

## **The Dominant Logic: a New Linkage Between Diversity and Performance**

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### **Summary**

*Current research offers alternative explanations to the 'linkage' between the pattern of diversification and performance. At least four streams of research can be identified. None of these can be considered to be a reliable, predictive theory of successful diversification. They are, at best, partial explanations. The purpose of this paper is to propose an additional 'linkage', conceptual at this stage, that might help our understanding of the crucial connection between diversity and performance. The conceptual argument is intended as a 'supplement' to the current lines of research, rather than as an alternative explanation.*

For the past 35 years product-market diversification of large firms has continued at a rapid pace. Today, over two-thirds of the firms in the U.S.A. *Fortune* 500 are highly diversified and similar patterns of diversification exist in Western Europe and Japan (Rumelt, 1974; Pavan, 1972; Thanheiser, 1972; Pooley, 1972; Channon, 1973; Suzuki, 1980). As a consequence, interest in the relationship between corporate diversification and financial performance has grown among practitioners, academics, and public policy-makers.

Accompanying this interest has been a spate of research on the patterns of diversification and the determinants of performance in diversified firms by the academic community. Concurrently, consulting firms have been actively promoting a variety of approaches for managing diversified firms. The results of these efforts have been mixed at best. There is, as yet, no overall theory that links diversification with performance and the linkage, if any, remains elusive.

The purpose of this paper is to propose a crucial linkage, which has largely been ignored in the literature on the relationship between diversification and performance; and to show how this approach can add significantly to our managerial understanding of performance in the diversified firm.

This linkage is referred to as the 'dominant general management logic' (or dominant logic) and consists of the mental maps developed through experience in the core business and sometimes applied inappropriately in other businesses.

### **A BRIEF REVIEW OF RESEARCH ON DIVERSITY AND PERFORMANCE**

The purpose of this section is to review briefly the major academic research streams and consulting framework relevant to the relationships between diversity and performance.

These represent alternative approaches to research in this area. While significant literature exists in support of each of the streams of research outlined below, we will only reference and discuss the seminal works in each area.

### **The strategy of diversification**

Pioneering work by Chandler (1962) and Ansoff (1965) established the motivations for diversification and the general nature of the diversified firm. Wrigley (1970) refined and extended Chandler's study by investigating the various options open to a diversifying firm. Building on the work of Chandler, Wrigley, and others, Rumelt (1974, 1977) investigated the relationships among diversification strategy, organizational structure, and economic performance. Rumelt used four major and nine minor categories to characterize the diversification strategy of firms. The major categories were single business, dominant business, related business and unrelated business. These categories provide a spectrum of diversification strategies—from firms that remained essentially undiversified to firms that diversified significantly into unrelated areas. Using statistical methods, Rumelt was able to relate diversification strategy to performance. The related diversification strategies—related-constrained and related-linked (e.g. General Foods and General Electric) were found to outperform the other diversification strategies on the average (relatedness was defined in terms of products, markets and technology). The related-constrained was found to be the highest performing on the average. (In related-constrained firms most component businesses are related to each other, whereas in related-linked firms only one-to-one relationships are required.) By contrast, the unrelated conglomerate strategy was found to be one of the lowest performing on the average.

Recently Nathanson and Cassano (1982) conducted a statistical study of diversity and performance using a sample of 206 firms over the years 1973–78. They developed a two-dimensional typology (market diversity and product diversity) for capturing diversification strategy that refines Rumelt's categories. They found that returns (on the average) declined as product diversity increased, while returns remained relatively steady as market diversity increased. However, they also found that size plays an important moderating role on the relationships. For both the market and product diversity, smaller firms did well relative to larger firms in categories marked by no diversification and in categories of extremely high diversification. Larger firms did significantly better than smaller firms in the in-between categories—those characterized by intermediate levels of diversification.

In both these studies linking diversification and performance (Rumelt and Nathanson/Cassano) the key point to note is that *choosing the generic strategy of diversification (how much and what kind of relatedness)* is the key to achieving performance.

### **Economic characteristics of individual businesses**

Porter (1980), among others, established that the characteristics of the various industries in which a firm participates, and the position of the firm's businesses in these industries, impacts overall firm performance.

Two studies have in fact empirically validated these influences for diversified firms. The widely discussed PIMS program of the Marketing Science Institute (see Schoeffler, Buzzell and Heany, 1974, for an introduction) has shown that variables such as market share and relative product quality directly influence the profitability of constituent businesses in large diversified firms. More recently, Montgomery (1979) has examined the performance differences in diversified firms using the market structure variables of industrial

organization economics. Montgomery found that diversified firms with higher levels of performance tended to have well-positioned businesses in industries with 'favorable' market structures.

