Classifying Strategic Alternatives

Rajan Nataraajan, William R. Boulton and P.V. Balakrishnan

INTRODUCTION

Strategic management encompasses a range of decisions that are the responsibility of top management. These decisions are considered to be strategic when they are long range decisions that respond to the dynamics and uncertainty of today's competitive and rapidly changing environment. Such decisions typically emerge from a serious consideration of available alternatives. This assessment process becomes easier if the alternatives are first classified into various categories. This is because classification, in general, instills order into anarchy. To the authors' best knowledge, currently, the literature does not exhibit a systematic procedure for categorizing strategic alternatives. In this paper, the authors develop and provide such a scheme for strategic decision makers. In order to establish the relevance of their work to present times, the authors use the Malcolm Baldrige National Quality Award criteria as a comparative backdrop at pertinent junctures in this article. Further, in order to illustrate key points, the authors turn to events over the last two decades in the history of Xerox Corporation.

The Need to Develop and Classify Alternatives

The development of realistic alternatives is central to the strategic planning process. The need for alternatives in decision making derives from the law of requisite variety in cybernetics which states that only variety can absorb variety (Ashby, 1956). Since strategic planning involves the consideration of a variety of aspects, it follows that a variety of possible solutions need to be examined, and alternatives fulfill the latter condition.

When strategic planning is conducted by only one individual or a small group of like-minded individuals, the heuristics employed to analyze available information are likely to be limited by commonality, a phenomenon described as "group think." This often leads to a lack of variety. Fortunately, the trend towards work group empowerment and broader decision making involvement leads to an increase in decision making participation, which enhances variety. As the diversity and size of decision making groups increase, the diversity of alternative decisions also increases (Wanous & Youtz, 1986). In fact, strategic decisions are improved through the "continuous participation in the [strategic planning] process of all those who are capable of contributing" (Reid, 1989, p. 558). This implies that diversity in participation increases the likelihood that assumptions will be questioned and decisions improved.

But increased participation obviously adds to the number and variety of alternatives that must be considered. Brainstorming methods further compound this problem. In short, as the number of participants grows, typically, the number of alternatives generated also grows. Clearly, the resulting complexity requires a more systematic method of classifying and evaluating proposed alternatives. Unfortunately, most strategic planning processes lack such explicit methodologies. Although Hatten, Schendel and Cooper (1978) were one of the few that

Dr. Rajan Nataraajan is Professor of Marketing and Management, Auburn University, West Magnolia, Alabama.
Dr. William R. Boulton is Professor of Marketing and Management, Auburn University, West Magnolia, Alabama.
Dr. P.V. Balakrishnan is Associate Professor of Marketing, University of Washington at Bothell.

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used strategic group modeling as the basis for evaluating alternative strategies, most strategic analyses lead to recommendations whose assumptions or constraints are not effectively analyzed.

While some decision making frameworks include stages for the assessment of options and testing of assumptions (e.g., Nutt, 1989), these stages are yet to be elucidated and/or operationalized in the literature. In other words, to reiterate, the literature currently does not exhibit a systematic procedure for classifying or evaluating alternatives. As indicated at the outset, this is the lacuna that this paper will attempt to remove. In the next major section, a systematic procedure for classifying strategic alternatives will be developed. In the process, as indicated at the outset, the Malcolm Baldrige Award criteria will be used as a comparative backdrop. Therefore, a brief review of these criteria is in order.

