The US Army Research Institute for the Behavioral and Social Sciences (ARI) has been conducting research on the impact of the Army's Organizational Effectiveness (OE) program. The OE program provides assistance to commanders by internal consultants who have been trained in the utilization of management and behavioral science skills and techniques to improve combat effectiveness. The model underlying the collecting of data to assess the impact of the OE program is presented. The methodology of the data collection is outlined, and two illustrative case studies are described. The problems of measuring change in Army organizations are further delineated by the presentation of a sociotechnical systems intervention in an Army organization in Germany. The attempts to document change in an organization with high turnover are described, and implications for future field research are noted.
ASSESSING THE IMPACT OF THE ARMY'S ORGANIZATIONAL EFFECTIVENESS (OE) PROGRAM: MODEL, METHODOLOGY, AND ILLUSTRATIVE CASES

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Introduction

The Army's Organizational Effectiveness (OE) program uses behavioral science technology to improve the effectiveness of Army organizations. In the civilian community, these management and behavioral science skills and techniques are known as Organization Development, or OD. In the Army, OE is the application of selected OD methods in a military environment. The objective of the OE program is to provide assistance to commanders for improving mission performance and increasing combat readiness. This assistance is provided by consultants—Organizational Effectiveness Staff Officers (OESOs) and Organizational Effectiveness Noncommissioned Officers (OENCOs) who have been trained in a 16-week course at the Organizational Effectiveness Center and School (OEC&S) at Fort Ord, California.

The Army Research Institute (ARI) has been conducting research to assess the impact of the OE program. The purpose of this paper is to discuss that research. Specifically, we offer a conceptual model of organizational change, describe the methodology of the research, and present two illustrative case studies.

Model of Organizational Change

An organization, or any social system, is always in a state of change. The type of change this model addresses is planned change that requires the support of a User's (commander's) subordinates for implementation or acceptance of the change. This model is concerned with those planned changes which are carried out as a part of the Army's Organizational Effectiveness (OE) efforts.

There is some confusion about the use of the term "Organizational Effectiveness." Unless it is used in conjunction with its historical (and more broadly accepted) predecessors such as organizational development and process consultation, the OE term can be misused. Thus, we are addressing only those planned changes which require subordinate commitment to obtain improved organizational effectiveness.

The conceptual model which is emerging from our research on organizational change is composed of several components: actors linked by their roles to a set of processes which lead to a hierarchy of outcomes.

Actors

There are three types of actors:

1. The User or client—the person who is in charge of the organization (the commander).
2. The OESO (Organizational Effectiveness Staff Officer) or OE consultant.

3. User subordinates—the individuals in the client organization below the user. More specifically, those individuals who are involved in an intervention or change project because their future support is required for the change to work.

Processes

There are three types of critical processes which must be managed during the change. These processes include applying a theory of practice, supplying structure, and insuring diffusion of information. While there may be user responsibilities related to the processes, the consultant or OESO is primarily responsible for ensuring that these processes occur.

Applying practice theory. The OE consultant must have a set of alternative strategies through which a change process can be executed. The overall strategy is generally based on an action research model and, depending on User needs, may emphasize certain aspects of this or another model more than others. It is of great importance that an outcomes orientation be a part of this practice. The OE consultant furnishes the practice theory concepts through which the User can develop a desired future progression. As the change process progresses, the plan can be altered in any dimension. However, the plan must be there for the User to know where to proceed and where he/she has been. Thus, intended outcomes for each step of the strategy are defined and assessed in conjunction with the next step. Desired organizational outcomes are clearly identified and defined in measurable terms by the User and User subordinates as early in the change process as possible.

Supplying structure. The consultant clarifies the User's intended outcomes, organizes them in a meaningful manner, and provides any needed training in order to eliminate unnecessary confusion and obstacles as the intervention progresses. The role of the OE consultant is in this case analogous to that of a construction engineer who must build a bridge between the organization's present condition and the User's intended outcomes for that organization.

Insuring diffusion of information. Finally, the OE consultant must become a communications engineer, developing and energizing systems for exchanging information about the OE operation. This information exchange progresses from areas of greater concentration of information to areas of lesser concentration of information and back again.

Roles

The primary means by which the actors are connected to the process is through their roles in the change process.

User's role. The role of the User is to seek to understand the data and practice theory strategy provided through the consultant in order that future actions can be taken to remedy problem areas. This requirement necessitates
significant commitment since frequently the User is part of the identified problem. The User must also be willing to involve subordinates both in finding a solution and in the implementation process for those solutions which require their support.