In summary, for both studies (PIMS and Montgomery) *the structure of the industries in which the firm competes and the competitive position of the firm's businesses within these industries are the key determinants of performance.*

### **Portfolio concepts**

What are here called 'portfolio concepts' go by various names such as portfolio grids, SBU concepts, and SBU matrices. Although there are numerous slight variations among the approaches used by various consultant groups and firms, they all rely on a matrix or grid with two axes. The matrix classifies businesses by product-market attractiveness, or some variant of it, along one axis and by competitive position or some variant of it along the other axis. Typically these matrices are divided into either four or nine boxes. (For a thorough discussion see Hofer and Schendel, 1978.) The position (box) that each business occupies represents its strategic position and determines the role that the business should play in the corporate portfolio. This role involves varying degrees of cash generation or cash usage. Studies by Bettis (1979), and Haspeslagh (1982) suggest that managers use these concepts to varying degrees—as a tool or as dogma—in managing a diversified portfolio of businesses.

For each variant of the portfolio concept the key points are: (1) *the strategic position of each business determines its cash flow characteristics; and (2) it is the 'balance' of these cash flow characteristics of the collection of businesses that determines the overall performance of the diversified firm.*

### **Et cetera**

In addition to the streams of research discussed above, a number of studies focusing on performance in large firms, by researchers concerned with organizational theory and human motivation, have appeared recently. Representative of this line of research are Peters and Waterman (1982), Deal and Kennedy (1982), Pascale and Athos (1981), and Ouchi (1981). While these studies do not consider the problems of managing diversity explicitly, they often do make some implicit recommendations on the issue, but the nature of the recommendations varies widely. (For example, Peters and Waterman suggest that 'excellent firms' confine their operations to businesses they know or 'they stick to the knitting'.)

The three streams of research lead to somewhat different conclusions. To summarize, the linkage between diversity and performance would appear to be a function of:

1. the generic diversification strategy (how much and what kind of relatedness), or
2. the profit potential of the industries in which the individual businesses are positioned and the actual competitive position of the businesses in each industry, or
3. the cash flow characteristics of the various businesses and the internal cash flow balance for the total firm.

Undoubtedly all three perspectives *provide partial answers* to the question. Just how partial these answers are becomes more obvious when you consider that Rumelt (1974) was only able to explain less than 20 percent of the variance in performance, while Montgomery could only explain about 38 percent of the variance in performance. These results suggest that further conceptual development could enhance our understanding of diversity and performance.

**The importance of 'quality of management'**

Bettis, Hall and Prahalad (1978) have argued that, if we move away from the traditional research preoccupation with central tendencies, but focus on outliers—the very high and very poor performers—we may learn more about the elusive linkage between diversity and performance. By studying just 12 firms, six of which were high performers and six low performers, across the three generic categories of dominant, related, and unrelated diversifiers (with a sample of four firms each, two in high- and two in low-performance categories), they concluded that the quality of management was as critical in explaining performance as any other factor. (It should be noted that their definition of quality was somewhat ambiguous.) The study was not based on the large sample (and it could not be by design, as their concern was with outliers), and the conclusions were tentative. (In a much larger study, Bettis and Mahajan (forthcoming) were able to show that the high-performance attributes usually attributed to related diversification were *not* recognized in the overwhelming majority of related diversifiers.) The real departure in the academic perspective on diversity and performance indicated by the study was the concern with very good and very poor performances in the same generic diversification category—or a desire to study outliers—and the inclusion of concept of the '*quality of management*' as a major variable linking diversity and performance.

**Top management in a diversified firm: a distinct skill?**

Two in-depth clinical studies suggest that the skills that constitute the 'quality of management' in a single-business firm are distinct from a diversified firm; and that as firms diversify, top managers have to acquire those skills. Rajan Das (1981) studied one firm's attempt to diversify out of the core business (tobacco) and how it had to learn the process of general management in the new businesses into which it ventured. The conclusion was that it was not the quality of the business—its competitive structure—or the pattern of diversification *per se* that determined early failures and successes later, but the evolution of the top management and its ability to acquire new skills and recognize that its approach to managing a diversified firm must be different from the way it had managed the single-business firm. The study by Miles (1982) of tobacco companies in the U.S. and their attempts to diversify away from tobacco, also leads to a similar conclusion. The firms *had to learn as much about general management in the diversified firm, as a distinct process and skill*, as about the characteristics of the new businesses. Both these studies indicate that the work of top management in diversified firms is a distinct skill and can contribute to the success or failure of any one of the businesses within the firm or the firm as a whole.

**The management of a diversified firm**

Studies of the work of top management and the process by which they manage a diversified firm are not numerous. Bower (1972a) demonstrated that top managers influence the strategic choices made by unit-level managers by orchestrating the organizational context—the formal structure and systems. In other words, the tools of top management were administrative in character. He labeled the term 'metamanagement' (Bower, 1972b) to describe the job of top managers in diversified firms. Hamermesh (1977) outlined the process by which top managers intervene in a divisional profit crisis. Prahalad and Doz (1981) outlined, in detail, how top managers can use administrative tools to shift the strategic direction of a business. This line of research established both the broad scope of the work of top management, but more importantly how that influences the strategic choices made by lower-level managers at the business-unit level, thereby impacting on the

overall performance. There exists a logical, though only partially empirically, verified link between the quality of management—or the quality of the processes by which top managers influence the business-level managers in their work—and the performance of the firm.