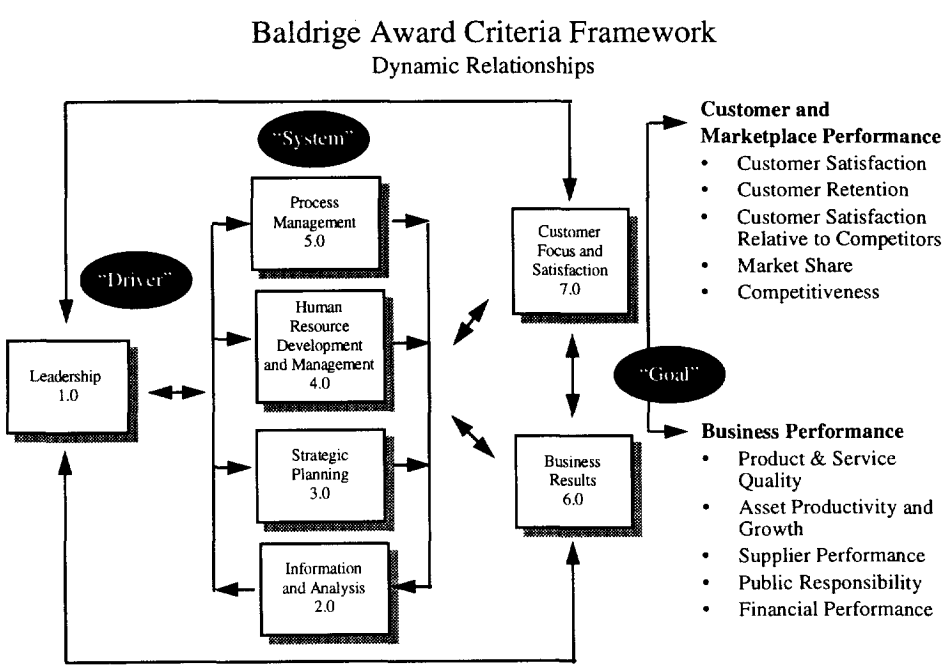
The Malcolm Baldrige Award

> "Because of the astounding success of its winners in taking care of their business, the Baldrige Award has become a symbol of excellence and an inspiration for the rebirth of American competitiveness."
>
> William J. Clinton
> 1996 Malcolm Baldrige Award

According to the Malcolm Baldrige Award criteria, a firm's competitiveness and performance is derived from strategic planning. The making of effective strategic decisions gives a firm the capability to succeed over time. These capabilities derive from work units, business processes, and corporate level activities that support a firm's mission and business objectives. This evolving paradigm comes from the practices of excellent companies that have received the Malcolm Baldrige National Quality Award.[1] The award's criteria for assessing business excellence, especially that of firms facing tough competitive challenges, are composed of 7 categories and 24 items. These criteria address improvements in customer as well as market related performance, productivity in the use of assets, speed and flexibility, product and service quality, cost reduction, and overall financial performance.

The seven award criteria categories are bases on the framework shown in Figure 1. The "goal" is two-fold: (1) customer and marketplace performance that delivers ever-improving value to customers, high levels of customer satisfaction, and a strong competitive position; and (2) business performance that reflects a wide variety of financial and non-financial results, including human resource development and corporate responsibility. The "driver" is

FIGURE 1
Malcolm Baldrige Award Criteria



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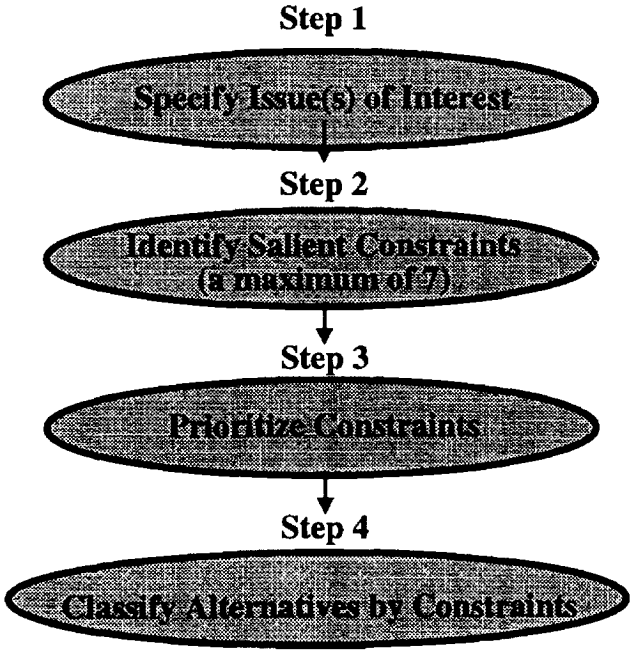
senior executive leadership that sets directions, creates values, goals, expectations, and systems, and pursues excellence in customer and marketplace performance as well as in business performance. The "system" comprises the set of well-defined and well-designed processes for meeting the company's customer and overall performance requirements.

While this framework has not been considered in strategic management literature, it provides a model against which today's strategic management paradigm can be evaluated. Accordingly, the Malcolm Baldrige Award criteria are used as a comparative backdrop, as an approach for classifying salient alternatives falling within the realm of strategic management is presented.

