MANAGEMENT SCIENCE
Vol. 29, No. 3, March 1983
Printed in U.S.A.

A SPATIAL MODEL OF EFFECTIVENESS CRITERIA: TOWARDS A COMPETING VALUES APPROACH TO ORGANIZATIONAL ANALYSIS*

ROBERT E. QUINN† AND JOHN ROHRBAUGH†

This paper presents a framework for organizational analysis. The empirically derived approach does not emerge from the observation of actual organizations, but from the ordering, through multivariate techniques, of criteria that organizational theorists and researchers use to evaluate the performance of organizations.

In a two-stage study, organizational theorists and researchers were impaneled to make judgments about the similarity of commonly used effectiveness criteria. The model derived from the second group closely replicated the first, and in convergence suggested that three value dimensions (control-flexibility, internal-external, and means-ends) underlie conceptualizations of organizational effectiveness.

When these value dimensions are juxtaposed, a spatial model emerges. The model serves a number of important functions. It organizes the organizational effectiveness literature, indicates which concepts are most central to the construct of organizational effectiveness, makes clear the values in which the concepts are embedded, demonstrates that the effectiveness literature and the general literature on organizational analysis are analogues of one another, and provides an overarching framework to guide subsequent efforts at organizational assessment.

(ORGANIZATION—ANALYSIS, EFFECTIVENESS)

Deeply embedded in the organizational literature is the construct of effectiveness. Improved effectiveness, for example, is claimed as the desired end in the applied fields of organization development [10] and organization design [16]. At the theoretical level, Goodman and Pennings [12] have argued that effectiveness is the central theme in all of organizational analysis and that it is difficult to conceive of a theory of organization that does not include the effectiveness construct.

While effectiveness is clearly a construct of central importance, it is not without problems. One of the major problems pertains to the elusiveness of a definition. In a major review of the effectiveness literature, Campbell [8] was able to identify 30 different criteria of effectiveness. The imprecise definitions and conceptual overlap between the 30 criteria led Campbell to conclude:

> . . . different people adhere to different models, and there is no correct way to choose among them. Thus, when a list is put together from different conceptual points of view, the composite list will almost inevitably look messy. [8, p. 40]

Observations such as this one are part of an increasing disillusionment with the effectiveness construct. Steers [33] has questioned the value of the construct, and Hannan and Freeman [14] have severely criticized it. More recently, Bluedorn [3] has argued that the construct should be entirely eliminated. While some disagree with the call for a moratorium on studies of organizational effectiveness [30], [7], nearly all would agree that the effectiveness literature is in disarray.

While there are many reasons for the confusion [6], there is one that is of particular importance to this study: the fact that effectiveness is not a concept but a construct. A

*Accepted by Arie Y. Lewin; received July 7, 1981. This paper has been with the authors 3 months for 1 revision.

†State University of New York at Albany.

0025-1909/83/2903/0363$01.25
Copyright © 1983, The Institute of Management Sciences

concept is an abstraction from observed events, the characteristics of which are either directly observable or easily measured. Some concepts, however, cannot be so easily related to the phenomena they are intended to represent. They are inferences, at a higher level of abstraction from concrete events, and their meaning cannot easily be conveyed by pointing to specific occurrences. Such higher-level abstractions are sometimes identified as constructs, since they are constructed from concepts at a lower level of abstraction. The problem is that no one seems to be sure which concepts (such as productivity or capital growth) are to be included in the construct of effectiveness, or how they are to be related [7], [33]. The highly abstract nature of the construct and the lack of agreement as to its structure accounts for a major portion of the confusion in the effectiveness literature.

Given divergent perspectives and emphases in the organizational literature, what is necessary in order to clarify the construct of organizational effectiveness? Steers [33] suggested that the first step should be to identify all of the variables in the domain of effectiveness and then to determine how the variables are similarly related. Campbell [8] proposed a similar approach. As mentioned above, he identified a comprehensive list of 30 criteria; he pointed out that the list of variables was long and varied in generality, methods of operationalization, and closeness to the final payoff; and he stressed the need to "weed out the overlap and get down to the core variables" [8, p. 39].

Scott [29], Seashore [30], and Cameron [5] have all attempted to bring some integration to the literature. Scott [29, pp. 73–74], for example, has suggested that the numerous criteria of effectiveness can be reduced to three basic models: the rational system model, natural system model, and open system model. According to Scott, the emphasis of the rational system model, due to its mechanistic, instrumental bias, is on the number of units produced in a given time (productivity) and the number of units produced for a given number of input units (efficiency). The natural system approach considers not only the production function, but also the activities required for the unit to maintain itself. From this organic view, attention is focused on such properties as morale and cohesion. The open system model includes system-elaborating as well as system-maintaining functions. The activities emphasized by this model are adaptability and resource acquisition.

Seashore [30] has also suggested a three-model integration of the effectiveness literature. His goal model is very similar to Scott's rational model, but he has used the natural system model to cover both the natural and open system approaches described by Scott. His third model, the decision process model, is unlike any of the models proposed by Scott. In the decision process model, the effective organization is the one which "optimized the processes for getting, storing, retrieving, allocating, manipulating, and discarding information."

Cameron [5] has proposed a four-model integration of the literature. These four models are the goal, systems resource, internal processes, and participant satisfaction approaches. The goal model is very similar to the rational or goal models described by Scott and Seashore. The system resource model is very similar to Scott's open system model, while the internal process model parallels Seashore's decision process model. Cameron's last model, the participant satisfaction or strategic constituency model, is an elaboration of the natural system model mentioned by both Scott and Seashore. Here the organization is seen as a dynamic coalitional entity within which complex transactional networks of constituencies develop. The effective organization must satisfy each constituency enough that continued transactions are assured.

These three attempts to integrate the effectiveness literature reflect both consensus and disagreement. There seem to be several well-identified themes running through the

effectiveness literature, yet each theorist offers an integration that differs somewhat from each of the others. While their agreement is considerable, the construct of effectiveness as it has been employed is certainly "fuzzy" enough to generate the apparent divergencies as to which concepts belong in the construct, how they relate to each other, and what particular clusters of concepts should be called.