The two questions that we posed ourselves based on the literature were:

1. If top managers in single-business firms had to learn the process of managing a diversified portfolio, *should top managers in diversified firms go through a similar learning process when they add new businesses?* Is the task of top management in the diversified firm dependent on, or at least partially *influenced by, the underlying strategic characteristics* of the businesses?
2. If the tools available to top managers in diversified firms to influence the strategic direction of businesses are essentially administrative as regards the organizational context, does it follow that the substance of businesses is irrelevant? In other words, can the same conceptual organizational context management capabilities suffice if the mix of businesses changes?

### THE ELUSIVE LINKAGE

It is important before proceeding to differentiate at least two distinct levels of general management in a diversified firm—that at the SBU or business level and the corporate management team. Often, in diversified firms, there tends to be an intermediate level of general management, called group or sector executives, between business level and corporate management. Our focus will be on the *corporate management team*, and its relationships with business- and group-level managers, as it pertains to managing the totality of the firm.

Given this focus on corporate management the conceptual framework linking diversity and performance, proposed in this paper, is based on the following premises:

1. Top management of a (diversified) firm should not be viewed ‘as a faceless abstraction’, but as a ‘collection of key individuals’ (i.e. a dominant coalition) who have significant influence on the way the firm is managed. This collection of individuals, to a large extent, influence the style and process of management, and as a result the key resource allocation choices (Donaldson and Lorsch, 1983).

Few organizational events are approached by these managers (or any managers as being totally unique and requiring systematic study. Instead, they are processed through pre-existing knowledge systems. Known as schemas (see Norman, 1976, for a discussion of schemas), these systems represent beliefs, theories and propositions that have developed over time based on the manager’s personal experiences. At a broader unit of analysis, Huff (1982) implied the possibility that organizations’ actions can be characterized as schemas. An organizational schema is primarily a product of managers’ interpretations of experiences while operating within certain firms and industries.

Schemas permit managers to categorize an event, assess its consequences, and consider appropriate actions (including doing nothing), and to do so rapidly and often efficiently. Without schemas a manager, and ultimately the organizations with which he/she is associated, would become paralyzed by the need to analyze ‘scientifically’ an enormous number of ambiguous and uncertain situations. In other words, managers must be able to scan environments selectively so that timely decisions can be made (Hambrick, 1982). The selection of environmental elements to be scanned is likely affected by a manager’s schema.

Unfortunately, schemas are not infallible guides to the organization and its environments. In fact, some are relatively inaccurate representations of the world, particularly as conditions change. Furthermore, events often are not labeled accurately, and sometimes are processed through inaccurate and/or incomplete knowledge structures.

For the purposes of this research it is important to understand what managers' schemas actually represent. Kiesler and Sproul (1982) offer the following concise description:

Managers operate on mental representations of the world and those representations are likely to be of historical environments rather than of current ones (p. 557).

(Furthermore, as Weick (1979) discusses, it is the schema concept that provides the vehicle for his concept of the social construction (or enactment) of a firm's environment.)

For the present purposes the schema concept is introduced as a general mental structure that can store a shared dominant general management logic. (The specific nature and content of this 'logic' is discussed below.)

2. The strategic characteristics of businesses in a diversified firm, determined by the underlying competitive structure, technologies, and customers of specific businesses, vary. The differences in strategic characteristics of the businesses in the portfolio of the firm, a measure of *strategic variety*, impact the ability of a top management group to manage. This premise implies that complexity of the top management process *is a function of the strategic variety, not just the number of distinct businesses or the size of those businesses*. For example, the management of a very large, primarily one-industry firm (e.g. General Motors), or the management of a diversified firm in strategically similar businesses (e.g. Procter & Gamble), is a lot simpler than managing a diversified firm in strategically dissimilar industries (e.g. General Electric).

3. Strategically similar business can be managed using a single *dominant general management logic*. A dominant general management logic is defined as the way in which managers conceptualize the business and make critical resource allocation decisions—be it in technologies, product development, distribution, advertising, or in human resource management. These tasks are performed by managing the infrastructure of administrative tools like choice of key individuals, processes of planning, budgeting, control, compensation, career management and organization structure. If the businesses in a diversified firm are strategically similar, one dominant general management logic would suffice. However, diversified firms with strategic variety, impose the need for multiple dominant logics.

