less profitable industries may affect findings. Such a situation occurred with Rumelt’s (1974) initial sample in that it contained a disproportional amount of firms in the pharmaceutical industry.

Chapter 2: Literature Review
Still another factor accounting for the difference in findings could be that the R-related dimension is not the only form of relatedness affecting the diversification strategy-performance relationship. It is conceivable that businesses that are unrelated in a product-market sense could be related in other ways such as requiring similar strategic, organizational, and operating skills. If at least one other relatedness dimension is also operative in affecting the diversification strategy-performance relationship, then the conclusions of prior research would have to be re-examined.

Challenges to the R-related Perspective Literature

Given the inconclusive nature of studies dealing with the affect corporate diversification strategy has on corporate performance, researchers have in recent years begun looking for alternative explanations to the one offered by Rumelt (1974). One such theory was put forth by Harrison et al. (1991) and dealt with unique and complementary synergies and differences.

The theory posits that the selling price of a firm will reflect the public information available about it. The traditional explanation suggests that when resource allocation patterns of the target firm are known, firms with similar
resource patterns are likely to bid on the target firm. They do so hoping to develop synergy, thus improving post-acquisition performance. The bidding process stirs competition among the firms resulting in an auction and therefore, in a higher purchase price. Because of this higher purchase price, a substantial portion of the value that may have been obtained through synergy is transferred to the shareholders of the target firm.

Alternatively, Harrison et al. (1991, pg. 177) argue that "uniquely valuable synergy is more likely to occur under dissimilar resource allocations rather than similar resource allocation patterns." There are two reasons for this. First, differences in resource allocation patterns between the target firm and potential bidding firms will lessen the likelihood that similar bids will be offered simply because most firms won't see the possibility of developing synergy. Therefore, if one bidder has reason to believe that private synergies can be developed, that firm may not have to engage in an auction with other bidders to obtain the target firm. This allows the acquiring firm to extract value from synergy that would normally be paid to shareholders. Second, Harrison et al. (1991, pg. 187) argue that "different but complimentary resource flows may be more likely to create unique and private synergy than similar resource flows." It is important to note that, given this argument, superior performance results are
potentially available to both R-related and R-unrelated acquisitions.

Because resource allocation patterns are used by this study to define similarities or differences in business level strategy, the Harrison et al. (1991) study takes on additional significance for this research because their theoretical expectation is opposite to what is expected here. Although their findings supported their hypotheses, there were certain methodological problems. Specifically, their sample was multi-industry but they made no effort to control for industry effects in resources allocation patterns. This lack of control could result in the appearance of dissimilarities due to different industry environments when none, in fact, exist. For example, resource allocation patterns for firms in the steel industry probably will be dissimilar to firms in the toy industry. If these industry effects are not considered, researchers might assume that a firm in the steel industry is pursuing a different strategy from one in the toy industry because of the difference in their resource allocation patterns. They may, however, be pursuing the same strategy; a fact that is masked by the different industry requirements each is operating in.

Another alternative theory is put forth by Jones and Hill (1988). They examined the corporate diversification strategy-performance relationship using a transaction cost approach.
A central question of transaction cost analysis is whether or not an exchange can be undertaken at a lower cost via the market or firm hierarchy. If the costs of market transactions are high, then the firm can reduce those costs by internalizing the transaction. Corporate diversification can be seen as a way of reducing transaction costs by internalization. The transactional cost approach is a function of two factors. First, it is a function of the economic benefits available by internalizing market transactions. Second, it is a function of the bureaucratic costs that arise as a result of the administration of the intra-firm exchange.

A basic premise of the Jones and Hill (1988) transaction cost approach is that R-related and R-unrelated corporate diversification strategies each produce a different set of economic benefits and costs for a firm. A vertical integration strategy (a special R-related form) produces mainly economies of integration by decreasing three transaction difficulties. First, it allows the firm to invest in specialized assets that result in lower costs of production. Second, it avoids the possibility of resource misallocation due to information impactedness. Third, it does away with the necessity of writing complex contracts to govern exchanges between separate business units.
Other R-related strategies (concentric diversification and horizontal integration) produce mainly economies of scope, although they may benefit from economies of integration and internal capital markets as well. Economies of scope arise through the shared or joint use of inputs or other synergistic effects available through the cooperative effort of the separate business units. Examples of synergistic effects would include sharing common channels of distribution, engaging in common advertising, or sharing technological information. Market transaction problems, including opportunism, information impactedness, and bounded rationality, "provide an economic rational for internalization through R-related diversification (Jones and Hill, 1988, pg. 162)."

R-unrelated diversification produces economies of internal capital markets. These economies can be achieved because the external capital market failures resulting from opportunism and information impactedness. The corporate office, as an internal investor, can overcome the difficulties associated with investing in external capital markets because it can use internal audits, performance monitoring systems, incentive schemes, and the like to monitor and encourage efficiency.

Economic benefits cannot be obtained without cost. Jones and Hill (1988) use Thompson's organizational
interdependencies model to analyze the differences in bureaucratic costs associated with different types of diversification strategy. The progression from pooled, to sequential, to reciprocal interdependence produces successively higher costs due to increased performance monitoring problems. Jones and Hill (1988, pg. 163) state that the "ease of monitoring the performance of individual divisions will decrease as divisions become jointly specialized and share resources in order to realize economies of integration or scope." The lowest bureaucratic costs are associated with R-unrelated strategies. This is because R-unrelated diversification is based upon pooled interdependence (where each business unit functions as a self-contained entity), thus resulting in the lowest need for coordination. Vertical integration is the next most expensive strategy. It is based upon sequential interdependence where resource flows from one unit to the next must be coordinated. This type of coordination necessitates investment in bureaucratic controls to coordinate inter-divisional exchange. R-related diversification is the most expensive strategy because it is based upon reciprocal interdependence which makes it difficult to assign accountability for performance. Further, the realization of synergistic gains requires inter-unit coordination by corporate headquarters. The response by the
corporation is in the form of increased information and control, both of which increase costs.

A rational choice (although it should be remembered that not all management choice will be rational) between the different diversification strategies to pursue can be made by determining which strategy will provide the greatest positive difference between its economic benefits and costs. Jones and Hill (1988), making use of economic analysis involving both marginal costs/benefits and total costs/benefits arrive at the conclusion that R-related diversification will be more profitable at lower levels of diversification and R-unrelated strategies will be more profitable at higher levels of diversification. Implications of this approach for this dissertation will be discussed in Chapter Five.

This dissertation also offers an alternative to the R-related perspective for understanding the diversification strategy-performance relationship. As in the case of Harrison et al. (1991) and Jones and Hill (1988), a theoretical framework is developed to explain performance differences among firms using different corporate diversification strategies. It is believed that while relatedness is an important factor to consider, the R-related dimension may not be the most important in defining the nature of the diversification strategy-performance relationship.

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Strategic Similarity Perspective

The strategic similarity perspective advances the idea that a corporate diversification strategy based on achieving similarity among business unit strategies will produce superior financial results for a firm. Dominant general management logic provides the theoretical underpinnings for this perspective. A discussion of dominant logic will be presented next. This will be followed by a discussion of the hypotheses to be empirically tested.

Dominant Logic

The strategic similarity perspective is based on Prahalad and Bettis’s (1986) idea of dominant general management logic (or simply dominant logic). Prahalad and Bettis (1986, pg. 491) define dominant logic as:

- a mindset or a world view or conceptualization of the business and the administrative tools to accomplish goals and make decisions in that business. It is stored as a shared cognitive map (or set of schemas) among the dominant coalition. It is expressed as a learned, problem-solving behavior.

Dominant logic is a collective of the top management team’s individual beliefs, theories and approaches to decision making, based on each manager’s personal experience, that has
developed over time. Ginsberg (1990, pg. 521) argues that groups don't "think per se but . . . draw upon the different cognitive abilities available among their membership . . . to collect and interpret information and to communicate among themselves." Without a dominant logic, the top management team would need to approach each new organizational event as if it were unique. Dominant logic permits managers to respond rapidly and efficiently to each organizational event without the need of analyzing systematically a large number of ambiguous and uncertain situations (Prahalad and Bettis, 1986).

A major implication of the notion of dominant logic on diversification strategy is that the ability of the top management team to manage diversification is limited by the dominant logic(s) it possesses. Prahalad and Bettis (1986, pg. 490) state that "if the businesses in a diversified firm are strategically similar, one general dominant management logic would suffice." When businesses are strategically dissimilar, however, more than one dominant logic will be required.