Neither have traditional multivariate methods been particularly appropriate for solving the problem at hand. The shortcomings of such approaches have been noted by Campbell [8], who was particularly pessimistic about the pitfalls of factor analytic studies. Assembling a large sample of organizations, measuring a set of potential criteria, and then reducing them through factor analysis is a process the outcome of which is highly dependent upon the initial task of selecting measures. Whenever an organization is to be evaluated, investigators must consciously choose a precise set of criteria upon which to base their assessments. In organizational research, these criteria traditionally have been either selected and then imposed upon the organization by the researchers or evaluators themselves, or they have been derived from interviews with members of the target organizations. In either case, the selected criteria usually reflect an unarticulated but fundamental set of underlying personal values about the appropriate emphases in the domain of effectiveness. These personal values that motivate the choice of particular criteria ultimately underlie the resulting effectiveness dimensions "uncovered" by (but actually antecedent to) factor analytic studies.

The method of investigation used in the present study, although multivariate, was a radical departure from previous factor analytic efforts employed to derive dimensions of organizational effectiveness. The focus was on the cognitive structure of the organizational theorist, not on the operational structure of the organization. Here we provide a method for making the implicit and abstract notions of multiple theorists and researchers explicit and precise. The question posed was, "How do individual theorists and researchers actually think about the construct of effectiveness?" The procedure described in the following sections uses multidimensional scaling to approach the problem. The present paper emerges from an initial exploratory study employing a panel of 7 experts [23] and a second study in which a larger group of 45 theorists and researchers participated.

1. Initial Exploratory Study

Participants

Seven individuals who had research interests in the area of organizational effectiveness participated in the initial exploratory study. Six of the seven had presented or published papers on the topic. All of the participants held doctorates; each degree was earned at one of seven different institutions. The participants represented a diverse array of academic backgrounds and interests including sociology, business, industrial psychology, public administration, social psychology, and organizational behavior. At the time the study was conducted, the panel members were employed in five different academic departments and a national research foundation.

Procedure

Campbell's [8] list of 30 indices of oganizational effectiveness was selected as the basis of the study for several reasons. First, it was generated by a major review of the relevant literature with the stated intent of providing a comprehensive compilation of effectiveness criteria. Furthermore, the list of indices was supplemented with generally explicit definitions of each particular term or phrase. Finally, Campbell's paper which

contains the list had become a widely cited article in the literature on organizational effectiveness and, therefore, the list was increasingly the focus of attention.

The seven panel members were asked to participate in a two-stage judgment task in order to reduce and organize the list of 30 criteria. In the first stage, participants were asked to apply four decision rules for eliminating any criterion which was (1) not at the organizational level of analysis; (2) not a singular index but a composite of several criteria; (3) not a construct but a particular operationalization; or (4) not a criterion of organizational performance. These rules were generated for methodological reasons cited specifically by Campbell [8], who admitted that the 30 criteria were varied in generality, operationalization, and closeness to the final payoff (for details, see Quinn and Rohrbaugh, [23]).

In the second stage, participants were asked to evaluate the similarity between every possible pairing of the remaining criteria through a systematic sequence of comparison judgments made on a rating scale of 1 (very dissimilar) to 7 (very similar). Emphasis was placed on the instruction that the judgments were to be based solely upon the conceptual similarity or dissimilarity of the criteria rather than upon the likelihood that the two criteria would covary across organizational settings or across time. This set of similarities judgments was then subjected to multidimensional scaling in order to identify the dimensions of organizational effectiveness that underlay the comparison ratings provided by the participants. Although the early work in the development of multidimensional scaling involved strictly within-subjects designs (where multiple judgments of single individuals were analyzed for cognitive structure), more recent techniques have been designed to incorporate inter-stimulus proximities from several participants (for example, see Romney, Shepherd, and Nerlove [27]; Shepherd, Romney, and Nerlove [31]). Such models assume that there is a psychological space shared by all individuals, but that each individual stresses different aspects of the stimuli while making judgments. Thus, one of the critical issues in multidimensional scaling is that sampling of stimuli (in this case, criteria of effectiveness) be representative of the larger population of stimuli, rather than the more widely accepted norms of sampling participants as required for between-subjects research designs.

Results

The purpose of the first stage of the judgment task was to reduce the list of effectiveness criteria to contain only singular constructs pertaining to performance evaluations of organizational units. Elimination of a criterion required agreement in the judgments of at least six or seven panel members. The requirement of agreement among at least six of the panel members in order to eliminate a criterion from further consideration was clearly a conservative procedure, erring on the side of over-inclusion. That is, even if five of seven panel members felt that a criterion should be eliminated, it remained in the analysis. Of the 30 original criteria, 13 criteria were eliminated by six or seven panel members (for details, see Quinn and Rohrbaugh [23]).

Each panel member made judgments of the similarity between every possible pairing of the criteria not eliminated in the first stage of the study. With the panel members' paired comparison ratings, it was possible to identify the fundamental cognitive dimensions by which the individual judgments of relative similarity or dissimilarity were made. The INDSCAL algorithm developed by Carroll and Chang [9] was employed to perform the multidimensional scaling for this analysis. As in other multidimensional scaling procedures, it is assumed in INDSCAL that participants' judgments of similarity between pairs of stimuli depend on the distances between stimuli in an underlying psychological space common to all participants. INDSCAL differs from other scaling techniques, however, in its assumption that individuals differ

with respect to the perceptual importance or weight of each dimension of this common or group space. Thus, unique individual weightings of dimensions do not theoretically interfere with the identification of the group space.

As in factor analysis, INDSCAL does not provide a clear indication of the number of dimensions to use. Since by three dimensions the addition of reproducible variance became negligible and the interpretability of dimensions was considerably more difficult thereafter, it was decided to work with a solution incorporating a three-dimensional space. As a criterion of goodness-of-fit of the model, the overall correlation of the distances in the three-dimensional space with the original similarities judgments (0.72) was comparable to those found in other applications of the INDSCAL procedure to complex stimuli. All of the participants' weights on each dimension were positive, and individual correlations of the distances with the original similarities judgments were invariably large (the maximum correlation was 0.87 and the minimum was 0.64), indicating considerable consensus among panel members as to the group space. In short, the INDSCAL model appeared to fit the paired comparison data.