**OE consultant's role.** The consultant's role is one of considerable complexity. It includes three major responsibilities:

1. Assisting the User in choosing and defining issues/problems suitable for an OE operation. The OE consultant must be able to clarify the potential benefits and risks involved in the use of OE methodology.

2. Actively integrating both User and subordinate needs in a way which uses valid information as a basis for all activity.

3. Providing an appropriate and flexible practice theory strategy which stresses outcomes, is supported by necessary structure, and is diffused throughout those parts of the organization affected by the intended change.

**Role of User subordinates.** The subordinates' role is reactive at first. Their role becomes more active as individuals are given opportunities to influence the way in which the organization functions. As people are given these opportunities, they develop expectations about the future return on their contribution. The many cycles of contributions and returns are referred to as psycho-economic transactions. Throughout an operation, these transactions have an important cumulative effect. For the greatest subordinate commitment to occur, individuals must experience returns on their contributions which meet or exceed their expectations. If their expectations are met and they are permitted to assist in finding solutions to important organizational issues/problems using valid information with the freedom to make what they believe are their best choices, it is very likely that they will be committed to the resultant solutions.

**Outcomes**

The model depicts a causal flow which implies that improved organizational effectiveness resulting from an OE operation is based on innovation and change to which those affected are committed. The commitment occurs because the OE practice-theory strategy met subordinate expectations through positive psycho-economic transactions, involved an opportunity to influence important organizational matters, and resulted in solutions which were based on valid information and permitted the use of free choice.

**Mediating Factors**

For an intervention to be successful, all of the processes described above must be present. In addition, there are factors which mediate the relative success of the change process: a need for change within the organization, a change that is within the control of the unit involved, a goal orientation on the part of the actors, and a supportive environment.
Need for change. The success of the change effort will be greater to the extent that there is a legitimate need for change within the organization. The success of the change will be further enhanced if members of the organization have perceptions that a change is needed.

Change within control of organization. Unless the desired change lies within the control of the organizational unit, the success of the change is problematical. While it is possible that a change might be effected, the probability of success is necessarily much lower.

Goal orientation. A goal orientation on the part of the actors will increase the probability of a successful change.

Supportive environment. The OE process must take place in an environment which is supportive of change. If the environment proves to be nonsupportive, the probability of successful change is diminished.

Method

Design

This is a study to produce grounded theory (Glaser & Strauss, 1967) through the collection of a sizable number of OE operation cases obtained throughout the Army. Each cell of the Case Selection Matrix (Figure 2) was to have been filled with four cases. If feasible, two cases were to have had successful outcomes, and two less successful outcomes. The successful and less successful cases in each cell were to have been compared to determine those differences which led to improved outcomes in an OE operation of that cell type. The data were to be collected through structured interviews and from relevant and easily accessible organizational records. The resultant information was then to be coded using an extensive codable variable scheme (Dunne & Swierczek, 1977). A case report describing the case details and outcomes was to be prepared, and the cases were to be assessed using a grounded hypothesis emerging from the data collection. The resultant revised and refined grounded theory was to address the goals of the project:

1. To determine those situational variables which appear to affect the outcomes of an OE operation in a significant manner.

2. To identify a set of replicable OE consultant actions which were highly correlated with successful operations, regardless of organization type.

Sample

The desired sample size was 48 OE operations with more cases collected from the larger major commands (MACOMs)—Forces Command (FORSCOM), Training and Doctrine Command (TRADOC), and Department of the Army Readiness Command
Thirty-five cases have been collected and will be used to prepare the findings of the study. The larger MACOMs—FORSOM, TRADOC, DARCOM, and the United States Army in Europe (USAREUR)—are well represented.

Selection of individual cases in the field was determined primarily by case availability and the access permitted by MACOMs to field sites. In general, our field units were cleared by the MACOM OE Office, and we were given OE offices and OESOs to contact. Upon contact, these CESOs were provided with desired case characteristics. We preferred operations which:

- Had been completed long enough for some effects to have taken place.
- Were not transition workshops or some sort of abbreviated application but somewhat representative of action research based operations.
- Occurred in larger organizations and related to the organization's technical functions.
- Involved a User and an OESO who would agree to be interviewed.
- Finally, were representative of both successful and less successful operations.