Since multiple dominant logics are hard to acquire and maintain (the reason for this will be discussed later), it is likely that a firm will not have dominant logics readily available to deal with low S-relatedness when it arises. Consequently, managers will be forced to (or will unwittingly)
use their existing dominant logic to deal with the low S-relatedness. One implication of this situation manifests itself in corporate performance. Prahalad and Bettis (1986, pg. 497) note:

A high level of performance in a diversified firm requires the ability to 'respond fast' to competitor moves as well as 'respond appropriately'. One of the implications of our thesis, so far, is that top managers are less likely to 'respond appropriately' to situations where the dominant logic is different, as well as not respond quickly enough, as they may be unable to interpret the meaning of information regarding unfamiliar businesses. The 'hidden costs' associated with diversifying into non-familiar businesses . . . are not explicitly recognized when the overall business climate is very favorable. Problems surface when newly acquired businesses (which are strategically dissimilar) encounter competitive problems or are faced with a profit crisis. Top managers find themselves unable to respond to the crisis under those circumstances (Hamermesh, 1977).

Because dominant logic is based on experience, the addition of a new dominant logic or the changing of an existing one is a slow process involving organizational learning (Prahalad and Bettis 1986). In order to understand the difficulties associated with changing or adding dominant logics, it is first necessary to understand how managers' cognitive maps are developed.

Prahalad and Bettis (1986) identify four reasons why individual cognitive maps are difficult to develop and change. The first is based on Skinner's notion of operant conditioning. Skinner believed that behavior which is
reinforced is observed more frequently in the future while behavior that is ignored or punished is likely to diminish over time. Managers who have had past behavior rewarded by success are more likely to evoke similar behavior in the future. Thus, the approaches used by managers in new businesses are likely to be those that were used previously even if they are inappropriate for the new businesses.

The second reason is based on Kuhn’s notion of paradigm. Kuhn argued that any particular science is characterized at any given point in time by a set of ‘shared beliefs’ or ‘conventional wisdom’ about the world he called the dominant paradigm. Kuhn believed that the dominant paradigm is difficult to change and only does so in times of crisis. According to Prahalad and Bettis (1986, pg. 492), "The dominant paradigm and the dominant logic are conceptually similar but employed in different fields."

The third reason is based on the idea of pattern recognition. Researchers have discovered from studies of chess players that their decisions are made based on what worked before rather than on some best strategy they devised for a particular game. In applying this to their theory, Prahalad and Bettis (1986) imply that managers store ‘patterns of success’ that are called on in new situations. Solutions based on past experience may be inappropriate in current situations, however.
The final reason is based on cognitive psychology. Researchers studying the psychology of cognitive biases have noted that people rely on a limited number of heuristic principles to simplify complex and uncertain decisions. One principle of interest to Prahalad and Bettis (1986) was that of the availability heuristic. This heuristic leads people to make decisions based on what can be readily brought to mind. Prahalad and Bettis (1986, pg. 493) further state:

Obviously, for top managers, knowledge of the core business and the business they are most familiar with will be a significant source of available information. They tend to apply it to other businesses where it may or may not be appropriate (Das, 1981). Research on cognitive processes suggests that the mind set and repertoire of tools that constitute the dominant logic are likely to be inappropriately applied by managers confronted with a 'different' business, and that there is significant 'learning' that proceeds changes in those biases. The difficulty of operating in diverse businesses that require multiple dominant logics is obvious.

These four areas constitute the processes by which dominant logic evolves (i.e., how individual cognitive maps develop and change) and outline the difficulties associated with changing or adding new ones.

The process whereby an organization can change existing dominant logics or add new ones is slow given the complexities involved in developing dominant logics. Prahalad and Bettis (1986) suggest several ways in which this may be accomplished. First, they suggest that a precipitating crisis is necessary
to begin the change process. Second, the existing dominant logic must be unlearned. Unlearning involves eliminating old logics to make way for new ones. At this point the stage is set for learning new dominant logics but Prahalad and Bettis (1986) acknowledge that little is known about how organizations' cognitive structures are changed. They offer several speculative ideas on how organizations go about learning new dominant logics. All the suggestions take time and assume that certain difficult recommendations (e.g., making organizations more experimental) can be successfully achieved. Given the nature of the recommendations, it is appropriate to argue that it is difficult to add or change dominant logics.

**S-relatedness Dimension**

This paper now turns its attention to the S-relatedness dimension. Unlike a firm's position in the R-relatedness dimension which is categorical, a firm's position in the S-relatedness dimension is relative. That is, a firm may have either a higher level of S-relatedness or a lower level of S-relatedness when compared to other firms. This can be illustrated using the Miles and Snow (1978) typology. If a corporation pursues an S-related strategy, its business units
could all be classified as the same strategic type, for example, defenders. The firm would be considered to have high S-relatedness. If, on the other hand, a firm pursues a diversification strategy that results in different strategic types across business units it would exhibit relatively low S-relatedness. Its business units would be classified in more than one type, for example, defenders and prospectors. In this situation, the firm would be considered less S-related than the firm in the first example.

Hypotheses

The choice of merger and acquisition partners determines a corporation’s level of S-relatedness because it affects the degree of strategic similarity among business units within the firm. Since a change in dominant logic(s) is slow and difficult, as previously discussed, this precludes either the development of a new dominant logic by the acquiring firm or the changing of the acquired firm’s dominant logic in the short run. A relatively low level of S-relatedness imposes significant costs upon a firm and those costs will negatively affect corporate performance. The performance of a diversified firm, then, is dependant on its level of S-relatedness.

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Hypothesis One:

The performance of a diversified firm is independent of its level of S-relatedness.

The first hypothesis is designed to test for a significant relationship between the level of S-relatedness and corporate performance. Firms with relatively higher levels of S-relatedness should outperform firms with relatively lower levels of S-relatedness because there are fewer costs associated with high S-relatedness.

Another question for consideration is whether firms that are R-related (as opposed to R-unrelated) are more likely to be highly S-related? The a priori expectation is that they will be. The more R-related a diversification candidate’s business activity is compared with the acquiring firm’s core business activity, the less should be the involvement of corporate management in terms of time and information needed to identify strategic similarity among business units. There are several reasons for this.

One reason is that the strategic similarity between the firm’s existing business units and the diversification candidate will be harder to identify if the business units operate in different industry environments. The variation in different strategies among firms in a common industry may be
less than the variation of a single strategy being used by firms in different industries.

Another reason more time and effort must be expended by corporate management in identifying strategic similarity in R-unrelated (as opposed to R-related) firms arises out of the notion of cognitive construction theory. Cognitive construction theorists posit that one activity of top managers is to interpret issues and make judgements relevant to strategic issues (Ginsberg, 1990). Although many cognition theorists reject the application of cognitive theory to collectives of individuals, Ginsberg (1990) argues that it can be properly applied if one is concerned with understanding not how management groups "think" per se but how they draw upon the cognitive abilities of the different members in shaping group decisions.

Strategy researchers have considered various ways in which managerial cognitions affect the process of diversification. Ginsberg (1990) has developed a sociocognitive model of the relationship between diversification and performance. This model addresses several important questions. One question is how the characteristics of a shared belief system influence the learning ability of corporate management. Learning ability influences the amount of time and information needed by corporate management to identify the level of S-relatedness among business units.

Chapter 2: Literature Review
One dimension of the model is cognitive complexity. Cognitive theory states that cognitive complexity is a function of both the number of constructs in the system and the nature and extent of the rules for integrating these constructs (Ginsberg, 1990). Cognitive complexity is associated with the ability to distinguish environmental elements on many dimensions rather than a few (Ginsberg, 1990). Cognitive complexity, according to Ginsberg (1990), plays a determining role in managers' ability to uncover relevant similarities and differences between business units.

The ability to uncover previously unconnected strategic similarities between business units requires some degree of cognitive complexity. The degree of cognitive complexity required is dependant on how "unconnected" (or distant in terms of R-relatedness) the business units are from each other. It follows that the further removed (in terms of R-relatedness) a potential business acquisition is from the acquiring firm’s core business, the more cognitive complexity is required to uncover strategic similarities. As the analysis shifts from a single industry environment to multiple industry environments, the number of environmental elements and dimensions increase, they differ, and they may change at different rates. Since R-related acquisitions are closer to the acquiring firm's core businesses, less cognitive complexity would be required to uncover strategic similarities.
among the firm's core businesses and the diversification candidate. The need for less cognitive complexity to uncover strategic similarities in R-related firms should result in an opportunity for R-related acquisitions to become more highly S-related than their R-unrelated counterparts.

The two reasons offered, the masking of strategic similarity in different industries and the degree of cognitive complexity required to uncover strategic similarities supports the conclusion that less time and effort by corporate management is needed to identify strategic similarity in R-related as opposed to R-unrelated firms. This conclusion leads to the premise that R-related firms are likely to be more highly S-related than are R-unrelated firms. This premise is stated as the following hypothesis.