Figure 1 graphically depicts the three dimensions that emerged from the INDSCAL analysis and the location of the effectiveness criteria in the multidimensional space. The first dimension (the horizontal or x-axis) was interpreted as reflecting differing organizational *focus* by representing the contrast between an internal, person-oriented emphasis (toward the left) and an external, organization-oriented emphasis (toward the right). The second dimension (the vertical or y-axis) was interpreted as reflecting differing organizational preferences for *structure* by representing the contrast between an interest in stability and control (toward the bottom) and flexibility and change (toward the top). The third dimension (a depth or distality axis) was interpreted as reflecting the degree of closeness to desired organizational outcomes or a *means-ends*

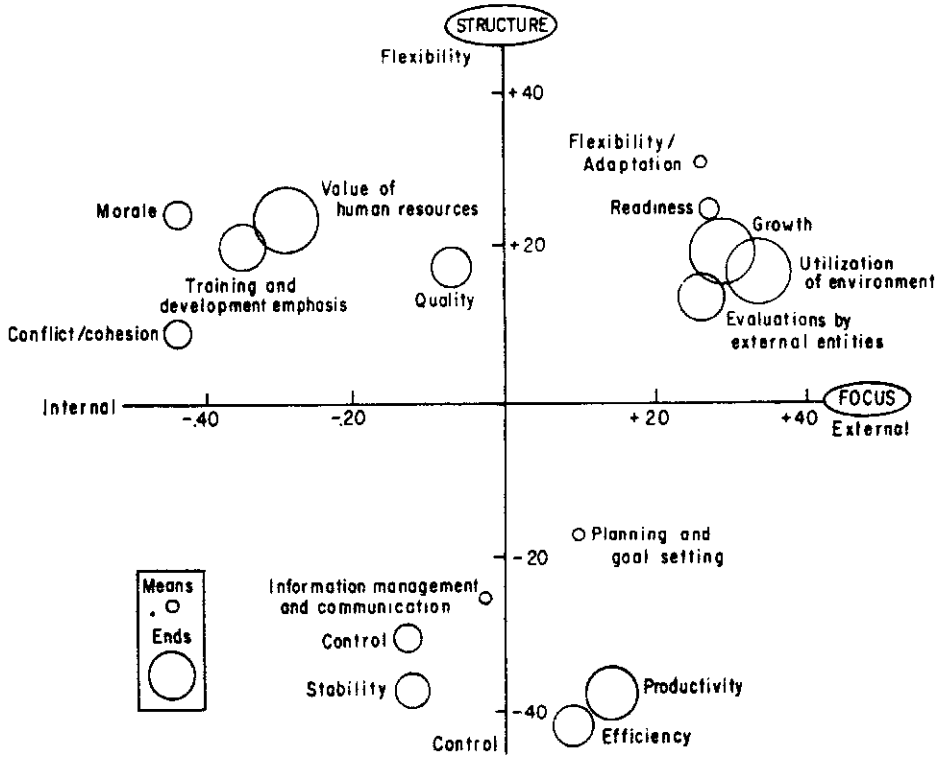

FIGURE 1

continuum, by representing the contrast between a concern for ends (nearer and larger) and a concern for means (farther away and smaller). These dimensions will be discussed in greater detail below.

2. Primary Study

Participants

At the conclusion of the initial exploratory study, a decision was made to attempt to replicate its results with a larger, more diverse group of active organizational theorists and researchers. The criterion for selecting such a participant group was their publishing at least one study in *Administrative Science Quarterly* during a two-year period prior to the initiation of the primary study. *Administrative Science Quarterly* was selected for its pool of authors because of its centrality to the development of organization theory, its high selectivity with respect to articles accepted for publication, and its interdisciplinary focus. This criterion tended to insure the identification of a knowledgeable, competent, and diverse set of organizational theorists and researchers. Seventy-six authors who had published during the target period were invited to participate; 48 agreed to participate, and 45 (a 60 percent response rate) completed the necessary research task.

Procedure

Each of the respondents made judgments about the similarity between every possible pairing of the 17 criteria not eliminated by the panel in the initial exploratory study. Thus 136 paired comparisions were made by each participant. Again, the INDSCAL algorithm was employed to perform the multidimensional scaling for this analysis.

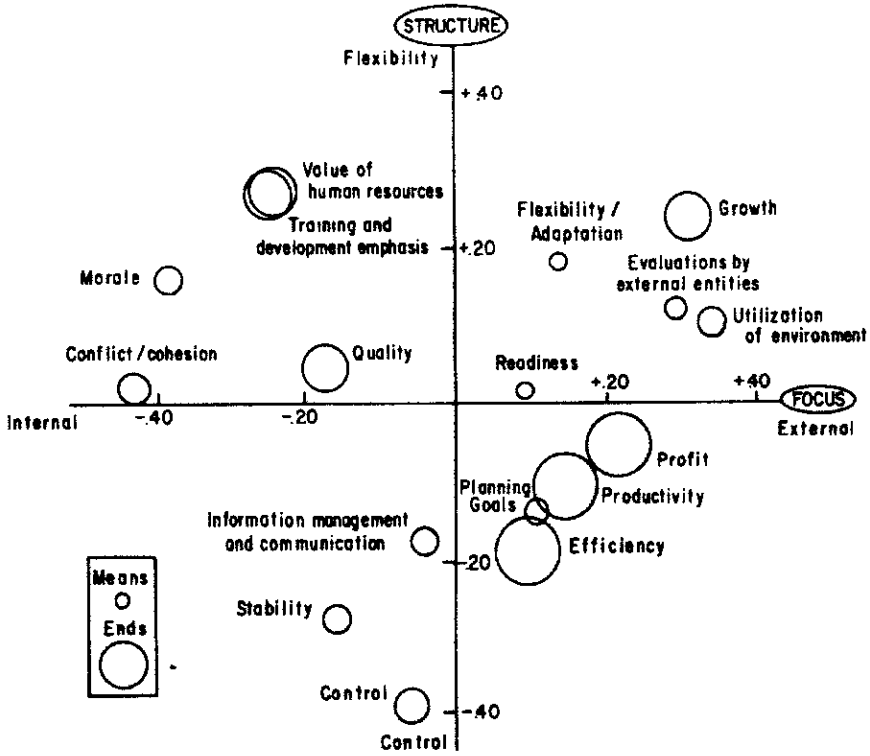

FIGURE 2

Results

The results of testing two-, three-, four-, and five-dimensional solutions to the group judgment space again suggested a model with three axes. As in the initial analysis, the overall correlation (0.63) of the distances in the three-dimensional space with the original similarity judgments was high, the weights of all of the participants with regard to each dimension were positive, and individual correlations of the distances with the original similarities judgments were generally quite high (an average of 0.62). The addition of a fourth dimension to the judgment space was shown to increase by less than 5 percent the proportion of variance accounted for.