FORSOM policy restricted data collection to designated locations and time periods. Thus it was necessary to collect six cases at a single site within a one-week period. This constraint in many instances precluded the selection of the most desirable research cases. Some MACOM OE offices made fairly obvious attempts to provide us only with their "winners." At this point, however, it does not appear that these constraints made a noticeable difference in overall operation quality or outcomes in the sample.

From a purely statistical perspective, the resultant sample is probably not representative of the entire Army. From a practical view, it appears to us that our sample is representative of OE methodology being employed in the field. As can be seen in Figure 2, the cases tend to cluster in Organization Types I and II (smaller and less complex) and Intervention Types A and B (simpler, shorter-range impact), as we had anticipated in the original research plan. In those cells, it appears that we will have enough data to meet the objectives of our study, and attempts will be made to generalize from the more limited number of cases in the remaining cells.

**Measurement of Variables**

The instruments used draw upon the multi-variable coding scheme of Dunn & Swierczek (1977). This instrument consists of approximately 1600 variables which describe behavioral or perceptual elements which can be discretely assessed when information is obtained from the User,
OE consultant, and subordinate individuals involved in an operation. The structured interviews with both User and OE consultant are driven by the coding scheme and function as a crosscheck on information provided by these two key participants.

The coding scheme and interviews cover all aspects of the OE operation from entry through evaluation. While some portions of the coding scheme cannot completely represent the great number of potential varieties of OE applications, the scheme does appear to incorporate most significant elements.

It should be emphasized that when interviews are conducted, the interviewers are careful not to skip or ignore excursions in the operation's process. All actions in the operation are tracked to conclusion in the interview process to the depth permitted by the interviewee. While there are no empirical data for the actual coding scheme being used, we believe that it is a reasonably reliable instrument because it describes small, verifiable behavioral events or outcomes.

**Data Collection**

Separate structured interviews with the User and OE consultant were generally conducted and tape recorded by persons with previous extensive military OE experience. Following the User interview, at least one focus group interview with user subordinates was conducted. The group normally consisted of 5 to 12 persons who had a direct relationship with the operation's intended outcomes and who were present in the command prior to and throughout the operation. The groups were generally horizontal or diagonally structured to avoid chain of command relationship conflicts and encourage openness.

The focus group interview provided information about those outcomes perceived by the subordinates -- the extent to which the subordinates attributed the outcomes to the OE operation, the importance they assigned to the changes, and the potential location of recorded information substantiating the perceived changes. When such locations were identified, an attempt was made to collect hard data.

Cases were then coded, and a summary of the OE methodology and findings written. Outcomes information was organized using Kirkpatrick's taxonomy of reaction, behavior, and hard outcome measures (1967) for both intended and unintended results.

**Analysis**

The cases are currently being analyzed. The coded variables for each OE operation are being entered into a computer, and statistical procedures will be employed to determine the relationship of the coded demographic and behavioral variables (or groups of variables) to evaluations of success. The written case reports are being reviewed along with interview notes in order to assess these data in relation to the grounded model presented in this paper.
At this point in the study, the following hypotheses are emerging:

- OE operations which purposefully concentrate on both the social organization and the technical aspects of an organization accomplishing its mission are more likely to bring about tangible results.

- When the process outcome of generating commitment is not understood/adhered to by an OE consultant or User, subordinates frequently adopt a negative perception about the purpose and use of OE in the Army.

- The process outcomes occurring during an OE operation, and the final outcomes of the operation are largely determined by the goal orientations of the User, OE consultant, and—to a lesser degree—subordinates.

- The success of an operation, regardless of organizational type, first appears to be based on the consultant's ability to respond to the organization's needs with appropriate practice-theory strategy which (1) is results-oriented, (2) insures that there is appropriate structure, and (3) permits the diffusion of appropriate resultant process information to those expecting it.

- Even though substantial, desirable outcomes result from the operation, organizational members below the User will generally view the operation as a failure if the process is conducted so that subordinate psycho-economic transactions are negative. Consequently, to avoid damaging the OE Program's image and to accomplish outcomes which result in subordinate commitment, OE applications must be chosen and conducted with great care.

Illustrative Cases

Description of Cases

Two cases, one very successful and one less successful, are briefly described below using the grounded theory described in this paper. Ratings of structure and diffusion are on a five-point scale: Very High, High, Medium, Low, Very Low. Comments concerning the combat support battalion are on the left, those pertaining to the combat battalion are on the right.