**Hypothesis Two:**

There is no significant difference in the level of S-relatedness of a firm based on its R-relatedness.

This hypothesis is stated in the null but the a priori assumption is that firms which are R-related will have a higher level of S-relatedness than firms which are R-unrelated. A practical result of R-related firms also being more highly S-related is that by utilizing the S-related perspective it is theoretically possible to explain the
conflicting findings by researchers regarding the question of what effect diversification strategy has on corporate performance. For instance, it could happen that in a specific sample of R-related and R-unrelated firms fewer highly S-related firms appeared in the R-related category sample than in the R-unrelated category or visa versa. In the first instance, results contradictory to those predicted by Rumelt's scheme would then be found.

A final question of interest for this study is which relatedness dimension is relatively more important (or are both equal) in its effect on corporate performance? The expectation is that firms with higher S-relatedness should outperform those with lower levels of S-relatedness. It has been previously argued that S-related firms can be managed using a single dominant logic while S-unrelated ones would require more than one. It is unlikely that a firm could develop, in a reasonable length of time, the new dominant logic(s) necessary to enjoy performance equal to that of S-related firms. Thus an established dominant logic becomes a resource that if exploited can enhance the performance of the firm (Blackburn and Shrader 1990). This type of resource should benefit the performance of both R-related and R-unrelated firms equally. The theoretical position presented in this chapter concludes that the S-related dimension will
take precedence over the R-related dimension in its affect on corporate performance.

Support for the argument that the S-related dimension is relatively more important than the R-related dimension in affecting corporate performance is found in Varadarajan and Ramanujam's (1987) conclusion that R-related diversification may be a necessary but not sufficient condition for high performance. Varadarajan and Ramanujam's (1987) conclusion was based on the fact that a substantial number of R-unrelated firms had high performance while a substantial number of R-related firms had low performance.

Other researchers (Harrison et al., 1991) have taken somewhat conflicting positions. It will be remembered that Harrison et al. (1991) argued that low S-relatedness would result in higher performance. It has been discussed earlier in this chapter that their findings did not take into account industry characteristics (such as differing levels of profitability) and, therefore, may have biased the study.

Jones and Hill (1988) argued that both R-related and R-unrelated diversification produce superior performance depending on the level of diversification. The S-relatedness perspective can accommodate these findings. Its ability to do so will be discussed below.
The premise that high S-relatedness can be found equally in both R-related and R-unrelated firms is stated in the third hypothesis.

**Hypothesis Three:**

The relationship between the performance of a firm and its level of S-relatedness is dependant on its R-relatedness.

Once again, the hypothesis is stated in the null but the theoretical expectation is that the relationship between corporate performance and the firm's level of S-relatedness takes precedence over any impact the firm's R-relatedness may have on its performance. In other words, there should be firms that exhibit high levels of S-relatedness in both the R-related and R-unrelated categories. Further, firms with high levels of S-relatedness should perform better than firms having lower levels of S-relatedness regardless of their R-related category. There is little about R-relatedness, by itself, to prevent an R-unrelated firm from being highly S-related.

There are extreme cases, however, where S-relatedness may be hard to achieve. One example would be a firm pursuing an R-unrelated strategy. Two unrelated businesses such as toys and cement might be difficult to manage using a single
strategy. The nature of commodities, such as cement, dictates different strategic approaches even though both business units explicitly pursue defender-like strategies. Since this is an extreme case and envisioned to have little impact in terms of the number of diversified firms represented by the extreme case, the implication for a firm wanting to diversify is that S-relatedness is a more important dimension to control than R-relatedness.

Summary of Chapter Two

This chapter began with a review of the level of diversification perspective literature. The conclusion reached by this dissertation was that this perspective adds little to our understanding of the effect diversification strategies have on corporate performance. This conclusion is generally acknowledged by both industrial economics and strategic management researchers.

After reviewing the level of diversification perspective literature, the R-related perspective literature concerning the same topic was reviewed. It was noted that Rumelt’s (1974) initial work has become seminal for researchers investigating the management of corporate diversity. Although it was noted that studies using Rumelt’s (1974) categorical
scheme to investigate the diversification strategy performance relationship has been inconclusive and contradictory, this scheme continues to be used by researchers.

Next, this dissertation proposes a new perspective utilizing an alternative dimension of relatedness. This new dimension is based on the degree of strategic similarity between existing business units and new acquisitions and mergers. It is hypothesized that this new dimension of relatedness adds to our understanding of how diversification effects corporate performance and proposes a diversification strategy that would result in higher performance.

A theoretical basis for the S-related dimension is developed. This paper postulates that multiple business unit strategies within a single corporate entity impose increased costs that negatively effect corporate performance. These costs are imposed because dominant logic serves as a constraint when management is required to simultaneously employ multiple and inconsistent dominant logics. Dominant logic reduces the complexity of decision making to manageable levels but does so at the expense of managers being able to make appropriate decisions in a wide variety of strategic contexts.

Finally, hypotheses were proposed. These hypotheses are designed to test the major assertions of this paper. These assertions are that the level of S-relatedness affects a
firm's performance, that R-related firms have higher levels of S-relatedness and that high levels of S-relatedness can be found in both R-related and R-unrelated firms.

Chapter Three will offer a discussion of the methodological issues involved in conducting the tests for these hypotheses. Chapter Four will present the result of those tests. Chapter Five will discuss the findings and implications for future research.
Chapter Three:

Methodological Issues

Introduction

This chapter focuses on methodological issues. Specifically, issues relating to the measurement of independent and dependant variables, methods of data collection, and data analysis are addressed. This section begins with a discussion of the measurement of independent variables.

Independent Variables

There are two sets of independent variables that are used in this study. They are used to measure the level of a business unit’s S-relatedness and assess its R-related category. This section begins with a discussion of the measurement of S-relatedness.
Measurement of S-Relatedness

This dissertation has introduced a new relatedness dimension that a firm may utilize in the management of its corporate diversification. The theory underlying this new dimension has been developed and hypotheses proposed for testing have been discussed. This new dimension of relatedness, referred to as S-relatedness, is the degree of similarity between business level strategies across business units within a diversified firm. One set of independent variables will, therefore, be measures of business level strategy.

Alternative Measures of Business Level Strategy

There have been several alternate approaches used to measure business level strategy. An early approach was the narrative approach that evolved from the case-based tradition of business policy. Proponents of this approach argue that each strategy is unique and so it is best described in a narrative fashion. Any attempt to develop a measurement scheme would be incomplete. While this view has merit, especially in conceptual development, it is ill suited for testing theories (Venkatraman, 1989).
A second approach is the classificatory approach. This approach consists of the development of strategic classifications, either typologies or taxonomies. Classifications that are inductively derived are termed typologies. Among the prominent alternatives is the classification scheme developed by Miles and Snow (1978). Venkatraman (1989, page 943) notes that the distinguishing feature of such typologies is that they:

are rooted in a set of parsimonious classificatory dimensions or conceptual criteria. While typologies are best known for their conceptual elegance, they do suffer from an inherent weakness in that it is fairly easy to find a single dimension on which a typology can be based and which will . . . support any given philosophical orientation.

Taxonomies, on the other hand, are empirical classifications. Some prominent taxonomies include Miller and Friesen (1978) and Galbraith and Schendel (1983). While taxonomies reflect the empirical existence of internally consistent groups, their development is sensitive to the choice of underlying dimensions and the methodology used to construct the taxonomies (Venkatraman 1989).

A third approach to measuring strategy is the comparative approach. This approach aims to measure key dimensions of the strategy construct. Snow and Hambrick (1980, pg. 537) have said that "researchers can enhance the validity of their strategy measures if they rely on multiple sources of information." Further, Hambrick (1980, pg. 571) notes that "a
multivariate analysis is most useful when strategy is viewed as a predictor construct in a research design."

The comparative approach was chosen for this research project as a means of measuring business level strategy. This approach assumes that strategy is a multi-dimensional construct. Dimensionality can be arrived at in one of two ways. One is based on a priori theoretical perspectives to guide construct development. This approach was chosen for use in this dissertation. The other approach is to derive dimensions a posteriori through analytical techniques such as factor analysis. The danger in using this approach is that any dimensions derived through data analytic techniques may not be interpretable given the theoretical perspective of the study (Venkatraman, 1989).

**Strategic Dimensions**

Venkatraman (1989) notes six dimensions that have been identified in the literature. A brief description of each dimension is provided in the following paragraphs.