Figure 2 depicts the three dimensions that emerged from the second analysis and the location of the 17 criteria in the multidimensional space. Most significantly, the same three dimensions appear as before, and the criteria show only the slightest alteration in their spatial position.

3. Discussion

An Overview of the Competing Values Approach

The findings suggest that organizational researchers share an implicit theoretical framework and, consequently, that the criteria of organizational effectiveness can be sorted according to three axes or value dimensions. The first value dimension is related to organizational focus, from an internal, micro emphasis on the well-being and development of people in the organization to an external, macro emphasis on the well-being and development of the organization itself. The second value dimension is related to organizational structure, from an emphasis on stability to an emphasis on flexibility. The third value dimension is related to organizational means and ends, from an emphasis on important processes (e.g., planning and goal setting) to an emphasis on final outcomes (e.g., productivity). A simplified presentation of the relationship between the three value sets and the effectiveness criteria is shown in Figure 3.

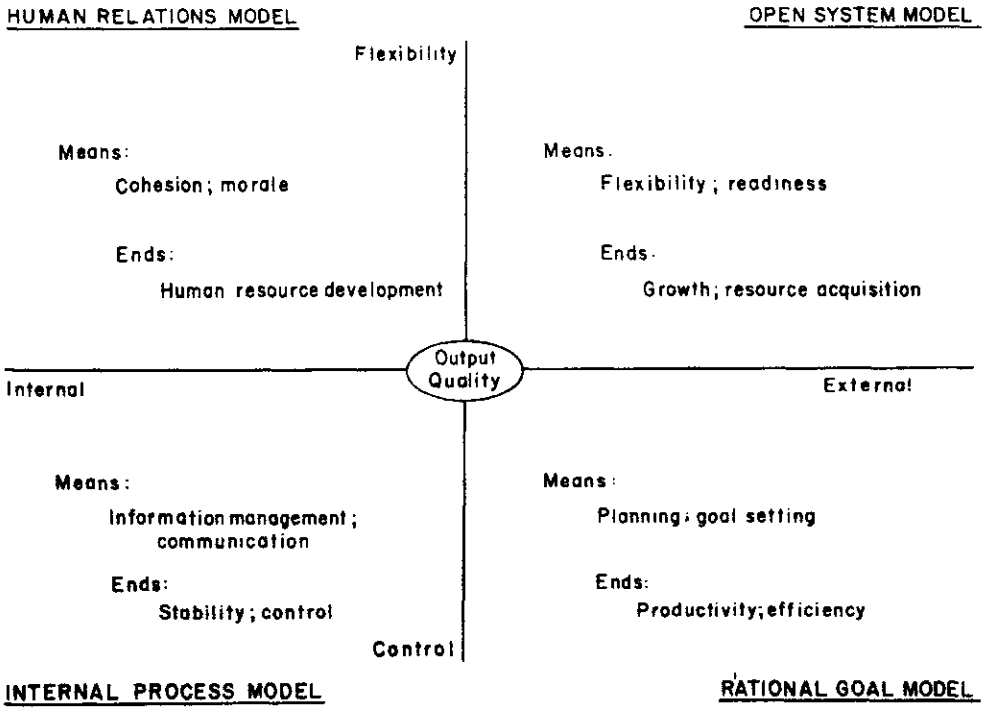

FIGURE 3

These three sets of competing values are recognized dilemmas in the organizational literature [1]. The emergence of the one pair of competing values, flexibility versus stability, reflects a basic dilemma of organizational life. The differing viewpoints in considering order and control versus innovation and change are at the heart of the most heated debates in sociology, political science, and psychology. While many social theorists have emphasized authority, structure, and coordination, others have stressed diversity, individual initiative, and organizational adaptability. Lawrence and Lorsch [17] centered their landmark study around this dilemma and argued that integration and differentiation were the core issues in the history of organizational design. The findings from their study were used to suggest that those organizations that are able to best balance integration and differentiation are also the most effective systems. Others have made similar arguments [1].

The next pair of competing values, internal versus external, represents another basic dilemma of organizational life. From the external view, the organization is a logically designed tool with the ultimate goal of accomplishing its tasks and acquiring resources. Here the emphasis is on the overall competitiveness of the organization in sometimes changing environments. From the internal view, the organization is a socio-technical system. Participants have unique feelings, likes and dislikes, and require consideration, appropriate information, and stability in their workplace. When the external value on the overall organization is maximized, the internal emphasis on the socio-technical equilibrium may be reduced; and when the emphasis on internal harmony grows, it may tend to shift emphasis away from overall competitiveness. This dilemma also has been long recognized in the literature on organizational behavior [13], [1], [17].

The last basic organizational dilemma reflected by the third set of competing values, means versus ends, was well stated by Georgopoulos and Tannenbaum [11]:

> It is our assumption that all organizations attempt to achieve certain objectives and to develop group products through the manipulation of given animate and inanimate facilities. Accordingly, definitions of organizational effectiveness must take into consideration these two aspects: the objectives of organizations and the means through which they sustain themselves and attain their objectives, particularly those means that usually become functionally autonomous (i.e., that come to assume the character of and function as organizational goals). In short, the study of organizational effectiveness must contend with the question of organizational means and ends.

In the world of administration, the means-ends dilemma is a difficult problem. Lawrence and Lorsch [17, p. 35] discuss this difficulty in terms of conflicting time horizons, while Katz and Kahn [15, p. 252] point out the difficulty of balancing means and ends at some optimum point.

While each of these three continua has been recognized individually and discussed as problems for managers to solve, they have never before been identified as integrated elements of a single conceptual framework. The three-dimensional integration of these continua makes possible the identification of four basic models of organizational effectiveness.