*The dominant logic is stored via schemas and hence can be thought of as a structure. However, some of what is stored is process knowledge* (e.g. what kind of process should be used in a particular kind of resource alleviation decision or how new technologies should be evaluated). Hence, more broadly the dominant logic can be considered as both a knowledge structure and a set of elicited management processes. (The actual content of this knowledge structure and how this context is established is discussed below.)

4. The ability of a top management group (a group of key individuals), to manage a diversified firm is limited by the dominant general management logic(s) that they are used to. In other words, the repertoire of tools that top managers use to identify, define, and make strategic decisions, and their view of the world (mind sets), is determined by their experiences. Typically, the dominant top management logic in a diversified firm tends to be

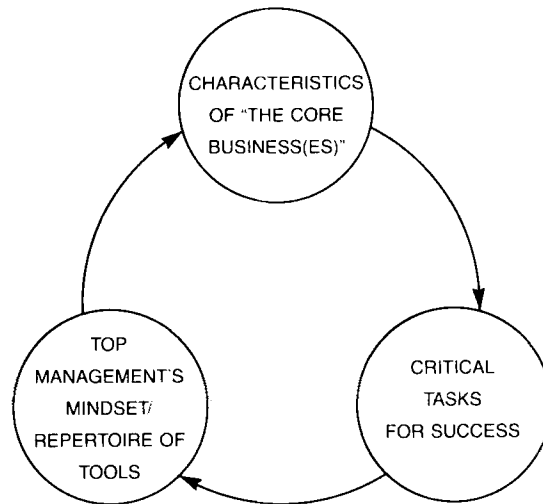


Figure 1. Dominant general management logic evolves due to . . .

influenced by the largest business or the 'core business' which was the historical basis for the firm's growth (e.g. semiconductors at Texas Instruments, public switching and telephones at GTE). The characteristics of the core business, often the source of top managers in diversified firms, tend to cause managers to define problems in certain ways and develop familiarity with, and facility in the use of, those administrative tools that are particularly useful in accomplishing the critical tasks of the core business (Figure 1).

### The sources of dominant logic

Dominant logic, as we have defined it here, is a mind set 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. As such, in order to understand the difficulties faced by a top management group in changing the dominant logic, we need to first examine the research streams that deal with the development of cognitive maps and the associated problem-solving behavior. We identified four streams of research—operant conditioning, paradigms, cognitive biases, and artificial intelligence—to highlight the process by which a dominant logic evolves (i.e. how the cognitive map originates and changes) and the difficulties in changing it or adding new logics to one's repertoire. The relationships of these four streams to problem-solving behavior are shown in Figure 2.

### Operant conditioning

Skinner (1953), in his seminal work on operant conditioning, argued that behavior was a function of its consequences. Behavior could be understood by considering the contingencies that were administered by the environment in response to certain behaviors. Behavior that was *reinforced* was emitted more frequently in the future. By contrast, behavior that was ignored or punished (negative reinforcement) was likely to diminish over time. A dominant logic can be seen as resulting from the reinforcement that results from doing the 'right things' with respect to a set of businesses. In other words, when top managers effectively perform the tasks that are critical for success in the core business they are positively reinforced by economic success. This reinforcement results in their focusing

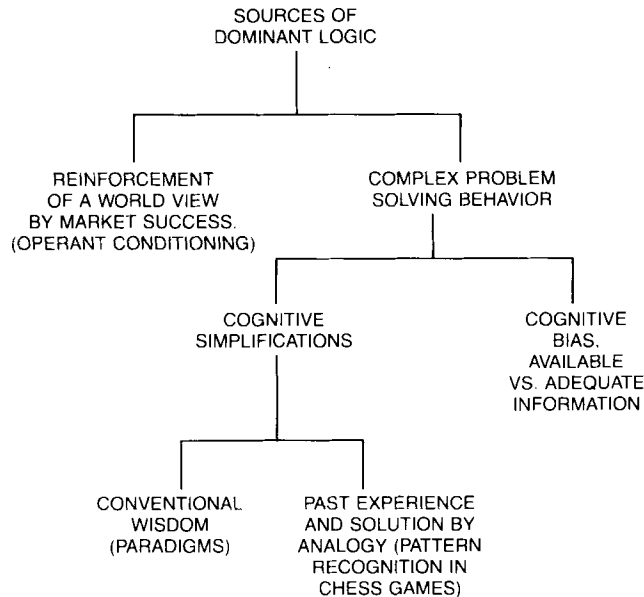


Figure 2. Conceptual foundations of dominant logic

effort on the behaviors that led to success. Hence they develop a particular mind set and repertoire of tools and preferred processes. This in turn determines the approaches that they are likely to use in resource allocation, control over operations, and the approach to intervention in a crisis. If the firm acquires or develops a business for which the critical tasks for success are substantially different from those in the core business, because of operant conditioning the behaviors of top managers and the approaches they use to manage the new business are likely to remain those that were appropriate for the core business even though they may be inappropriate in the new business. In other words it is difficult for a top management group to be effective in managing a new business by learning and using a new dominant logic in a short time. The problems faced by American Can (e.g. Pickwick International), and Exxon (e.g. office systems), in managing acquisitions of businesses totally different from their core businesses, in the early stages, are an illustration of the power of operant conditioning on the dominant logics used by top management.