**Aggressiveness.** This dimension refers to three different but related factors. The first factor refers to the posture adopted by a firm in the allocation of its resources to improve its market position at a relatively faster rate than
its competitors. A second factor refers to the notion of improving competitive position in the short run. The third factor is the pursuit of market share as an important path to profitability.

Analysis. This dimension is also composed of several factors. First, it embodies the tendency in organizational decision making to search deeper for the roots of the problem in order to generate the best possible solution alternatives. It also refers to the extent of internal consistency achieved by the organization in its allocation of resources and the use of appropriate management information and control systems. Venkatraman (1989) notes that this dimension does not reflect the 'analyzer' behavior of the Miles and Snow (1978) typology.

Defensiveness. This dimension is manifest in terms of organizational emphasis on cost reduction and efficiency. It reflects the defender type behavior outlined in the Miles and Snow (1978) typology. It also includes Miles and Cameron's (1982) concept of domain defense strategy.

Futurity. This dimension reflects the trade-off that exists between long run and short run considerations. This trait is manifest in organizational behavior that places emphasis on forecasting and environmental tracking.

Proactiveness. Proactive behavior is manifest in several ways. It can come from participation in emerging industries or continuous search for market opportunities. These new
opportunities may or may not be related to the current business activity. It also includes the introduction of new products ahead of the competition and taking action to eliminate operations that are in decline.

*Riskiness*. This dimension captures organizational risk taking reflected in decision criteria (such as decisions for resource allocations), as well as the choice of products and markets. It is also reflected in the overall pattern of organizational decision making.

**Resource Allocation Variables**

Resource allocation variables were chosen to measure a business unit’s strategy. Resource allocation measures have been widely used by strategic management researchers as a comparative approach to operationalizing business level strategy (see Harrison et al, 1991). To enhance construct validity, several steps were taken in the selection of these variables. First, they had to adhere to Beard and Dess’s (1981) four criteria. These criteria are to be used when selecting resource allocation variables to represent business level strategy. The criteria are: first, that a variable should confer a competitive advantage or disadvantage upon a firm; second, the data on the variables must be available for
both firms and industries in secondary data sources; third, the variable must be amenable to management control; and forth, the variables must be characteristic of the organization as a whole and be observable across organizations in a given industry. Every effort was made to ensure that the resource allocation variables chosen for this study adhered to these criteria.

The second step was that, as far as possible, the resource allocation variables had to be used in previous research. Five of the nine variables used in this dissertation including firm asset size, capital intensity, administrative (selling, general, and administrative) intensity, interest intensity, and debt to equity, have been widely used as resource allocation variables in empirical studies to measure business level strategy (see Beard and Dess, 1981 and Harrison et al., 1991). Intensity was measured similarly for all variables. It was calculated by dividing the dollar amount of expenditures by total revenues. Even though no previous researcher has included all five variables in a single study, each has been used in at least one study. The other four variables used in this dissertation meet the Beard and Dess's (1981) criteria but there is no indication that they have been utilized in previous studies. They were included to represent strategic dimensions not covered by the other five variables.

Chapter Three: Methodology
The last step was to choose variables to represent as many of the six dimensions identified by Venkatraman (1989) as possible. The aggressiveness dimension reflects efforts by the firm to improve competitive position through a faster growth rate than competitors. One such route to a faster growth rate is through high investment (Venkatraman, 1989). A traditional measure of high investment is asset size (Beard and Dess, 1981), a measure used in this dissertation.

The analysis dimension refers to a firm’s problem solving posture. One indication of this is how committed a firm is to collecting information on which to base decisions. Net sales to inventory is the variable chosen to reflect this dimension. This ratio is the measure of a relationship that shows the rapidity at which merchandise is being moved and the effect on the flow of funds into the business. Net sales to inventory presents an opportunity to the firm to enjoy a competitive advantage or disadvantage in either storage costs and/or sufficient or insufficient stocks to meet demands. This is a standard accounting ratio routinely utilized by firms in analyzing their operations.

The defensiveness dimension reflects the willingness of a firm to make significant modifications to their manufacturing technology with an emphasis on cost reduction and efficiency gains. Capital intensity is the variable...
selected to represent this dimension. Companies upgrade their physical plant to gain operating efficiency.

An additional resource allocation variable chosen for this dimension was cost of goods sold intensity. Cost of goods sold data can be used as a surrogate resource allocation measure in the sense that management decides how many resources to devote to the production portion of the business. For example, a firm can devote resources in the production area aimed at lowering production costs. The development of a low cost production capability is one competitive advantage a firm can achieve with respect to competitors in the industry (Porter, 1980) and characteristic of the defensiveness dimension.

The ratio of a firm’s cost of goods sold to sales, when compared to the industry’s average, provides a way to measure whether a firm is allocating resources to develop a low cost position in the industry vis a vis its competitors. Resource allocations aimed at lowering production costs can be part of an overall strategy. In fact this type of strategy is consistent with Porter’s (1980) notion of a low cost generic strategy or Miles and Snow’s (1978) defender like strategy. For these reasons, then, the cost of goods sold intensity variable is an appropriate surrogate resource allocation variable.

Chapter Three: Methodology
The futurity dimension reflects the degree to which criteria for resource allocations are either short or long run. The ratio of total assets to current assets is a measure of this dimension. This ratio provides information on the intent of management to concentrate its resources in either a short term or long term orientation. A proportionately larger share of current assets in the total asset base indicates a firm’s decision to emphasize things such as liquidity or order response time over long term investment aimed at survivability and adaptability.

The proactiveness dimension reflects the degree to which a firm introduces new products or innovates in other ways. Administrative intensity was the variable chosen to measure this dimension. Standardized accounting procedures call for the inclusion of expenses associated with marketing, promotion, advertising, R & D and other administrative expenses to be reported in the administrative expenses category. These expenses are indicative of the firm’s efforts toward new product development and other types of innovation.

The riskiness dimension indicates whether a firm’s operations can be characterized as high risk. To measure this dimension, three different variables were selected. Sales to net working capital, interest intensity, and debt to equity are measures of financial riskiness.
Sales to net working capital is a standard accounting ratio indicating whether a company is overtrading or conversely carrying more liquid assets than needed for its volume. This cash allocation measure, when compared to industry averages, denotes whether firms are taking a financial risk by overtrading or opting for a more conservative financial approach to managing the business.

Interest intensity is an indicator of the interest rate that the business unit is paying for its debt. A higher than industry average interest rate is a sign that credit markets characterize this business as high risk. Finally, the debt to equity ratio also indicates financial riskiness. The higher the ratio, the more operations are being financed by borrowing. This, in and of itself, does not reflect negatively on a firm because many successful firms borrow to gain an advantage through financial leverage. At too great a level, however, the firm is more vulnerable to fluctuations in the economy because fixed debt payments are due regardless of prevailing economic conditions.

In summary, then, nine variables are used to measure a business unit’s strategy. The nine variables are: firm asset size, capital intensity, administrative intensity, interest intensity, debt to equity, sales to net working capital, sales to inventory, cost of goods sold to sales, and total assets to current assets.
Measurement of R-Relatedness

Researchers have used various approaches when addressing the task of assigning a firm to an R-related category. The choice of assignment has been guided by the research question at hand. Rumelt (1974, 1982) and several other researchers (Bettis, 1981; Bettis and Hall, 1982; Dubofsky and Varadarajan, 1987; Grant, Jammie, and Thomas, 1988) following Rumelt’s (1974) lead have employed the categories first developed by Wrigley (1970) and later refined by Rumelt (1974).

Rumelt’s (1974) classification schema has gained some acceptance among researchers and has worked well if the task is to separate firms into a variety of R-related, including the R-unrelated, categories for comparison (Montgomery, 1982). The chief deficiency with this procedure for identifying R-relatedness is that the assignment process is subjective in nature and may result in different researchers placing the same firm in different categories. This is especially true when assignments are made to the R-related categories but is less likely to occur when identifying R-unrelated firms. Some researchers (Bettis, 1981; Bettis and Hall, 1982) have avoided this problem by using as much of Rumelt’s (1974) original sample as possible.

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Other researchers (Palepu, 1985) have used continuous measures to establish a firm’s R-relatedness category. The measure used by Palepu (1985) is based on the work of Jacquemin and Berry (1979). Jacquemin and Berry (1979) proposed a methodology for assigning a level of R-relatedness to a firm’s diversification that they termed the entropy measure. It takes into account two elements of diversification. The first element is the number of segments in which a firm operates and the second is the relative importance of the segments to the firm’s total sales. A chief benefit of the entropy measure is that it captures the richness of Rumelt’s (1974) original classification scheme without relying on a subjective classification of firms into different categories by the researcher. This method seems especially appropriate when information about performance differences between R-related strategies (related-constrained versus related-linked) is as important or possibly more important to the research than is information about performance differences between R-related and R-unrelated strategies.