FIGURE 2
Alternative Classification Scheme



AN ALTERNATIVE CLASSIFICATION SCHEME

The *Alternative Classification Scheme*, shown in Figure 2, presents a systematic approach to grouping alternatives that result from alternative generating activities. Its underlying structure is based on three considerations which ensure that information can be processed effectively as complexity increases. These considerations are that:

1. the amount of information being processed at any one time is limited,
2. the information is prioritized by key constraints, and that,
3. the information is considered sequentially through the application of constraints.

In line with the above structure, the first step in the *Alternative Classification Scheme* is to *specify issue(s) of interest*. The second step is to*identify salient constraints*. The third step is to*prioritize constraints*. The fourth and final step is to *classify alternatives by constraints*. These steps are now elaborated using the Malcolm Baldrige award criteria as a backdrop and Xerox Corporation as a real-world case as follows:

Step 1: This step involves the specification of issues of interest for which a decision(s) is needed. In strategic management, SWOT analysis techniques commonly identify the strengths, weaknesses, opportunities, and threats related to a firm's strategy. The systematic review of internal (strengths and weaknesses) and external (opportunities and threats) issues relating to an organization's activities leads to a set of issues that needs to be addressed by management. More recently, benchmarking has been catching on for not only sensitizing companies to existing opportunities and threats but also facilitating a better understanding of the needs for internal developments. Regardless of the process followed, the cardinal question is, "which of these issues are strategic?"

The Malcolm Baldrige award evaluates whether managers understand such issues. The criteria look for needs for external improvement through benchmarking -of best practices- and competitive comparisons. Companies need to know what opportunities and threats exist relative to competition and best practice performance. Benchmarking is used to alert companies to competitive threats and new practices, and for understanding the strengths and weaknesses of their own processes. Benchmarking supports business analysis and decision making efforts relating to core competencies, alliances, and outsourcing. The data are used to establish realistic goals for improvement of overall company performance and competitive position.

Xerox Corporation, the 1987 winner of the Baldrige Award, used benchmarking to identify the areas that needed strategic attention after losing significant market share to Japanese competitors. Xerox began studying other companies to see how they ran key business processes. Critical areas like design, supplier relations, production, inventory management, and staff functions were analyzed. In administrative areas, Xerox chose non-competitive companies, like Procter & Gamble in marketing and L.L. Bean in distribution, that were the best in their fields. Fuji Xerox, a 50/50 joint venture in Japan, evaluated Japanese competitors and discovered annual productivity improvements of 18% compared to 8% for Xerox. According to Mark Shimelonis, vice president for quality:

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> We found that, compared with Japanese manufacturers, we had nine times as many production suppliers, our product lead times were twice as long, and it took five times as long to set up a production line for manufacturing. We also learned we had 10 times as many parts rejected and seven times as many manufacturing defects as our competitors in the copier industry.

Competitor's total costs to produce a comparable product were found to equal Xerox's direct labor costs. Japanese firms priced their models at Xerox's production costs. Reverse-engineering revealed that Xerox's manufacturing techniques were no longer competitive in price or quality.[2]

Step 2: The second step is the identification of salient constraints that will limit the feasible range of alternatives. These constraints can be imposed by either the organization or the situation or the environment in which the organization finds itself. This step essentially requires that the underlying assumptions upon which alternatives are generated become explicit so as to assess "salience" of the constraints coming into play.

Constraints reduce the degrees of freedom that a decision maker has in approaching a problem (Richards, 1983). For example, if the decision maker is faced with stiff financial constraints, the number of available alternatives will be reduced. If the financial constraint is removed, then the number of alternatives can grow dramatically, thus adding to the complexity of the evaluation process. Further, the broader the range of alternatives, the higher the opportunity costs (incurred by not selecting the right alternatives) and, consequently, the greater the perceived level of possible cognitive dissonance or post-decision remorse. It is this perception of potential post-decision remorse that traps decision makers into making relatively conservative decisions. Thus, the absence of constraints typically increases the number of available alternatives, which, in turn, actually increases the pressure on decision-makers to generate optimal decisions. Obviously, this decision making dilemma may be alleviated by setting constraints. But then the question is, "how many constraints may, at most, be considered salient?"

Psychology has shown that individuals have limited capacity for processing information (Bettman, 1979; Miller, 1956). Research suggests that short-term memory can process only a limited number of information "chunks" at any one time. To be specific, it can handle between two and eight chunks at any one time (Bettman, 1979; Miller, 1956; Newell & Simon, 1972). Further, the "chunking" concept assumes that it is the structure of the chunk, not its size, that determines how much processing capacity is required to manipulate it. All in all, chunking theory appears to suggest that the number of constraints be limited to seven. Needless to say, the number of salient constraints can be as low as one.