**The power of paradigms**

The concept of dominant logic also derives direct support from Kuhn’s (1970) work on scientific paradigms and Allison’s (1971) work on the importance of alternate paradigms in the context of analyzing government actions during the Cuban missile crisis.

Kuhn, a historian of science, argued that a particular science at any point in time can be characterized by a set of ‘shared beliefs’ or ‘conventional wisdom’ about the world that constitutes what he called the ‘dominant paradigm’. What Kuhn calls ‘normal science’ is carried out efficiently under this set of shared beliefs. In a sense, Kuhn’s ‘paradigm’ is simply a way of *defining and managing the world and a basis for action in that world*. Kuhn points out how difficult it is to shift dominant paradigms, and illustrates this with several examples such as the shift from the Ptolemaic view of the universe (earth-centered) to the Copernican view of the universe (sun-centered) in astronomy. The analogy from science to a business firm is simple and direct. The dominant paradigm and the dominant logic are conceptually similar but employed in different fields.



Allison used paradigmatic analysis to show how the adoption of a particular paradigm powerfully affects our evaluation of events. He characterized a paradigm as 'a systematic statement of the basic assumptions, concepts and propositions employed by a school of analysis'. Different paradigms resulted in dramatically different analyses of his chosen example: the Cuban missile crisis. The parallel between Allison's use of the word paradigm and our use of dominant logic is obvious.

### **The pattern-recognition process**

As part of the development of 'intelligent' computer programs there have been numerous efforts to develop chess-playing programs (see Newell and Simon, 1972, for a review). Inevitably such research has required intense studies of how chess experts make decisions in a chess game. In particular, the decision-making and problem-solving process used by grandmasters and masters has been compared to that of lesser players (de Groot, 1965). These studies have shown that the better players could remember more 'patterns' of previous games than the lesser players. Simon (1979) estimated that class A players could remember about 1300 familiar patterns while masters or grandmasters remember about 50,000. This 'vocabulary' of previous games lets players make effective decisions by comparison with earlier games. In other words, chess players decide on the basis of experience or 'what worked before', not on the basis of some best strategy or optimizing procedure. Now consider a situation where the design of the gameboard or rules of chess are changed. The stored 'vocabulary' of games is no longer as useful in this new game. Similarly, when the economic gameboard or rules are changed either by structural changes in existing businesses or by a diversification move, the vocabulary of economic moves stored through experience in the core business may no longer be as useful. In other words, solutions based on 'past experience' or solution by 'analogy' may be inappropriate.

### **Cognitive biases**

A final area from which research results are suggestive of the concept of a dominant top management logic is cognitive psychology. The psychology of cognitive biases is the study of how people in making decisions sometimes make systematic (and often severe) errors (see Tversky and Kahneman, 1974, for an introduction and survey). When dealing with uncertain and complex tasks people often rely on a limited number of heuristic principles which greatly simplify the decision process. In general these heuristics are useful, but on some occasions they can result in significant errors.

For present purposes the most interesting of these heuristic principles is what is called the availability heuristic (see Tversky and Kahneman, 1973, for a thorough discussion). Basically, the availability heuristic leads people to make decisions by using information that can easily be brought to mind (i.e. information that is 'available'). This often leads to severe and systematic errors. This field of research also suggests that decision-makers do not necessarily use analytical approaches to evaluate the information content of available data or search for 'adequate information' (Nisbett and Ross, 1980). For example, Tversky and Kahneman (1974) point out that one may assess the risk of heart attack among middle-aged people by recalling such occurrences among one's acquaintances even if it can be shown that it is an inappropriate basis for drawing such a conclusion. 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 precedes change in those biases. The difficulty of operating in diverse businesses which require multiple dominant logics is obvious.

## STRATEGIC VARIETY AND THE DOMINANT LOGIC

The premises outlined above help us develop a framework for assessing the linkage between diversity and performance. Essentially they relate strategic variety amongst businesses in the firm, and changes in it, with the appropriateness of the dominant general management logic(s) that top managers in that firm use. We will examine in the rest of the paper the problems that diversified firms face in relating strategic variety and the dominant general management logic(s).

### **Strategic variety**

Strategic variety in a diversified firm depends on the characteristics of the mix of business the firm is engaged in. During the past decade top managers have tended to reduce the strategic variety (not necessarily the number of distinct businesses) in the portfolio of the firm. This is accomplished, often, by divesting businesses that do not 'fit'—those that increase strategic variety. Many of the businesses divested are profitable (e.g. Sperry's sale of Vickers to concentrate on information technology, ITT's sale of its bakery division). Divesting businesses to get more 'focus' to the portfolio results from an implicit recognition that the demands on top management of strategic variety can be significant. Not all diversified firms have been proactive in reducing strategic variety. Some have been forced to divest businesses, after years of poor profit performance and an inability on their part to turn around the 'sick businesses'.