Another method researchers (Harrison, et al, 1991) have used when assigning firms to either an R-related or R-unrelated category is based on the two digit SIC code of the firm. Varadarajan and Ramanujam (1987) note that the literature views diversification within two digit (SIC) codes
as R-related. On the other hand, diversification across two digit (SIC) industries is typically viewed as diversification that can be characterized as R-unrelated.

The hypotheses in this dissertation examine the relationship between R-related and R-unrelated firms only. There is no further reason to categorize firms into various types of R-relatedness since the research question does not require any finer categorization than R-related and R-unrelated. This paper used the two digit SIC code of both the acquiring and acquired firm as the criteria by which to separate the sample into R-related and R-unrelated subsamples. If the merger or acquisition took place between two firms that shared the same two digit SIC code, the merger was considered R-related. Mergers between firms with different two digit SIC codes were considered R-unrelated for purposes of testing.

**Dependant Variable**

The dependant variable is corporate performance. The treatment of performance in research settings is perhaps one of the most difficult issues confronting strategic management researchers (Venkatraman and Ramanujam, 1986). Unfortunately,
the option of ignoring the definition and measurement of performance in this study is not a viable one.

Most research into the performance of diversified firms has used financial indicators. Operational measures have not been widely used because they are more correctly applied to business unit performance rather than corporate performance. For example, market share (an operational measure) among diversified firms is hardly comparable because each firm’s configuration of business units is different. This dissertation must therefore rely on financial indicators to measure a diversified firm’s performance.

Return on assets (ROA) has been one of the most popular financial indicators used by researchers to measure a diversified firm’s performance. It was the sole measure used by Bettis (1981), Bettis and Hall (1982), Hoskisson (1987), and Grant et al. (1988). In addition, Montgomery (1985), Christensen and Montgomery (1981), Hopkins (1987), and Barton (1988) all included this as one of their performance measures. Other measures such as return on invested capital, return on equity and return on sales have been used as performance measures. Also, measures that assess growth rates rather than actual levels of activity have been used by Palepu (1985), Varadarajan and Ramanujam (1987), Christensen and Montgomery (1981) and Hopkins (1987). Heeding Venkatraman and Ramanujam’s (1986) concern that financial indicators (such as

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income growth and ROI) reflect different dimensions and thus cannot be combined into one composite dimension, this paper proposes the use of a single financial indicator to measure the performance of diversified firms. This single financial indicator will be return on assets.

Financial measures have certain problems involving comparability across firms when used as indicators of performance. For example, return on assets is calculated by dividing a firm's total asset valuation into net operating income. This presents two problems of comparability. One is that net operating income may be calculated in different ways by different firms. Depreciation and inventory evaluation methods can vary among firms reducing the comparability of the net income figure. The second problem is that asset valuation methods differ across firms. A firm can use book value, cost or market value to make their asset valuation. This also compounds the comparability problem. Unfortunately, all financial measures, including ROA, share these same kinds of problems.

ROA, as well as all other data for this study was obtained from the COMPUSTAT PC database. This database has been compiled in such a way as to minimize the problems associated with the computation of financial measures. For a fuller account of the procedures used in compiling the COMPUSTAT PC database, readers are directed to the lengthy Chapter Three: Methodology
discussion included in the COMPSTAT PC documentation. While not all problems with data collection and measurement can be overcome, the efforts by the CompuStat PC staff to minimize problems specific to financial measures makes the use of ROA as a measure of firm performance acceptable.

Methods of Data Collection

This section discusses issues relating to the selection of a sample for this study and the assumptions and procedures involved in collecting data for this sample of firms. The section begins with a discussion of how the sample was selected. It is followed by a discussion of how similarities in strategy between acquiring and acquired firms were measured. This is followed by a discussion of the measurement of ROA.

Sample

The sample for this study was drawn from a list compiled by Harrison et al. (1991). The list was formed from the merger and acquisition pool of Standard and Poor's COMPUSTAT research database. This file, as reported by Harrison et al. (1991, pg 180):
... contains annual financial statement data for approximately 2000 firms that have been acquired in the past twenty years. These firms were then matched to their acquires using Moody's Industrial Manual and the Large Merger Series published by the Federal Trade Commission. Approximately 1,100 acquired firms were matched successfully to companies that are also found in the COMPUSTAT database.

The period of time covered by the Harrison et al. (1991) list spans the years 1970 to 1989. Because of the need to compare the strategy of the acquiring and the acquired firm prior to the merger or acquisition and also the need to examine corporate performance after the merger or acquisition, data for this study could only be acquired for the fifteen year period from 1973 to 1988. In addition to this constraint, two other important factors limited the sample size. One factor was that resource allocation data for firms engaged in the production of a service (rather than production of a product) was problematic or impossible to obtain. The other factor was that matching data for each of the nine resource allocation variables was not always available, even for firms engaged in the production of a product. This was due primarily to differences in the way firms report financial data. When there was not a specific match in any one of the resource allocation variables, the firm was disqualified. This fact also constrained the number of firms that could be included in the sample. Sufficient data were found, however,
to allow the comparison of one hundred and eleven sets of firms.

**Strategy Variables**

A proportional absolute difference score (PADS) was calculated to measure the similarity in strategy between the acquiring and acquired firm. The PADS score was calculated using the following formula:

\[
\frac{(V_{ai} - V_{bi})}{\left[\frac{V_{ai} + V_{bi}}{2}\right]} = \text{PADS}
\]

where
- \(a\) = the acquired firm
- \(b\) = the acquiring firm
- \(i\) = nth (1-9) strategy variable
- \(V\) = Firm strategy variable divided by the average industry value for that variable

The proportional absolute difference score yields a standardized difference in the level of resource allocation between the acquiring and acquired firm. This difference score represents the degree of similarity between the two firms with respect to each independent variable. The proportional absolute difference scores for all nine independent variables represent the degree of similarity between the strategies of the acquired and acquiring firms.
Values for each of the nine resource allocation variables were obtained by averaging the three years of data just prior to, but excluding, the merger year. Although a longer period of time might have provided a more accurate measurement of the strategy being pursued by a business unit, each additional year of data would have resulted in the elimination of firms from the sample. In an attempt to determine how much difference additional years of data would have made on the calculations, a sample of firms associated with five years of data prior to the merger was identified. The size of the test sample was eleven or approximately ten percent of the total sample size. The average value for each of the resource allocation variables was figured for five years and compared to the three year average. There was no significant statistical difference between the two sets of averages. With this in mind, it was decided that a larger sample size was preferable to more years of data when calculating the value for each of the resource allocation variables.

Researchers have noted that industry effects, rather than relatedness, may have accounted for Rumelt's (1974) findings (Christensen and Montgomery, 1981; and Bettis and Hall, 1982). In order to control for industry effects, the corresponding average industry value for each of the resource allocation variables was also calculated. Each of the nine resource allocation variables were then divided by the appropriate
industry resource allocation value. This resulting value became the resource allocation measure that was used to calculate the PADS score.

**Performance**

A percentage change in the acquiring firm’s return on assets was calculated. This calculation was made by taking a three year average of the firm’s return on assets before the merger and then calculating the percentage change to the post merger three year average return on assets. Adding years to the calculation would have increased the probability that the positive effects on corporate performance caused by S-related diversification would be confounded by other events. Moreover, each additional year would have eliminated recent acquisitions for lack of data. Three years represented a trade-off between these factors (Harrison et al., 1991).

**Hypotheses Testing Procedures**

This section describes the methods and assumptions used to test the hypotheses. It also discusses what is necessary for the hypotheses to be supported. Each of the three
hypotheses is discussed separately below. Results of the hypotheses testing are reported in Chapter Four.

Hypothesis One

Hypothesis one, which states that the performance of a diversified firm is independent of its level of S-relatedness, was tested using multiple regression analysis. The proportional absolute difference scores (PADS) were regressed against the percentage change in ROA to test this hypothesis. The PADS scores represent the level of similarity between the business unit strategies of the acquiring and the acquired firm. A lower PADS score connotes a higher level of similarity between strategies. The expectation is that lower PADS scores will be associated with higher levels of performance. Support for this hypothesis will be found if there is a significant inverse relationship between the PADS scores and performance.

Hypothesis Two

Hypothesis two states that there is no significant difference in the level of S-relatedness of a firm based on its R-related category. This hypothesis was tested using the
Hotelling’s T-Squared statistic. Hotelling’s T-Squared tests the assumption of the equality of means for repeated measures designs involving more than two variables. Support for this hypothesis will be found if there is a significant difference in the S-related means between the R-related and R-unrelated categories.