<table>
<thead>
<tr>
<th>ORGANIZATION TYPE</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combat Support Battalion</td>
<td>185 Persons</td>
</tr>
<tr>
<td></td>
<td>735 Persons</td>
</tr>
</tbody>
</table>

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PURPOSE OF USING OE

Sincere attempt to improve battalion wherever possible. Outcomes not clear.

General assessment for battalion commander who just took over the unit. Recent past of battalion indicates high level of turbulence in leadership and problems within unit.

DATA COLLECTION

GOQ\(^1\) - 75% of organization surveyed. Individual and Group interviews - 75% of organization covered. Extensive field observation and successful attempt to establish empathetic relationship with User subordinates in field.

Individual interviews with officers Unstructured, open-ended questions used.

Structure: High
Diffusion: High

Structure: Low
Diffusion: Low

FEEDBACK

Individual session for User

Individual session for officers with User.

Individual session for Senior NCOs.

Additional sessions offered to any officer/NCO desiring individual feedback

Great care taken in display and conduct of these sessions.

Structure: High
Diffusion: Very High

Structure: Low
Diffusion: Very Low

\(1\)The General Organizational Questionnaire (GOQ) is a military adaptation of the Survey of Organizations (Taylor & Bowers, 1972).
User conducted own planning process with his officers and NCOs. OE consultants were not involved. Planning occurred immediately after feedback sessions.

Structure: Unknown
Diffusion: Very High

Battalion problems increased four months after User feedback. User asked for assistance. OE consultant offered to provide one-half day issue identification and problem-solving workshop. OE consultant designed unstructured process for two groups: staff group and command group.

Structure: Low
Diffusion: Very Low

IMPLEMENTATION ACTIVITY

User, with officers and NCOs, developed action plan to address nine issues identified in feedback/planning processes. A task team was established to ensure that momentum carried over after User's imminent transfer.

Structure: Very High
Diffusion: Very High

A one-half day workshop for staff and command officers was conducted. Command group refused to do tasks. Had OE consultant intercede on their behalf with User. At confrontation meeting between command group and User, User vowed to increase meetings with command group and staff and change his behavior to reduce crisis management within unit. Workshop employed had very little structure.

Structure: Very Low
Diffusion: Very Low
OUTCOMES

Significant behavioral and hard outcome results achieved. These included accomplishment of all nine intended outcomes of the operation. While these intended outcomes were never described in measurable terms by the User prior to implementation activity, they did result in several significant positive changes including the following in IG reports:

- Reduction of personnel complaints 600%
- Reduction in deficiencies requiring report 438%
- Increase in laudatory comments 600%
- Reduction of motor pool deficiencies 311%

Additional measurable changes included:

- Special battalion training qualification improvement 13%
- Equipment readiness improvement 71%
- SQT improvement
  - Verification 48%
  - Certification 30%

In all instances, changes were attributed to the OE operation by command members. Further, the changes, taken as a whole, were considered to be very important to the primary mission of the Battalion.

Some moderate behavioral outcomes achieved. It was generally perceived by the officers in the battalion that communications improved among the battalion commander staff and the command group. The initiation of the improvement attributed to a minor extent to the half-day workshop. However, change was not viewed as being very important because underlying problems of crisis management still remained.
Other Considerations

- User was near the end of his command tour in a very small organization with a combat support role.

- Original User transferred prior to the implementation of action plans. New battalion commander did not know much about OE operation—only that those subordinates concerned were very committed to accomplishment of desired changes.

- User was at beginning of his command tour in a very large organization with a combat role.
General Comments on Cases

The combat battalion appeared to be affected more than the combat support battalion by outside pressures. These pressures were caused by the response of the commanding general of the division to the battalion's poor performance and the requirement for the battalion to prepare for the Ready Deployment Force. OE was perceived by both the User and his subordinates as a "nice-to-do" activity rather than as a way of solving pressing problems.

Both battalions indicated that there was ample reason for change and that most of the desired changes were within the control of the organization. The Users of both battalions indicated that the environment did support the use of OE. An assessment of the OE consultant and User goal orientation, as well as a summary of their ability to provide structuring and diffusion, is provided below:

<table>
<thead>
<tr>
<th>Goal Orientation</th>
<th>Structuring</th>
<th>Diffusion</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Combat Support Battalion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OE Consultant</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>User</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>Combat Battalion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OE Consultant</td>
<td>Low</td>
<td>Very Low</td>
</tr>
<tr>
<td>User</td>
<td>Moderate</td>
<td></td>
</tr>
</tbody>
</table>

At the moment, the above ratings are based on a subjective assessment of the operations described. The analysis of the coded variable scheme will provide greater objectivity, although the general conclusions are expected to remain essentially the same.