An alternative to the approach outlined above—reducing strategic variety by restricting the mix of businesses in the firm to those whose strategic characteristics are similar—is followed by firms like General Electric, Textron, or 3M. Typically, businesses with similar strategic characteristics tend to be grouped together, into 'sectors' for management purposes. As a result there is little strategic variety within a sector, but across sectors there can be significant differences. This approach reduces the strategic variety that top managers have to deal with by creating an intermediate level of general management. These group- or sector-level executives tend to manage the strategic direction of specific businesses within the sector. Conceptually, this arrangement explicitly recognizes the need to contain strategic variety for effective management. However, in practice, the role of sector executives and their relationship both with business-level managers and the top management of the firm can get unclear if top management of the firm attempts to directly influence the conduct of any one business or a group of businesses.

### **Changing strategic variety**

So far we have considered how firms can contain strategic variety in a diversified firm, at a given point in time. But over time, even with an unchanging mix of businesses, the strategic variety can change. For example, the strategic characteristics of businesses can change due to changes in the structure of industries. The toy industry was changed, in a relatively short period of time, by the availability of inexpensive microprocessors. The combination of telecommunication and computers and deregulation is changing the financial services

industry. Globalization has changed the nature of competition in several industries such as TV, hi-fi, autos, steel, machine tools, etc. As a result, even firms which do not ostensibly change the mix of businesses will have to cope with increasing strategic variety, as the underlying structural characteristics of businesses change. Top managers, as a result, must possess the ability to revise the dominant logic they used to manage those businesses. The inability of top managers both to identify changing structural characteristics of businesses and accept the need for change in dominant logic(s), may provide at least a partial explanation for the difficulties traditional businesses like steel, machine tools, and autos have faced during the past 5 years in the U.S.

An addition of a new business, either through internal development or acquisition, can also change the strategic variety within the firm. If the new business is distinctly different (e.g. General Motors' acquisition of EDS, or General Electric's acquisition of Utah International) the strategic variety it adds is easily recognized.

In such acquisitions, top managers also recognize that hasty attempts to impose the dominant logic of the firm on the acquired business may be dysfunctional. Often the acquired firm is 'left alone', at least for a time.

When a new business is created through internal development it is harder to recognize the different structural characteristics of that business compared to those in the current mix of businesses; more so if the new business is technologically not dissimilar to existing businesses. For example, the experience of the calculator, digital watch, and personal computer businesses at Texas Instruments illustrates the point. The dominant logic which worked so well for TI in the semiconductor business, when applied to the new business, led to failure. A dramatic contrast is the early recognition at IBM that the personal computer business was structurally quite distinct. This recognition resulted in the creation of an independent business unit for managing that business. It was not subject to the dominant logic of the mainframe business. As the PC business evolves, and as it takes on the characteristics of the mainframe business, at least in some applications and with some customer segments, IBM may reimpose the dominant logic of mainframes on that business.

To summarize, strategic variety in a diversified firm can change due to

1. changes in the structural characteristics of the existing mix of businesses, or
2. changes in the mix of businesses caused by acquisitions or internal development.

In either case, top managers must explicitly examine the implications of changes in strategic variety. In other words, *major structural changes in an industry* have the same effect on the strategic variety of a firm as acquiring a new business.

The task of top management is to constantly re-examine its portfolio to ascertain if there are perceptible changes in the strategic variety as well as explicitly to assess the impact of new businesses on dominant logic(s) in the firm. The task of top management under various combinations of 'sources of strategic variety' and 'top management orientation' give us six possible combinations, as shown in Table 1. In a firm with a single dominant logic, if the nature of the core business changes significantly, then top managers will have to revise the dominant logic (A). If a new business is added, and is strategically similar (B), no change in dominant logic is needed. If, however, the new business is dissimilar, top managers have to create the capacity within the firm to cope with multiple dominant logics (C). In a firm operating with multiple dominant logics, if the nature of a significant business changes, then top managers may have to revise the dominant logic applied to that business or regroup it under a different 'sector' or 'group' (D). If the new business is strategically similar to one

Table 1. Nature of top management tasks in diversified firms

| Top management orientation | Sources of strategic variety   |  |   |
|----------------------------|--|--|---|
|                            | Significant structural changes in core business  | Addition of a new business                     |   |
|                            |  | Similar to existing businesses                 | Dissimilar from existing businesses                       |
| Single dominant logic      | (A)<br>Revise the dominant logic   | (B)<br>No change required                      | (C)<br>Create the capacity for Multiple dominant logic(s) |
| Multiple dominant logic(s) | (D)<br>Revise the dominant logic applied to that business or regroup it under another sector | (E)<br>Assign business to appropriate 'sector' | (F)<br>Add to the variety of dominant logic(s)            |

of the 'groups' or 'sectors' within the firm, then top managers may assign it to the appropriate sector (E). If the new business is dissimilar to the existing businesses, then top managers have to add variety to the dominant logics within the firm (F).