Hypothesis Three

Hypothesis Three states that the relationship between the performance of a firm and its level of S-relatedness is independent of its R-related category. Hypothesis Three was tested using moderated equations analysis. It should be noted that moderated equations analysis is a different procedure from moderated regression analysis. Moderated equations are those regression equations that have been run separately for the R-related and R-unrelated sub-samples. The basic assumption in such an analysis is that the sample can be divided and that the criteria used to make the division, in this case between the R-related and R-unrelated categories, makes a significant difference to the performance of S-related firms. Support for this hypothesis will be found if there is a significant F test for reduction in error sum of squares between moderated and unmoderated regression equations.

Chapter Three: Methodology
Chapter Four:

Results

Introduction

This chapter discusses the results of the hypotheses tests. Since all three hypotheses were stated in the null for testing purposes, a rejection of the null hypothesis is support for the basic premise being proposed by this research study. A .05 level of significance is commonly used by researchers, but the criterion for selection should be based upon the consequences of making either a Type I or Type II error (Hinkle et al., 1979). Lacking any compelling reason to vary from traditional research practices, an alpha level of .05 is adopted as the maximum acceptable level for this study.
Hypothesis One

The first hypothesis enumerates the primary premise underlying this study, namely that an alternate view of relatedness in terms of the degree of similarity among strategies of a corporation’s business units increases our understanding of corporate performance.

Stated in the null, the first hypothesis proposes that the level of S-relatedness makes no difference to a corporation’s performance. The data were analyzed using multiple regression analysis. One assumption of multiple regression is that the relationship among variables is linear. To check for linearity of data, multiple regression equations were also run using the logarithmic, square, and square root transformations of the independent variables’ PADS scores. The transformations resulted in models that were not as accurate in predicting post-merger corporate performance. Test results for the first hypothesis are shown in Table One. Data presented in Table One indicate qualified support for the alternate hypothesis. The $R^2$ statistic at .1864 was statistically significant and at approximately the same level as achieved by other researchers (Rumelt, 1974 & 1982; Harrison et al., 1991).
**Table One**

*Multiple Regression of Resource Allocation Variables on Post Acquisition Performance*

**Analysis of Variance Report**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F-Ratio</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1</td>
<td>10.22573</td>
<td>10.22573</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>9</td>
<td>233.1097</td>
<td>25.90108</td>
<td>5.02</td>
<td>0.000</td>
</tr>
<tr>
<td>Error</td>
<td>197</td>
<td>1017.398</td>
<td>5.164457</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>206</td>
<td>1250.508</td>
<td>6.070427</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Root Mean Square Error: 2.272544
Mean of Dependant variable: -.2222604
Coefficient of Variation: -10.22469

R-Squared: 0.1864

n = 208
Table Two provides data on the beta coefficients for each of the independent variables. These data reveal that changes in the independent variables resulted in change in the dependent variable in the expected direction. That is, a negative beta coefficient sign indicates that as the value for the independent variable increases (in this case, that value represents an increase in strategic dissimilarity) the value of the dependant variable decreases. This finding lends support to the theory that, as the strategies of business units become increasingly different, corporate return on assets decrease.
Table Two

Multiple Regression of
Resource Allocation Variables
on Post Acquisition Performance

Multiple Regression Report

<table>
<thead>
<tr>
<th>Indepnt. Variable</th>
<th>P'meter Est.</th>
<th>Stdzed Est.</th>
<th>Std. Error</th>
<th>t-value</th>
<th>Prob. 1 tail Level</th>
<th>Seq. R-Sqr</th>
<th>Simple R-Sqr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.57886</td>
<td>0.0000</td>
<td>0.36752</td>
<td>-1.58</td>
<td>0.0585</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>-0.187E-01</td>
<td>-0.0036</td>
<td>0.35767</td>
<td>-0.05</td>
<td>0.0092</td>
<td>0.0009</td>
<td>0.0009</td>
</tr>
<tr>
<td>C3</td>
<td>-0.9803011</td>
<td>0.1674</td>
<td>0.41791</td>
<td>2.35</td>
<td>0.0100</td>
<td>0.0152</td>
<td>0.0151</td>
</tr>
<tr>
<td>C4</td>
<td>-1.60182</td>
<td>-0.1827</td>
<td>0.63559</td>
<td>-2.52</td>
<td>0.0063</td>
<td>0.0220</td>
<td>0.00</td>
</tr>
<tr>
<td>C5</td>
<td>-0.596E-04</td>
<td>-0.0451</td>
<td>0.86E-04</td>
<td>-0.69</td>
<td>0.2451</td>
<td>0.0224</td>
<td>0.0007</td>
</tr>
<tr>
<td>C6</td>
<td>-0.190E-04</td>
<td>-0.0112</td>
<td>0.11E-03</td>
<td>-0.17</td>
<td>0.0323</td>
<td>0.0227</td>
<td>0.0000</td>
</tr>
<tr>
<td>C7</td>
<td>-0.6237794</td>
<td>-0.3934</td>
<td>0.10584</td>
<td>5.89</td>
<td>0.0000</td>
<td>0.1422</td>
<td>0.1060</td>
</tr>
<tr>
<td>C8</td>
<td>-0.6459073</td>
<td>-0.0968</td>
<td>0.49682</td>
<td>-1.30</td>
<td>0.0976</td>
<td>0.1424</td>
<td>0.0002</td>
</tr>
<tr>
<td>C9</td>
<td>0.7140135</td>
<td>0.1502</td>
<td>0.37032</td>
<td>1.93</td>
<td>0.0277</td>
<td>0.1579</td>
<td>0.0080</td>
</tr>
<tr>
<td>C10</td>
<td>-0.8326104</td>
<td>0.1852</td>
<td>0.31706</td>
<td>2.63</td>
<td>0.0047</td>
<td>0.1864</td>
<td>0.0079</td>
</tr>
</tbody>
</table>

Chapter Four: Results
An examination of the beta coefficient signs in Table Two reveals that the only positive sign is for variable C9 (cost of goods sold intensity). Obviously, when an increase in the dissimilarity of strategies affects performance in a positive rather than negative way, there is some cause for concern given the theory developed by this dissertation. A possible explanation for this result is that cost of goods sold intensity fails to measure part of the defensiveness dimension. This does not suggest that the variable is not measuring some dimension of the strategy construct. It could be co-linear with another variable and Pedhazur (1982) notes that multicollinearity can cause a reversal in signs.

Multicollinearity is the term used to specify correlation among independent variables. Ideally, all independent variables should be orthogonal but it is seldom the case. Rather, the degree of multicollinearity is usually the issue (Gujarati, 1988). The presence and degree of multicollinearity can be ascertained by examining the correlation matrix. The correlation matrix for this multiple regression equation is presented in Table Three. Gujarati (1988) notes that a high correlation coefficient, in excess of 0.80, between two independent variables indicates that multicollinearity is a serious problem. An examination of the correlation matrix becomes important in testing for the degree of multicollinearity.

Chapter Four: Results
Table Three

Multiple Regression of Resource Allocation Variables on Post Acquisition Performance

Correlations

<table>
<thead>
<tr>
<th></th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>C6</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>1.0000</td>
<td>0.1614</td>
<td>0.1283</td>
<td>0.0250</td>
<td>0.1065</td>
</tr>
<tr>
<td>C3</td>
<td>0.1614</td>
<td>1.0000</td>
<td>0.3658</td>
<td>-0.0652</td>
<td>0.1304</td>
</tr>
<tr>
<td>C4</td>
<td>0.1283</td>
<td>0.3658</td>
<td>1.0000</td>
<td>-0.0525</td>
<td>0.0233</td>
</tr>
<tr>
<td>C5</td>
<td>0.0250</td>
<td>-0.0652</td>
<td>-0.0525</td>
<td>1.0000</td>
<td>-0.0049</td>
</tr>
<tr>
<td>C6</td>
<td>0.1065</td>
<td>0.1304</td>
<td>0.0233</td>
<td>-0.0049</td>
<td>1.0000</td>
</tr>
<tr>
<td>C7</td>
<td>0.0372</td>
<td>0.0916</td>
<td>-0.0331</td>
<td>0.0217</td>
<td>-0.0077</td>
</tr>
<tr>
<td>C8</td>
<td>0.1795</td>
<td>0.0160</td>
<td>0.0504</td>
<td>-0.0152</td>
<td>-0.0316</td>
</tr>
<tr>
<td>C9</td>
<td>0.2717</td>
<td>0.1011</td>
<td>0.2296</td>
<td>0.0514</td>
<td>-0.0673</td>
</tr>
<tr>
<td>C10</td>
<td>0.1278</td>
<td>0.2372</td>
<td>0.2524</td>
<td>0.1054</td>
<td>0.0026</td>
</tr>
<tr>
<td>C1</td>
<td>0.0301</td>
<td>0.1230</td>
<td>-0.0304</td>
<td>-0.0263</td>
<td>0.0027</td>
</tr>
</tbody>
</table>
Table Three Continued