Four Middle Range Models of Organizational Analysis

It has been argued that the effectiveness literature represents the central theme in organization theory [12, p. 2]. We agree with this statement, and would further argue that the literature on organizational effectiveness is simply a grounded version of the literature on organizational analysis. Consider, for example, the three attempts at integration that were discussed earlier [29], [30], [5]. When the results of the multidimensional scaling in the present study are carefully examined, it becomes clear that the

separation of the 17 effectiveness criteria in the three-dimensional space graphically defines four models and brings considerable precision to the development of a construct of effectiveness. In naming the four models, we have attempted to maintain a continuity with the intuitive attempts described above [29], [30], [5].

The human relations model places a great deal of emphasis on flexibility and internal focus, and would stress such criteria as those shown in the upper left section of Figure 3: cohesion and morale (as means) and human resource development (as an end). The open system model places a great deal of emphasis on flexibility and external focus, and would stress such criteria as those shown in the upper right section of Figure 3: flexibility and readiness (as means) and growth, resource acquisition, and external support (as ends). The rational goal model places a great deal of emphasis on control and external focus, and would stress the effectiveness criteria shown in the lower right section of Figure 3: planning and goal setting (as means) and productivity and efficiency (as ends). The internal process model is represented in the lower left section of Figure 3. It places a great deal of emphasis on control and internal focus, and would stress the role of information management and communication (as means) and stability and control (as ends). This model would commend an orderly work situation with sufficient coordination and distribution of information to provide organizational participants with a psychological sense of continuity and security.

Because each model is embedded in a particular set of competing values, it has a polar opposite model with contrasting emphases. The human relations model with its effectiveness criteria reflecting flexibility and internal focus stands in stark contrast to the rational goal model's value-based stress on control and external focus. The open system model based on flexibility and external focus runs counter to the internal process model, the effectiveness criteria of which reflect a focus on control and internal focus. Parallels among the models are also important. The human relations and open system models share an emphasis upon flexibility. The open system and rational goal models are primarily concerned with an external focus. The rational goal and internal process models are rooted in a value on control. Finally, the internal process and human relations models share an internal focus.

Another interesting characteristic of the four models is their degree of differentiation. Of all possible combinations of the four models, the two that are most similar are the internal process model and the rational goal model. This nearness in cognitive space is depicted in Figures 1 and 2, which show these two models are not as differentiated on the internal-external dimension as are the human relations and open system models. While the internal process model is more internal and the rational goal model is more external, they are conceptually close to one another. This may help to explain why we have only recently seen the internal process model identified separately from the rational goal model (compare Scott [29], Seashore [30], Cameron [5]).

It is also interesting to note that one criterion, output quality, is an isolate in the three-dimensional space shown in Figures 1 and 2. While it somewhat reflects a value on flexibility, it is nearly neutral on the other two value dimensions. When a hierarchical cluster analysis was performed, output quality was last to be grouped with any of the other effectiveness criteria. This suggests that output quality does not fit into one particular model of organizational effectiveness and its underlying value structure alone; output quality may be an important element of any or all, as shown in Figure 3.

Two General Paradigms of Organizational Analysis

As indicated above, the spatial model allows us to identify and label the above four middle-range approaches to organizational analysis. While these four approaches are

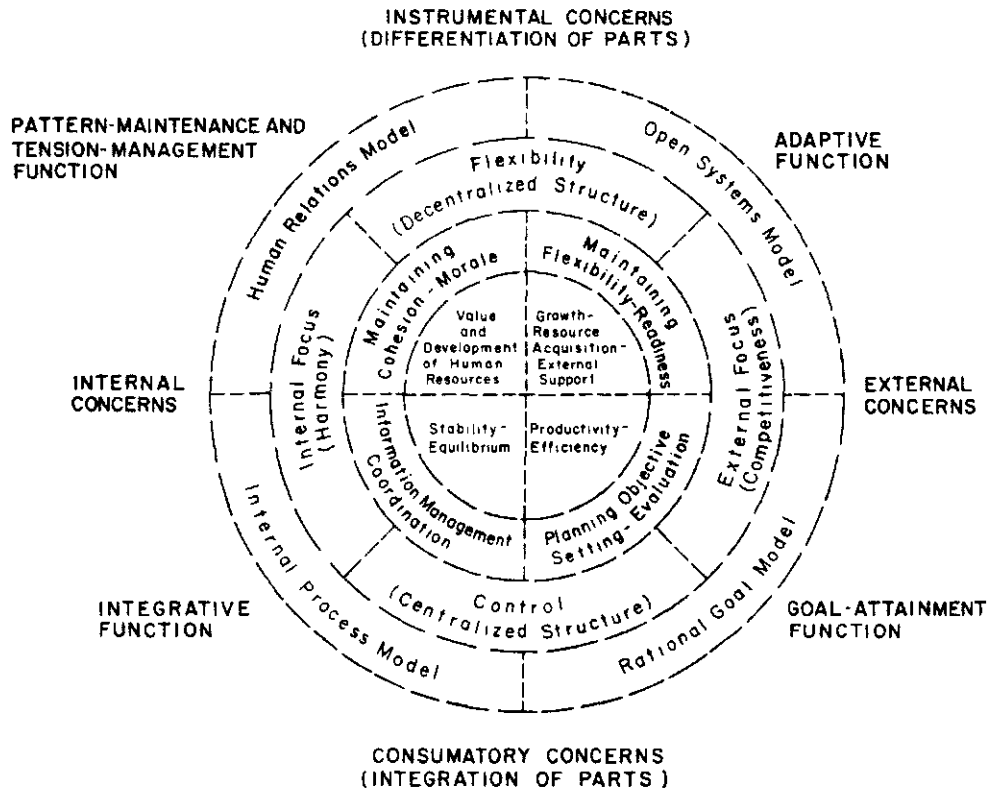

FIGURE 4

relatively well known, their interrelationship in terms of the three value dimensions (as well as the performance criteria they subsume) have never been clearly specified. Interestingly, the spatial model also makes clear the relationship between these four models and two more general paradigms used in organizational analysis. Consider, for example, Figure 4 where the effectiveness model is represented so as to allow its comparison with the four functional prerequisites of any system of action identified by Parsons [20]. The parallels are both striking and instructive. The four criteria reflecting organizational outcomes or ends are depicted in the inmost core of Figure 4, and the four criteria reflecting processes or means are placed next to them in the second ring. In the third ring are the first two value continua, flexibility-control and internal focus-external focus. In the fourth ring are the four models of effectiveness criteria. The rational goal model, for example, is embedded in the control and external values; the means are planning-objective setting-evaluation and the ends are productivity-efficiency. Each of the other models is represented and can be interpreted in the same manner.