## CONCLUSIONS

The concept of dominant general management logic and the role of top managers in understanding and managing the logic(s), are important aspects to be considered in the research on diversity and performance. There are several implications of including these concepts in the study of diversity and performance. We will list some:

### Limits to diversity

We have argued that the 'real diversity' in a managerial sense in a firm does not arise from the variety in technologies or markets or by the number of district businesses *per se*, but from the strategic variety among businesses requiring a variety in the dominant logics used by top management. Further, the variety of dominant logics that a top management can handle depends on the composition of the team, and their experiences, as well as their attitude toward learning. These factors suggest that we ought to recognize that the limit to the diversity of businesses within a firm is determined by the strategic variety, and that the strategic variety that a firm can cope with is dependent on the composition of a top management team.

Undoubtedly, organization structure can help cope with increased strategic variety. One basic aspect of decentralization is to make decisions at the level where the proper expertise is available. In other words, the cognitive map is more likely to fit the strategic imperatives of the business. However, all decision-making cannot be decentralized. For example, resource allocation decisions *among* a firm's portfolio of businesses must be made. Furthermore, plans, strategies and budgets must be reviewed at the corporate level and managerial performance must be assessed. Hence organizational structure, although useful, is limited. It can attenuate the *intensity* of strategic variety that corporate-level management must deal with, but it cannot substitute for the need to handle strategic variety at the corporate level.

An alternative or supplementary approach is to reduce the strategic variety in the

businesses of the firm—what has come to be known as ‘focus’ in the portfolio. An interesting variant on this is to impose a single strategic approach on each business. For example as Porter *et al.* (1983) discuss, Emerson Electric has a uniform goal across businesses of being the low-cost producer in each of its markets. Such an approach reduces strategic variety but may impose an inappropriate logic on a particular business. Interestingly, Emerson usually seeks to divest businesses that cannot meet this goal.

Ultimately many firms exceed the limits of organizational structure in attenuating the intensity of strategic variety and/or cannot reduce or limit strategic variety adequately. These firms face the reality of having to deal intensively with strategic variety at the corporate level and the necessity of developing multiple dominant logics if performance is to be sustained.

The bottom line is that each top management team at a given point in time has an inbuilt limit to the extent of diversity it can manage. Organizational structure and focus in the portfolio can help extend this limit but they cannot eliminate it.

**Diversity and performance: the hidden costs**

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 nonfamiliar businesses are shown schematically in Figure 3. These ‘hidden costs’ are not explicitly recognized when the overall business climate is very favorable. Problems surface when the 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).

**Changing or adding dominant logics**

The process of adding dominant logics is, given the previous discussion, obviously an important aspect in the management of diversified firms. Also, as the argument so far suggests, the process of changing dominant logics is important to any firm that encounters rapid change in the structure of the industries in which it competes. These issues revolve around the ability of the firm or its dominant coalition to learn. Fortunately, there is a small but growing literature on organizational learning (see Hedberg, 1981, for an introduction and survey). This literature suggests ways in which organizations can change or add dominant logics.

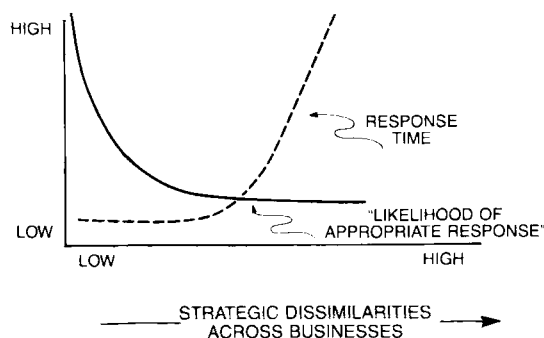


Figure 3. The diversity and performance

First, let us consider the situation involved in changing the dominant logic of a (single-logic) firm. The explicit assumption here is that the structure of the core industry the firm competes in is or has changed significantly.

In general it appears (see March and Simon, 1958; Downs, 1967; Terreberrey, 1968; Cyert and March, 1963; Starbuck, 1976; Hedberg, 1973; Hedberg, Nystrom and Starbuck, 1976) that changes in the ways organizations solve significant new problems (i.e. change dominant logics) are triggered by substantial problems or crises. Hedberg (1981) also suggests that opportunities or changes in key executives may also trigger learning, but here the evidence is small by comparison. (Key executive changes are often made in response to crises.) It would appear that in the overwhelming number of instances a crisis is needed to precipitate change (e.g. 'Why fix it if it is not broke?') Not only must there be a crisis but as Nystrom, Hedberg and Starbuck (1976), propose and illustrate, the initial response to the crisis is likely to be inappropriate. In other words the initial response is likely to draw on the now inappropriate but still current dominant logic. This, of course, provokes a deepening of the crisis and a search for other solutions. In other words survival is likely to become dependent on finding a new logic.