Multiple Regression of Resource Allocation Variables on Post Acquisition Performance

<table>
<thead>
<tr>
<th></th>
<th>C7</th>
<th>C8</th>
<th>C9</th>
<th>C10</th>
<th>C1</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>0.0372</td>
<td>0.1795</td>
<td>0.2717</td>
<td>0.1278</td>
<td>0.0301</td>
</tr>
<tr>
<td>C3</td>
<td>0.0916</td>
<td>0.0160</td>
<td>0.1011</td>
<td>0.2372</td>
<td>0.1230</td>
</tr>
<tr>
<td>C4</td>
<td>-0.0331</td>
<td>0.0504</td>
<td>0.2296</td>
<td>0.2524</td>
<td>-0.0304</td>
</tr>
<tr>
<td>C5</td>
<td>0.0217</td>
<td>-0.0152</td>
<td>0.0514</td>
<td>0.1054</td>
<td>-0.0263</td>
</tr>
<tr>
<td>C6</td>
<td>-0.0077</td>
<td>-0.0316</td>
<td>-0.0673</td>
<td>0.0026</td>
<td>0.0027</td>
</tr>
<tr>
<td>C7</td>
<td>1.0000</td>
<td>0.0119</td>
<td>0.0278</td>
<td>0.2404</td>
<td>-0.3255</td>
</tr>
<tr>
<td>C8</td>
<td>0.0119</td>
<td>1.0000</td>
<td>0.4900</td>
<td>0.1127</td>
<td>-0.0131</td>
</tr>
<tr>
<td>C9</td>
<td>0.0278</td>
<td>0.4900</td>
<td>1.0000</td>
<td>0.1372</td>
<td>0.0896</td>
</tr>
<tr>
<td>C10</td>
<td>0.2404</td>
<td>0.1127</td>
<td>0.1372</td>
<td>1.0000</td>
<td>0.0887</td>
</tr>
<tr>
<td>C1</td>
<td>-0.3255</td>
<td>-0.0131</td>
<td>0.0896</td>
<td>0.0887</td>
<td>1.0000</td>
</tr>
</tbody>
</table>
An examination of the correlation matrix does not indicate particularly high correlations (at least 0.80 or higher) among any of the variables thus ruling out a serious problem with multicollinearity. However, it may never-the-less be responsible for the sign reversal in the cost of goods sold intensity variable.

The implications are that cost of goods sold intensity may be redundant but given the multi-dimensionality of the strategy construct, the degree of multicollinearity does not appear to pose a significant threat to the findings. Eliminating variables from the model is inappropriate since any attempt to reduce multicollinearity through removal of independent variables will result in specification bias.

To summarize, similarity between the business level strategies of the acquired firm and the acquiring firm was positively related to post merger performance of the acquiring firm. This finding is important in two ways. First, it supports the commonly held notion that relatedness is an important variable in understanding performance differences among diversified firms. Second, and perhaps more important, it demonstrates support for the notion that relatedness can be conceived of in more than one way. The addition of another relatedness dimension raises significant research questions. Some of these will be discussed in the following chapter.

Chapter Four: Results
Hypothesis Two

The second hypothesis enumerates the premise that R-related firms are more likely to be S-related than R-unrelated firms. Stated in the null, the second hypothesis proposes that there is no relationship between the R-relatedness of a firm and its level of S-relatedness.

The total sample was divided into R-related firms (n = 82) and R-unrelated firms (n = 126) using the firm’s two digit SIC code as discussed in Chapter Three. Tables Six and Seven present $R^2$ showing the difference in S-relatedness between R-related and R-unrelated firms. Hotelling’s T Squared test was employed to test the assumption of no significant difference between the R-related and R-unrelated groups. The results from the Hotelling’s T Square test are reported in Table Four.
**Table Four**

*Hotelling's T Squared Test for the Equality of Means Between R-related and R-unrelated Firms*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotelling's T Squared</td>
<td>356.6523</td>
</tr>
<tr>
<td>Degrees of Freedom:</td>
<td></td>
</tr>
<tr>
<td>Numerator</td>
<td>8</td>
</tr>
<tr>
<td>Denominator</td>
<td>199</td>
</tr>
<tr>
<td>F-Ratio</td>
<td>43.0666</td>
</tr>
<tr>
<td>Prob.</td>
<td>0.0000</td>
</tr>
</tbody>
</table>
The results of the Hotelling's T Squared test support the alternative hypothesis. There is a significant difference in the level of the S-Relatedness of a firm based on its R-Related category. R-related firms are more likely to be S-related than R-unrelated firms.

**Hypothesis Three**

The premise of hypothesis three is that there is no significant performance difference between R-related and R-unrelated firms that have similar levels of S-relatedness. Stated in the null, the third hypothesis proposes that, given the same level of S-relatedness, R-related firms will outperform R-unrelated firms.

This hypothesis was tested using a moderated equations technique. The moderated equations technique employs an F-test to determine if there is a significant reduction in the error sum of squares between several regression equations. The moderated equations model essentially works like a simple analysis of variance model. If there is a significant reduction in the error sum of squares between the moderated and unmoderated regression equations, the null hypothesis can be rejected.
Three regression equations were computed. Situation I, the unmoderated situation, is the complete regression equation used in the test of hypothesis one. The regression equation information is found in Table One. Situation II, the dummy situation, introduces dummy variables (representing whether a firm is R-related or R-unrelated) into the unmoderated equation. The analysis of variance report for this equation is contained in Table Five. Situation III, the pooled or moderated situation, is a combination of two separate regression analyses. That is, the total sample was split into R-related and R-unrelated sub-samples (see discussion under hypothesis two results). A regression analysis was run for each of the sub-samples. Tables Six and Seven contain the analysis of variance information for these two regression equations.
Table Five

Multiple Regression of
Resource Allocation Variables
With R-related Category
Dummy Variable in Equation

Analysis of Variance Report

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F-Ratio</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Sequential)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1</td>
<td>10.22573</td>
<td>10.22573</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>10</td>
<td>235.4029</td>
<td>23.54029</td>
<td>4.55</td>
<td>0.000</td>
</tr>
<tr>
<td>Error</td>
<td>196</td>
<td>1015.105</td>
<td>5.179107</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>206</td>
<td>1250.508</td>
<td>6.070427</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Root Mean Square Error
Mean of Dependant variable
Coefficient of Variation
R-Squared

Chapter Four: Results
<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F-Ratio</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Sequential)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>1</td>
<td>29.4218</td>
<td>29.4218</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>9</td>
<td>234.0689</td>
<td>26.00765</td>
<td>2.78</td>
<td>0.007</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>673.194</td>
<td>9.349917</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>81</td>
<td>907.2629</td>
<td>11.20078</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Root Mean Square Error</td>
<td></td>
<td>3.057763</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean of Dependant variable</td>
<td></td>
<td>-0.5990012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coefficient of Variation</td>
<td></td>
<td>-5.10477</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Squared</td>
<td></td>
<td>0.2580</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table Seven

**Multiple Regression of**

*Resource Allocation Variables*

*For R-unrelated Category*

**Analysis of Variance Report**

Dependant Variable: ROA

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sums of Squares</th>
<th>Mean Square</th>
<th>F-Ratio</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1</td>
<td>7.738699E-02</td>
<td>7.738699E-02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>9</td>
<td>61.53083</td>
<td>6.836759</td>
<td>3.00</td>
<td>0.003</td>
</tr>
<tr>
<td>Error</td>
<td>115</td>
<td>262.4407</td>
<td>2.282093</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>323.9715</td>
<td>2.612673</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Root Mean Square Error 1.51066
Mean of Dependant variable 2.488164E-02
Coefficient of Variation 60.71384

R-Squared 0.1899
The moderated equations analysis proceeds in the following manner. First, the reduction in error sum of squares between the equations shown in Table One and Table Five was tested using an F statistic. The resulting reduction was not significant meaning that at this point the null cannot be rejected. Next, the reduction in error sum of squares between the equations shown in Table One and the combined equations shown in Tables Six and Seven was tested using the F statistic. The data needed in calculating the F ratio for the moderated equations analysis is presented in Table Eight.
### Table Eight