Discussion

The research approach described here represents an attempt to understand the organizational change in the Army by sampling a large number of cases across a range of OE interventions and organization types. An effort will also be made to correlate characteristics of the cases with the degrees of success or failure which are attributed to an OE operation. From this study, a preliminary grounded model of successful organizational change has been developed. Further analysis will provide opportunities to test that model. Additionally, findings will provide information which can be used to guide OE program policy and the training of OE consultants.
The study is limited in a number of ways. These limitations include:

- Lack of access to combat unit cases in USAREUR.

- Being forced to collect six cases in one week at times and at installations designated by FORSCOM. This constraint probably reduced the quality of some of our data collection methods and resulted in the collection of cases of lesser value to the study.

- Being forced to rely on what happens to be available in each case. As noted in the Interim Report for this project, even though evaluation is emphasized in the OE curriculum, there are a great many reasons why most OESOs ignore this activity. Our data collection substantiated this situation. Of all the cases we collected, we found only one which had been conscientiously evaluated. In many cases, neither the OESO or the User knew what outcomes had resulted from their operation.

- The general lack of an outcome orientation in most OESOs and Users imposes the most serious limitation on the study. If those involved in an operation fail to specify the outcomes they desire, it becomes a matter of conjecture when anyone attempts to link causally the OE process with results. The conjectures are further weakened when they are based on individual historical reflections which may often be inaccurate. Consequently, there are instances in which we could have been misled. It is also possible that in some cases, there has been more positive change than the User of subordinates was aware of or willing to attribute to OE. Unfortunately, this is a "Catch 22" situation. Even if we had discovered these elusive changes ourselves, it is likely that those involved would not have agreed that OE caused them. The long-term solution to this problem is a sincere attempt on the part of OESOs and Users to adopt an outcomes-oriented or goal-seeking change strategy so that they know "where they are, where they want to go, and when they get there."
REFERENCES


A MODEL OF THE ORGANIZATIONAL CHANGE PROCESS IN ARMY ORGANIZATIONS

ACTORS

User
OESO
User Subordinates

PROCESSSES

Roles
Practice Theory Application
Structuring
Diffusing
Psycho-economic Transactions

OUTCOMES

Valid Information
Free Choice
Commitment

Innovation & Change

Improved Organizational Effectiveness

MEDIATING FACTORS
- Need for Change
- Control Over Change
- Actors' Goal Orientation
- Environmental Support

Figure 1. A model of the organizational change process in Army organizations
### Case Selection Matrix for Evaluation of OE Operations

#### Complexity of OE Operations Objective; Level of Coordination

<table>
<thead>
<tr>
<th>Class</th>
<th>Complexity of User</th>
<th>Operational Interdependence</th>
<th>OE Operation Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Interpersonal or inter-group relationship or process objectives</td>
<td>Requires coordination through standardization</td>
<td>Process issues interface with technological system issues</td>
</tr>
<tr>
<td>B</td>
<td>Short term impact (&lt;1 year)</td>
<td>-</td>
<td>Long term impact (&gt;1 year)</td>
</tr>
<tr>
<td>C</td>
<td>Process issues interface with technological system issues</td>
<td>External policy, resource or support not needed from environment</td>
<td>Requires coordination by planning</td>
</tr>
</tbody>
</table>

#### User Classes

<table>
<thead>
<tr>
<th>Class</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Small line combat, combat support, combat service support units (GBM) or military staffs (Primarily pooled interdependence)</td>
</tr>
<tr>
<td>II</td>
<td>Staffs, internal components of large organizations or components of user's organization where decision-making and coordination is complicated by sub-groups of significantly different characteristics. (Primarily sequential interdependence)</td>
</tr>
<tr>
<td>III</td>
<td>Large combat, combat support, combat service support units (e.g. DIV) where decision-making and coordination is complicated by a lack of direct central over policies, implementation, processes, and rewards and sanctions. (Primarily sequential interdependence)</td>
</tr>
<tr>
<td>IV</td>
<td>Complex systems involving decision-making or coordination across boundaries of the organizational hierarchy of the change sponsor. (Primarily reciprocal interdependence)</td>
</tr>
</tbody>
</table>

Figure 2. Case selection matrix for evaluation of OE operations.