Given that the opportunity for learning has been elicited by a crisis (or other event) the organizational learning literature (e.g. Hedberg, 1981) suggests that unlearning must occur to make way for new mental maps. Unlearning is simply the process by which firms eliminate old logics and behaviors and make room for new ones. Interestingly, the more successful organizations have been, the more difficult unlearning becomes (Argyris and Schon, 1978; Starbuck and Hedberg, 1977).

Given that these two preconditions, a precipitating crisis and a start of unlearning, have occurred, the stage is set for the kind of learning that can result in a new dominant logic. However, as Michael (1973) and Hedberg (1981) have observed, little is known about how organizations' cognitive structures are changed. Hence, the discussion *here must be largely speculative*. Hedberg (1981) makes four general suggestions: (1) making organizations more experimental; (2) regulating organizations' sensitivity to environmental changes to an optimal level (neither too low nor too high); (3) redesigning organizations' inner and outer environments; and (4) achieving a dynamic balance between stabilizing and destabilizing influences. Beyond these general areas the current authors suggest: (1) structuring the top management team to include individuals with significantly different experience bases; (2) encouraging top managers to enrich their experience bases through sabbaticals and educational experiences; (3) rehearsing as a management team for a broad range of future industry scenarios; (4) separating economic evaluation from manager evaluation so that executives can be rewarded for experimenting even when projects fail; and (5) legitimizing dissent. Furthermore, in an interesting article about managerial responses to changing environments, Kiesler and Sproul (1982) suggest developing schemas that incorporate the expectation of change as a fundamental component. Unfortunately, again the 'how to' remains largely undefined.

The discussion in this section so far has considered changing dominant logics, not adding new ones. Adding new logics implies retaining the old one and not unlearning it, but developing the ability to deal simultaneously with other logics. This generally falls beyond what has been studied in the organizational learning literature. Diversification is often not triggered by a crisis, and unlearning as described above is not desirable. It appears that what must occur is some kind of meta-learning in which the dominant coalition learns to simultaneously conceptualize different type businesses. Perhaps some sort of meta-logic evolves that specifies the necessity of, and rules for, picking between partially contradictory mental maps. Further research here is obviously needed.

### The meaning of 'relatedness'

The concept of related or conglomerate diversification was typically based on an analysis of the technological and market characteristics. The view presented here suggests that we may have to develop a concept of relatedness based on the 'strategic similarities' of businesses and the cognitive composition of the top management team. In other words relatedness may be as much a cognitive concept as it is an economic and technical concept.

### Future research

The concept of a dominant logic presents opportunities to deepen our understanding of the management of diversification and the relationships between diversity and performance. A first necessary step is to move beyond the purely conceptual stage to measurement of the construct, or in other words, to being able to specify just what a particular dominant logic actually is. The authors have had experience in trying to construct the dominant logic of a firm by in-depth interviewing of the top management team, and believe that useful results and insights can be achieved. However, such an approach, though useful as a consulting framework, lacks the rigor necessary to establishing general results. Furthermore, quantification is complicated by the cognitive nature of the dominant logic.

Decision-makers' descriptions of their own policies are often inaccurate (Hoffman, 1960; Slovic, 1969; Balke, Hammond and Meyer, 1973). Similarly, stated policies and intentions often vary from what is actually used. Argyris and Schon (1974) describe this as the difference between 'espoused theories' and 'theories in use' that actually govern behavior. These researchers suggest that a person's theory in use cannot be obtained simply by asking for it. Creative questionnaires and analysis procedures, however, can be developed that elicit the true nature of the dominant logic. For example, the policy-capturing methodology (Slovic and Lichtenstein, 1971; Slovic, Fischhoff and Lichtenstein, 1977) would seem to be a powerful approach to measuring a firm's dominant logic.

Another approach to establishing a firm's dominant logic could be through the use of historical analysis. As previous arguments have discussed, the dominant logic is developed as a result of the experiences of the key executives. Hence, delving into the industry and firm experience of these key individuals would seem to be a fruitful approach, especially when coupled with in-depth interviews of the individuals and their immediate subordinates.

A second important area for future research is the previously mentioned process of learning to use multiple dominant logics. The organizational learning literature deals primarily with changing cognitive maps. It does not deal with the process of learning to use multiple, partially contradictory maps. Some firms have obviously been able to solve this problem. Logitudinal clinical investigation is necessary to determine how.

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