**Error Sum of Squares**  
*Used in Calculating the F-Ratio for Moderated Equations Analysis*

<table>
<thead>
<tr>
<th>Regression Equation</th>
<th>Error Sum of Squares</th>
<th>Degrees of Freedom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmoderated</td>
<td>1017.8</td>
<td>197</td>
</tr>
<tr>
<td>Dummy</td>
<td>1015.6</td>
<td>196</td>
</tr>
<tr>
<td>Pooled R-related</td>
<td>262.4</td>
<td>115</td>
</tr>
<tr>
<td>Pooled R-unrelated</td>
<td>673.2</td>
<td>72</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>935.6</td>
<td>187</td>
</tr>
<tr>
<td>F-ratio</td>
<td>1.634</td>
<td>10/187</td>
</tr>
<tr>
<td>Prob.</td>
<td>approx. .10</td>
<td></td>
</tr>
</tbody>
</table>
The F ratio indicates that while the reduction in error sum of squares approached significance, it failed to achieve it. Although the test failed to reach significance at the .05 level, it would be appropriate to reject the null hypothesis in nine out of ten cases. While this level of significance may not be enough to claim the customary support for the third hypothesis, it does lend support to the assertion that R-unrelated firms may perform as well as R-related firms given a similar level of S-relatedness.
Chapter Five

Discussion

Introduction

The purpose of this chapter is to discuss the findings of this research study. The first section includes an interpretation of the findings. A second section identifies limitations of the study. A third section makes recommendations for future research. A final section offers some conclusions.

Discussion of the Findings

The findings and implications of those findings resulting from the test of each hypothesis will be discussed in turn.
Hypothesis One

The premise of hypothesis one is that the degree of strategic similarity among corporate business units determines, in part, corporate performance. Specifically, the greater the degree of strategic similarity among business units, the better is the corporate performance. This hypothesis was conditionally supported by the data.

One important implication of this finding concerns the use of R-relatedness as a research perspective when investigating corporate diversification strategy and its effect on corporate performance. It is possible that the concept of relatedness, as used in this context, is multi rather than unidimensional. Because of this, researchers using a relatedness perspective in their investigations may have to take this multidimensionality into account.

Another implication focuses on the inconsistent results obtained through use of the R-relatedness perspective. Currently, there are two seemingly unreconcilable positions that have emerged in the literature. These are either that R-related diversification leads to superior performance when compared with R-unrelated diversification or that superior performance can be achieved using either strategy. The notion of S-relatedness has been used to reconcile these two
positions. Based on the theoretical argument presented in this dissertation, superior performance can be achieved by either an R-related or R-unrelated strategy contingent upon the level of a firm's S-relatedness.

One final implication concerns the apparent contradiction of findings between the Harrison et al. (1991) study and this dissertation. They argued that corporate performance will be enhanced when the strategies between core business units and the acquired business unit(s) are dissimilar rather than similar. A possible explanation has already been offered (see Chapter Three) as to why this contradiction exists. Further research is important, however, either to verify this explanation or discover some yet unanticipated way to reconcile the two positions.

**Hypothesis Two**

The premise of the alternate hypothesis is that R-related firms are more likely to have a higher level of S-relatedness than R-unrelated firms. This hypothesis was also supported by the findings. When the total sample was broken into R-related and R-unrelated components, it was found that R-related firms had a higher level of S-relatedness than did the R-unrelated firms.
The major implication of this finding is that it helps explain the divergent results obtained by studies using the R-relatedness perspective. It has been shown that R-related firms are more likely to have a higher level of S-relatedness, and because of this they are more likely to have superior performance when compared to R-unrelated firms that, as a group, have a lower degree of S-relatedness. This may be a major contributory factor accounting for Rumelt's (1974) findings.

Because a firm has pursued an R-unrelated strategy does not necessarily mean that it will result in a low level of S-relatedness. For example, it is possible that when a researcher selects a random sample of firms that by coincidence the sample contains R-unrelated firms that have levels of S-relatedness comparable to R-related firms. Under these conditions, there would be no significant performance difference between the R-related and R-unrelated groups. Further, if a sample had (by coincidence) an R-unrelated group of firms with a higher degree of S-relatedness than the R-related firms, use of such a research sample might be expected to produce results opposite from those of Rumelt's (1974) initial study.
Hypothesis Three

The premise of hypothesis three is that there is no significant performance difference between R-related and R-unrelated firms that have similar levels of S-relatedness. Although the test of this hypothesis approached significance, the alternate hypothesis was not supported at the traditional (.05) level.

The S-related perspective postulates that firms with higher levels of S-relatedness will outperform firms with lower levels of S-relatedness regardless of the R-related diversification strategy being pursued. This is because increased costs are incurred by firms with low S-relatedness. These costs result from the need to change or add to existing dominant logic(s). Since support was shown for this premise (see discussion of hypothesis one), it was expected that there should be no performance difference between firms, given the same level of S-relatedness, utilizing R-related or R-unrelated diversification strategy. The results obtained from testing hypothesis three were, therefore, surprising. They suggest that there may be a variable(s) that moderates the effect of S-relatedness on firms in the R-related versus the R-unrelated category.
One explanation for these results lies in a fundamental approach taken by the R-related perspective. This perspective focuses on economic benefits obtained through related diversification strategies and may not consider certain transaction costs associated with achieving these benefits. Economic benefits arise from economies of scope and integration and efficient use of internal capital markets (Jones and Hill, 1988). They include such things as business units jointly being able to use inputs, engage in common advertising, or share market and technological information.

Jones and Hill (1988) believe that R-related diversification has the potential for realizing high levels of economic benefits but they also note that there are high bureaucratic costs associated with this strategy as well. For this reason, they hypothesize that R-related diversification should be more profitable at lower levels of diversification. They reason that the economic benefits (derived from commonalities between business units) of an R-related strategy can be realized with only two business units but they cannot be extended indefinitely. At some point, Jones and Hill (1988, page 168) argue that "commonalities between divisions are likely to become less significant as closely related diversification opportunities peter out." Concurrently, the bureaucratic costs associated with an R-related strategy increase exponentially. Their rationale is that the number of
linkages between related business units increases geometrically with a numerical increase in the number of business units.

Making use of the rationale provided by Jones and Hill (1988), it is possible to argue that the level of diversification may have moderated the results expected by the third hypothesis. According to their theory, even when controlling for the level of S-relatedness, R-related diversification should be more profitable than R-unrelated diversification at lower levels (number of business units) of total firm diversification. This study could have controlled for the level of diversification had data on the number of business units within each firm been available.

Limitations of the Study

An important limitation of this study is that it looked only at mergers and acquisitions which created a two fold problem. First, one or both merger partners’ S-relatedness score may be a composite score. That is, one or both firms may have been made up of more than one distinct business unit. The comparison of individual business units may produce results different from averaging all the business units’ scores and then comparing them.
Second, mergers and acquisitions are not the only way a firm may diversify. Firms may diversify internally. Either way of diversifying, externally or internally, should not affect the results. It would be profitable at some point to confirm this empirically.

A final limitation of this study is that only manufacturing firms were studied. Service firms, which constitute a significant percent of all firms in the United States were not considered. At this point, it is not possible to extend the results of this dissertation to service firms. Intuitively, however, strategic variation should apply to any diversified firm whether that firm be engaged in manufacturing or providing services.

Suggestions for Further Research

There is, at least, one important way in which future research into the S-related dimension could be improved. This would be the use of primary data. Use of primary data would allow for a direct comparison of business level strategies between all units of the corporation. By doing this, a clearer picture of a firm’s S-relatedness should emerge. Not only would a firm’s business unit strategies be easier to identify but also a researcher could control for the level of
diversity as was suggested in this chapter’s discussion of the third hypothesis.

Conclusion

Although this study was exploratory, the findings are encouraging enough, even given the limitations, to warrant further research. This conclusion is drawn despite the fact that there has been a great deal of research into the question of variation in corporate performance resulting from different corporate level strategies. While the nature of a corporation’s business units’ relatedness has been a focus of strategic management research into corporate diversity, relatedness has always been assumed to be the single R-related dimension. This study has demonstrated that relatedness may be conceived of in more than one dimension.
References


References


References


References
Education
Ph.D. in Management (December, 1992)
Virginia Tech
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Minor: International Relations/Business

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Major: General Business

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1988-1990
Instructor, Department of Management, Virginia Tech.

1981-1987
Assistant Professor, Business Division, BYU-Hawaii.

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Business Ethics
Organizational Behavior
Organizational Theory
Research


Service

By-Laws Committee, School of Business, 1990.
Elections Committee, School of Business, 1990.
Dean’s Advisory Committee, 1991.
Dean’s Advisory Committee, 1992.
Strategic Planning Committee, School of Business, 1992.
Curriculum and Standards Committee (Chair), School of Business, 1992.