Outside of the last circle are the elements of the Parsonian framework. Thus, the vertical axis represents a continuum from instrumental concerns (differentiation of parts) to consumatory concerns (integration of parts). The horizontal axis represents a continuum from internal concerns to external concerns. In the four quadrants, we have each of the Parsonian prerequisites. The open system model parallels the adaptive function, the rational goal model parallels the goal attainment function, the internal process model parallels the integrative function, and the human relations model parallels the pattern-maintenance and tension-management function.

For many readers, the reduction of the effectiveness criteria to a Parsonian frame-

work will come as a considerable surprise. Most of the emphasis on effectiveness was developed during the 1960's, a time when general systems theory was receiving considerable attention. Many theorists who wrote about effectiveness were renouncing Parsons and the structural approach because of a "bias" towards stability. Bennis [2, p. 41] provided a good example. After reviewing the structural approach he wrote:

> The present ways of thinking about and measuring organizational effectiveness are seriously inadequate and often misleading. These criteria are insensitive to the important needs of the organization and are out of joint with the emerging view of contemporary organization that is held by many organizational theorists and practitioners. The present techniques of evaluation provide static indicators of certain output characteristics (i.e. performance and satisfaction) without illuminating the processes by which the organization searches for, adapts to, and solves its changing goals. However, it is these dynamic processes of problem solving that provides the critical dimensions of organizational health, and without knowledge of them, output measurements are woefully inadequate.

Most effectiveness work has been done with an emphasis on the open system model, illustrated by Steers' [33, p. 548] list of effectiveness studies and the criteria that were used. When this list is categorized according to the four effectiveness models, it is clear that a large majority of the investigations (15 of 17), in fact, did employ criteria that reflected open system values; only a few studies (4 of 17) employed criteria that reflected all four models concurrently. Nevertheless, taken collectively, the criteria from all 17 studies clearly incorporated all four models. As Mulford [19, p. 156] has already argued, although most individual theorists and researchers were rejecting the broad-based Parsonian approach and moving to a specific open system model, the overall effectiveness literature can still be reduced to a framework that very much resembles the Parsonian approach. The open system model is not necessarily antithetical to the structural functional approach but, rather, focuses particular attention on the adaptive aspects of the structural model. While "coping with external stress and change" may indeed be a crucial function that must be performed, so are the other three functions mentioned above.

Gouldner [13] traced a second paradigm undergirding organizational study when he described two general models of analysis. The first, the rational model, has an emphasis on formal, planned behavior. The second, the natural system model, has an emphasis on spontaneous behavior. Gouldner [13, p. 426] argued: "What is needed is a single and synthesized model which will at once aid in analyzing the distinctive characteristics of the modern organization as a rational bureaucracy, the characteristics which it shares with other kinds of social systems, and the relationship of these characteristics to one another." If we examine Figure 4, it becomes clear that the top half of the circle reflects natural system values while the bottom half reflects rational values.

An alternative representation of the present model is shown in Figure 5. Here we present an explicit statement of the values and orientations that undergird the literature on organizational analysis. At the most general level we find the rational and natural system models. While the rational model is oriented toward such values as integration, formalization, and control, the natural system model is oriented towards differentiation, spontaneity, and flexibility. At the next level of generality there are the four models discussed above. The rational goal model and internal process model are subsets of the rational model. While the rational goal model has more of an external, macro focus, the internal process model has more of an internal, micro focus. The open system model and the human relations model are subsets of the natural system model. While the open system model has more an external focus, the human relations model has more an internal focus.

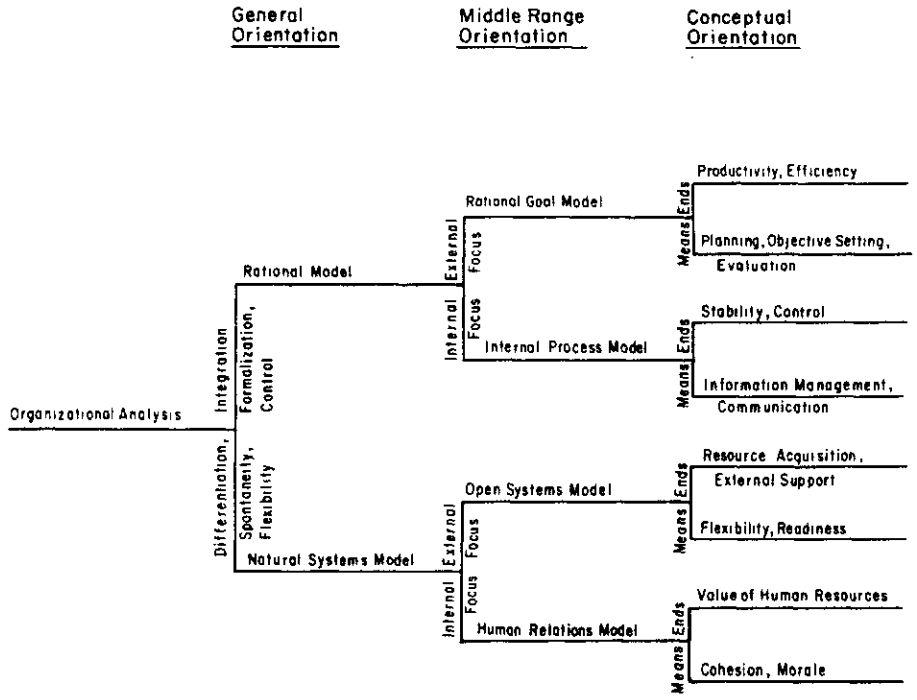

FIGURE 5

4. Conclusion

Organizational effectiveness is not a concept. It is a socially constructed, abstract notion carried about in the heads of organizational theorists and researchers. In this paper we have developed a spatial model that brings us closer to an explicit statement of the effectiveness construct. In so doing, we have identified the most central concepts in the effectiveness construct, indicated four middle-range models or approaches into which the concepts cluster, shown how the four approaches are differentiated and related in terms of three value dimensions, demonstrated how these four approaches relate to the most general paradigms in the field, suggested how the two general paradigms can be integrated, and argued that the spatial model even clarifies the interface between such general theorists and Parsons and Gouldner. While the above claims are substantial, the model is certainly subject to criticism. Here we would like to anticipate several objections and briefly respond to each.