Given the above range of chunks, it is interesting to note that the Malcolm Baldrige Award criteria actually "chunks" information into seven meaningful assessment categories. These are: (1) leadership, (2) information and analysis, (3) strategic planning, (4) human resource development and management, (5) process management, (6) business results, and (7) customer focus and satisfaction. It seems that the Malcolm Baldrige Award criteria, inadvertently, underscores the recommendation of chunking theory.

The Malcolm Baldrige Award criteria assess how a "company develops its view of the future, sets strategic direction, and translates these directions into actionable key business drivers, including customer satisfaction and market leadership."[3] Consequently, improvements in customer satisfaction and market position become *constraints* for strategic decisions under these criteria.

Beginning in 1980, Xerox agreed with the Amalgamated Clothing and Textile Workers Union, the union representing its manufacturing work force, to explore a joint management-labor problem-solving process. They established Quality of Work Life (QWL) teams to investigate and solve work-related difficulties. Constraints were seen and studied. After some initial hesitation, job satisfaction for the industrial staff improved and shop-floor problems were solved more easily. The problem-solving process and the employee involvement process were then introduced to design engineering groups and staff organizations. It was difficult to infuse a large organization like Xerox with new enthusiasm to improve *return on assets, customer satisfaction* and *market share*. Employees complained, "While you said all three things were equal, you always listed return on assets first." Clearly, the ranking issue had to be revisited.

Step 3: The third step is to rank order the constraints that will be used to categorize alternatives. As mentioned earlier, the perceived salience of the constraint will be the paramount factor in determining its rank. "Which is the most relaxable and which is the least relaxable constraint?" then become the anchoring questions.

The Malcolm Baldrige Award defines business results in terms of "superior value of offerings as viewed by customers and the marketplace, and superior company performance reflected in operational and financial indicators." The award's operational and financial performance criteria include "financial and economic indicators, cycle time, and productivity, as reflected in use of labor, materials,

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energy, capital, and assets. Productivity, cycle time, and other operational indicators should reflect aggregate company performance."[3] This is a significant move away from the maximization of stockholder wealth that has dominated traditional performance measures. It also, however, adds to the complexity of ranking performance constraints.

At Xerox, David T. Kearns, then senior vice president, recognized the need for a comprehensive quality strategy to meet and surpass the competition. He appointed the first vice president of quality, a quality implementation team of senior managers, and a supporting quality training task force. He had read Phillip Crosby's *Quality is Free*. Crosby argued that 20% of a company's costs were due to its lack of quality. For a company with $10 billion in revenues, that equalled $2 billion.

In consultation with two dozen of Xerox's highest ranking executives, Kearns created a process that became known as *Leadership Through Quality*. In 1983, the team defined "quality" as "meeting customer requirements" and made their quality commitment:

> Xerox is a quality company. Quality is the basic business principle for Xerox. Quality means providing our internal and external customers with innovative products and services that fully satisfy their requirements. Quality improvement is the job of every Xerox employee.[2]

Needless to say, "quality" as "meeting customer requirements" became the least relaxable constraint at Xerox.

Step 4: Finally, alternatives are classified according to the priority imposed by the chosen salient constraints. Note that by classifying alternatives by constraints, they can be "chunked" into a smaller number of decisions. If management desires a mix of outcomes, such as improvements in return of investment, market share, and customer satisfaction, then alternatives need to be classified according to priority of such outcomes.

The classification itself is carried out by a process of relaxation of constraints. Since the imposition of constraints leads to fewer alternatives, the classification process begins with the most restrictive view: a "completely constrained" group of alternatives. Needless to say, here all the constraints are in effect. The classification process continues by relaxing the constraints, one by one, according to their priority. Given that the number of constraints is limited to a maximum of seven, a maximum of eight alternative classifications are possible. Note that the last view will be a "non-constrained" group of alternatives.