Contradictions and Propositions

Because the concepts are embedded in a set of competing organizational values, it might be argued that the resulting effectiveness construct provides an inherent contradiction in terms. That is, because certain pairs of concepts are located at opposite poles in the spatial model, they can share no place in a consistent and convergent theory of organization. The argument might contend that, for every proposition that could be derived from such an analytical approach, its contradiction could also be derived. We would agree that the spatial model described above is a type of oxymoron, a combination of seemingly contradictory or incongruous concepts. However, the critical point to be made is that although certain pairs of concepts are at opposite locations in value space and, therefore, are paradoxical in nature, this does not require that they are empirical opposites, mutually exclusive in actual organizational environments. Indeed, an organization might be cohesive *and* productive or stable *and* flexible. For

that matter, stability might be as likely to contribute to flexibility as it would to inflexibility or vice versa. Propositions derived from this competing values approach need not be contradictory; they need only take into account the possible contradictions in every organizational setting.

When Is an Organization Effective?

There are also those who would ask, "What is effectiveness? Given this competing values approach, how do we judge the effectiveness of any particular organization?" Others might argue that, if the construct of effectiveness is made up of such different concepts, there is no way to combine them into a single dependent variable and, thus, no way to develop a theory that predicts organizational effectiveness. Indeed, this is one of the arguments that Bluedorn [3] has raised in calling for the elimination of the construct.

Judging the effectiveness of any organization ultimately involves the question of values. One of the major problems to date is that the pertinent values have never been clear. Researchers, by selecting one or more given concepts, have tended to impose a particular value perspective on the focal organizations without realizing the implied value trade-offs with respect to other concepts that were not selected. For example, the sole selection of resource acquisition as the criterion for measurement imposes open system values and ignores concepts in the other three quadrants.

Because the present model makes the values in the effectiveness construct explicit, it allows the researcher to be aware of the value choices to be made and, more importantly, to take these value choices to the focal organization [22]. That is, the competing values model can be presented to selected individuals or coalitions in order to clarify the extent to which certain concepts are valued. If the researcher chooses to impose a set of measures on the organization instead, we would expect awareness of the competing values approach would foster a more comprehensive and balanced set of indicators than have appeared in many past efforts (see Rohrbaugh [25]). This, however, does not solve the problem of combining multiple measures.

While some argue that combining measures is impossible [4], [3], Rohrbaugh and Quinn [26] have proposed a promising methodology for solving the problem. In the world of administration, people actually do make judgments about how well an organization is performing. In making such effectiveness judgments, they employ certain criteria (often unarticulated), weight them, and then integrate them to produce an overall evaluation or global estimate of effectiveness. By employing criteria similar to those in the present model and a technique called social judgment analysis, Rohrbaugh [24] demonstrated that it is possible to articulate values, make the weights on each value explicit, and develop a formula for empirically combining scores on each criterion. We think that the approach has considerable potential and deserves further attention.

Equilibrium and Conflict

The close parallel between the present model and the Parsonian framework may raise some concerns about a static bias. Is the model predisposed toward equilibrium, and therefore unable to deal with change and conflict?

The four models that comprise the overall framework are simultaneous, complementary opposites in the sense that they are embedded in contradictory or competing values. Nevertheless, each model is a useful device for explaining behavior that takes place in organizations [30]. In fact, to ignore criteria in any of the models is to have only a partial view of performance. This suggests that, in the administrative world, an effective organization may need to perform well on all four sets of criteria. However, at any given time there are likely to be tradeoffs between the criteria. This, in turn,

suggests a conflictual, process-oriented, or dialectic view of the nature of organizations. Organizations are "plagued by contradictory functional requirements (or imperatives)" that "are associated with the formation of mutually antagonistic arrangements that function to meet these requirements" [32]. At certain thresholds, we would expect conflict to become particularly exaggerated, often resulting in major reconfigurations of the coalitional structure and the dominant perceptions of what is success (for an extended discussion and examples of this point see Quinn and Cameron [21]).

Construct and Creativity

There are those who would argue that having a comprehensive definition of the construct is dysfunctional because it restricts possibilities. This is Morgan's [18] argument that constructs and metaphors serve best when they do not closely reflect reality but contain some falsehood. The inaccuracies can then give rise to new insights. Earlier we argued that the present method is a type of oxymoron, a framework which helps us to recognize the seeming contradictions in the effectiveness construct. To date, our theories have not done well at dealing with such contradictions [34]. The normal cognitive processes often prevent us from being able to conceive of opposites as being equally true or valued, or from recognizing a simultaneous antithesis that exists in nature. After a 15-year study of creative works, Rothenberg [28] concluded that it is often just such an approach or discovery, one based in contradiction, that allows us to move in new theoretical directions. We have found that the identification of desirable but seemingly conflicting criteria embedded in competing values has been, for us, most generative.

The problems of effectiveness are complex, and this work may not fully resolve many of the thorny issues in the field. At a minimum, however, we hope that the present framework will provide a clarification in language and allow us to more fruitfully pursue the current debate about the utility and the future of the effectiveness construct in organizational analysis, development, and design.

References

1. ARAM, J. D., *Dilemmas of Administrative Behavior*, Prentice-Hall, Englewood Cliffs; N.J., 1976.
2. BENNIS, W. G., "Toward a 'Truly' Scientific Management: The Concept of Organization Health," in W. G. Bennis (ed.), *Changing Organizations*, McGraw-Hill, New York, 1966.
3. BLUEDORN, A. C., "Cutting the Gordian Knot: A Critique of the Effectiveness Tradition in Organizational Research, *Sociology and Social Res.*, Vol. 64 (1980), pp. 477–496.
4. BURKHEAD, J. AND HENNIGAN, P. J., "Productivity Analysis: A Search for Definition and Order," *Public Admin. Rev.*, Vol. 38 (1978), pp. 34–40.
5. CAMERON, K., "Evaluating Organizational Effectiveness in Organized Anarchies," presented at the 1979 meetings of the Academy of Management.
6. ———, "Measuring Organizational Effectiveness in Institutions of Higher Education," *Admin. Sci. Quart.*, Vol. 23 (1978), pp. 604–632.
7. ———, "Construct Space and Subjectivity Problems in Organizational Effectiveness," *Public Productivity Rev.*, Vol. 5 (1981), pp. 105–121.
8. CAMPBELL, J. P., "On the Nature of Organizational Effectiveness," in P. S. Goodman and J. M. Pennings (eds.), *New Perspectives on Organizational Effectiveness*, Jossey-Bass, San Francisco, 1977.
9. CARROLL, J. D. AND CHANG, J. J., "Analysis of Individual Differences in Multidimensional Scaling Via an N-way Generalization of Eckart Young Decomposition," *Psychometrika*, Vol. 35 (1970), pp. 283–319.
10. FRENCH, W. L., BELL, C. H. AND ZAWACKI, R. A. (EDS.), *Organization Development: Theory, Practice, and Research*, Business Publications, Inc., Dallas, 1978.
11. GEORGOPOULOS, B. S. AND TANNENBAUM, A. S., "A Study of Organizational Effectiveness," *Amer. Sociological Rev.*, Vol. 22 (1957), pp. 534–540.
12. GOODMAN, P. S. AND PENNINGS, J. M. (EDS.), *New Perspectives on Organizational Effectiveness*, Jossey-Bass, San Francisco, 1977.
13. GOULDNER, A. W., "Organizational Analysis," in R. K. Merton, L. Broom, and L. S. Cottrell, Jr. (eds.), *Sociology Today: Problems and Prospects*, Basic Books, New York, 1959.

14. HANNAN, M. T. AND FREEMAN, J., "Obstacles to Comparative Studies" in P. S. Goodman and J. M. Pennings (eds.), *New Perspectives on Organizational Effectiveness*, Jossey-Bass, San Francisco, 1977.
15. KATZ, D. AND KAHN, R., *Social Psychology of Organizations*, Wiley, New York, 1978.
16. KILMANN, R. H., PONDY, L. R. AND SLEVIN, D. P. (EDS.), *The Management of Organization Design: Research and Methodology*, Vol. II, North-Holland, New York, 1976.
17. LAWRENCE, P. R. AND LORSCH, J. W., *Organization and Environment*, Harvard Business School, Division of Research, Boston, 1967.
18. MORGAN, G., "Paradigms, Metaphors, and Puzzle Solving in Organizational Theory," *Admin. Sci. Quart.*, Vol. 25 (1980), pp. 605–622.
19. MULFORD, C. L., "Comment on Measurement of Effectiveness," *Admin. Sci. Quart.*, Vol. 21 (1976), pp. 156–157.
20. PARSONS, T., "General Theory in Sociology," in R. Merton, L. Broom, and L. S. Cottrell, Jr. (eds.), *Sociology Today: Problems and Prospects*, Basic Books, New York, 1959.
21. QUINN R. E. AND CAMERON, K., "Organizational Life Cycles and Shifting Criteria of Effectiveness: Some Preliminary Evidence," *Management Sci.*, Vol. 29, No. 1 (1983), pp. 33–51.
22. ——— AND MCGRATH, M. R., "Moving Beyond the Single Solution Perspective: The Competing Values Approach as a Diagnostic Tool," *J. Appl. Behavioral Sci.* (October, 1982) (in press).
23. ——— AND ROHRBAUGH, J., "A Competing Values Approach to Organizational Effectiveness," *Public Productivity Rev.*, Vol. 5 (1981), pp. 122–140.
24. ROHRBAUGH, J., "The Application of Brunswikian Concepts to the Improvement of Organizational Effectiveness," invited paper presented at the 1980 Annual Convention of the American Psychological Association.
25. ———, "Operationalizing the Competing Values Approach: Measuring Performance in the Employment Service," *Public Productivity Rev.*, Vol. 5 (1981), pp. 141–159.
26. ——— AND QUINN, R. E., "Evaluating the Performance of Public Organizations: A Method for Developing a Single Index," *J. Health and Human Resources Admin.*, Vol. 2 (1980), pp. 343–354.
27. ROMNEY, A. K., SHEPHERD, R. N. AND NERLOVE, S. B., *Multidimensional Scaling: Theory and Applications in the Behavioral Sciences*, Vol. 1, Seminar Press, New York, 1972.
28. ROTHENBERG, A., *The Emerging Goddess: The Creative Process in Science and Other Fields*, University of Chicago Press, Chicago, 1979.
29. SCOTT, W. R., "Effectiveness of Organizational Effectiveness Studies," in P. S. Goodman and J. M. Pennings (eds.), *New Perspectives on Organizational Effectiveness*, Jossey-Bass, San Francisco, 1977.
30. SEASHORE, S. E., "Assessing Organizational Effectiveness with Reference to Member Needs," paper presented at the 1979 Meetings of the Academy of Management.
31. SHEPHERD, R. N., ROMNEY, A. K. AND NERLOVE, S. B., *Multidimensional Scaling: Theory and Applications in the Behavioral Sciences*, Vol. 2, Seminar Press, New York, 1972.
32. SJOBERG, G., "Contradictory Functional Requirements and Social Systems," in N. J. Demerath, III and R. A. Peterson (eds.), *System, Change and Conflict*, The Free Press, New York, 1967.
33. STEERS, R. M., "Problems in the Measurement of Organizational Effectiveness," *Admin. Sci. Quart.*, Vol. 20 (1975), pp. 546–558.
34. WEICK, K. E., "Re-punctuating the Problem," in P. S. Goodman and J. M. Pennings (eds.), *New Perspectives on Organizational Effectiveness*, Jossey-Bass, San Francisco, 1977.

Copyright 1983, by INFORMS, all rights reserved. Copyright of Management Science is the property of INFORMS: Institute for Operations Research and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.