After a re-ranking of their constraints and an explicit recognition of the importance of "customer-quality" relationship, Xerox envisioned a variety of alternative-scenarios. The events following such envisioning are outlined below:

In 1984, Xerox began implementing the LUTI (learn, use, teach, inspect) technique. Senior management personnel were expected to learn leadership through quality, then use it, then teach it to the next lower management level, and then inspect their own usage. Employees worldwide were trained in statistical process controls, just-in-time production systems, problem-solving methodologies, departmental quality circles, and product design teams with supplier participation. Senior management quality improvement teams (QIT) provided the role models. The employee satisfaction measurement system (ESMS) was used for employee input about quality and continuous improvements. By 1985, all middle and senior managers had been trained in the use of quality tools and, by 1986, 2,500 quality improvement teams were operating. By the end of 1988, all 100,000 of Xerox employees had received a minimum of 28 hours of quality training. In four years, four million man-hours of training had been given at a cost of $125 million.[2]

At the same time, quality improvement techniques helped the company reduce total costs and improve financial performance. Xerox increased its benchmarks across the organization from 14 to 237 performance measurements. After benchmarking LL Bean, Xerox redesigned its warehouses to shorten the distance an order filler had to travel to reach materials and arranged parts according to frequency of purchase. Japan's just-in-time manufacturing techniques were instituted to provide for parts delivery as needed for assembly, thereby eliminating inventories and warehousing requirements. In manufacturing, the number of suppliers were trimmed from 5,000 to the best 500. Suppliers were required to attend seminars in statistical quality-control and quality-improvement methods.[2]

For 1990, the company intensified its quality efforts in the U.S. and abroad. The company's priorities remained the same: to increase customer satisfaction, improve employee motivation, improve market share and increase return on assets (ROA). Customer satisfaction was considered paramount for industry leadership. The goals included 15% for ROA in 1990 with increased market share in Xerox's core business.[2]

DISCUSSION

As mentioned at the outset, the *Alternative Classification Scheme* provides a systematic approach that may be used by the strategic decision maker in an organization. Traditionally, organizational success has been measured in financial terms. The inability to

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generate adequate returns to shareholders has typically resulted in a change of management and strategy. All other measures have been, at best, of secondary importance. The approach furnished in this paper will yield scenarios that may underscore the cardinality of other factors, and such cardinality may vary from organization to organization. In other words, the *Alternative Classification Scheme* has the potential, when truly warranted, to move the traditional fixation that top management has on financial returns to other foci. It accomplishes this through its principal logic of identifying and ranking salient constraints.

The Alternative Classification Scheme groups alternatives into a spectrum from completely constrained alternatives to completely unconstrained alternatives. It should be noted that the completely unconstrained view provides only a "benchmark" for evaluating the remaining classes and a starting point for brainstorming activities. In most instances, the constraint free scenario is an unrealistic class.

Further, although it is tempting to restrict alternative classification to only extreme views, in most cases, it would be extremely insufficient to look at only the completely constrained and unconstrained situations. This is because such a restricted perspective would not reveal the assumption structure underlying the alternatives, which would detract from the meaningfulness in alternative classification. The richness of the dialectic approach in the *Alternative Classification Scheme* is that it explicitly illuminates the underlying assumptions of each class of alternatives under consideration (Mason, 1969; Mitroff, 1971).

Also, one need not necessarily consider each class of alternatives to be independent of other classes. Although constraints are typically viewed as independent when sequentially relaxed, they may not always be sufficiently orthogonal to each other. When such dependency is recognized, it would be realistic and practical to form appropriate hybrid solutions, and reassess their feasibility. In effect, this would be tantamount to combining two correlated constraints to form a new hybrid constraint. This suggests that one is not precluded from selecting a combination of classes.

Finally, the approach rejects the combinatorial relaxing of constraints because it would generate too many views, thereby causing excessive information processing requirements. Finally, constraints must not be trivial or redundant. This ensures that alternatives are classified into meaningfully distinct groups.

Given that the happenings at Xerox Corporation, the winner of the 1987 Malcolm Baldrige Award, have been used to illustrate the key points in this paper, it would only be fitting to provide the essence of Xerox's rigorous self-examinations over the years as a capstone for this paper. Accordingly, the six principles that emerged at Xerox are listed below:[2]

1. A customer defines our business.
2. Our success depends upon the involvement and empowerment of trained and highly motivated people.
3. Line management must lead quality improvement.
4. Management develops, articulates and deploys clear direction and objectives.
5. Quality challenges are met and satisfied.
6. The business is managed and improved by using facts.

NOTES

1. The Malcolm Baldrige National Quality Award was created by Public Law 100-107, and signed into law on August 20. 1987.
2. William R. Boulton, "Xerox Corporation: Surviving the Competitive Crisis 1996 (http://www.auburn.edu/~boultwr/Cases)
3. "1996 Award Criteria," Malcolm Baldrige National Quality Award, U.S. Department of Commerce. P. 41.

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