

Evaluating and Institutionalizing Organization Development Interventions

This chapter focuses on the final stage of the organization development cycle—evaluation and institutionalization. *Evaluation* is concerned with providing feedback to practitioners and organization members about the progress and impact of interventions. Such information may suggest the need for further diagnosis and modification of the change program, or it may show that the intervention is successful. *Institutionalization* is a process for maintaining a particular change for an appropriate period of time. It ensures that the

results of successful change programs persist over time.

Evaluation processes consider both the implementation success of the intended intervention and the long-term results it produces. Two key aspects of effective evaluation are measurement and research design. The persistence of intervention effects is examined in a framework showing the organization characteristics, intervention dimensions, and processes contributing to institutionalization of OD interventions in organizations.

EVALUATING ORGANIZATION DEVELOPMENT INTERVENTIONS

Assessing OD interventions involves judgments about whether an intervention has been implemented as intended and, if so, whether it is having desired results. Managers investing resources in OD efforts increasingly are being held accountable for results—being asked to justify the expenditures in terms of hard, bottom-line outcomes. More and more, managers are asking for rigorous assessment of OD interventions and are using the results to make important resource allocation decisions about OD, such as whether to continue to support the change program, to modify or alter it, or to terminate it and try something else.

Traditionally, OD evaluation has been discussed as something that occurs after the intervention. Chapters 12 through 23, for example, present evaluative research about the interventions after discussions of the respective change programs. That view can be misleading, however. Decisions about the measurement of relevant variables and the design of the evaluation process should be made early in the OD cycle so that evaluation choices can be integrated with intervention decisions.

There are two distinct types of OD evaluation: one intended to guide the implementation of interventions and another to assess their overall impact. The key issues in evaluation are measurement and research design.

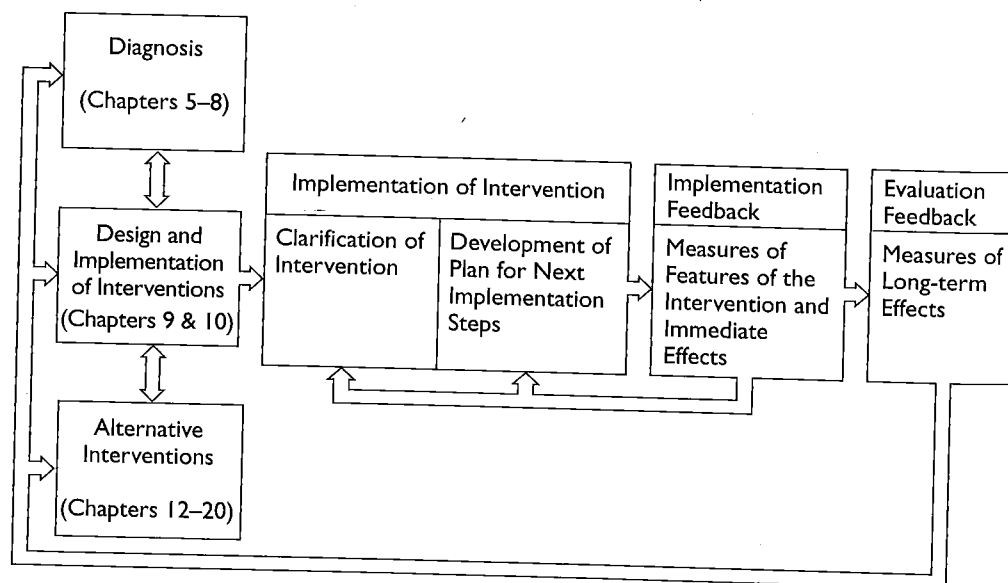
Implementation and Evaluation Feedback

Most discussions and applications of OD evaluation imply that evaluation is something done after intervention. It is typically argued that once the intervention is implemented, it should be evaluated to discover whether it is producing the intended

effects. For example, it might be expected that a job enrichment program would lead to higher employee satisfaction and performance. After implementing job enrichment, evaluation would involve assessing whether these positive results indeed did occur. This after-implementation view of evaluation is only partially correct. It assumes that interventions have been implemented as intended and that the key purpose of evaluation is to assess their effects. However, in many, if not most, organization development programs, implementing interventions cannot be taken for granted.¹ Most OD interventions require significant changes in people's behaviors and ways of thinking about organizations, but they typically offer only broad prescriptions for how such changes are to occur. For example, job enrichment (see Chapter 16) calls for adding discretion, variety, and meaningful feedback to people's jobs. Implementing such changes requires considerable learning and experimentation as employees and managers discover how to translate these general prescriptions into specific behaviors and procedures. This learning process involves much trial and error and needs to be guided by information about whether behaviors and procedures are being changed as intended.² Consequently, we should expand our view of evaluation to include both *during-implementation* assessments about if and how well changes are actually being implemented and *after-implementation* evaluation of whether they are producing expected results.

Both kinds of evaluation provide organization members with feedback about interventions. Evaluation aimed at guiding implementation may be called *implementation feedback*, and assessment intended to discover intervention outcomes may be called *evaluation feedback*. Figure 11.1 shows how the two kinds of feedback fit with the diagnostic and intervention stages of OD. The application of OD to a particular organization starts with a thorough diagnosis of the situation (Chapters 5 through 8), which helps identify particular organizational problems, areas for improvement, or strengths to leverage as well as the likely drivers underlying them. Next, from an array of possible interventions (Chapters 12 through 23), one or some set is chosen as a means of improving the organization. The choice is based on knowledge linking interventions to diagnosis (Chapter 9) and change management (Chapter 10).

[Figure 11.1]
Implementation and Evaluation Feedback



In most cases, the chosen intervention provides only general guidelines for organizational change, leaving managers and employees with the task of translating those guidelines into specific behaviors and procedures. Implementation feedback informs this process by supplying data about the different features of the intervention itself, perceptions of the people involved, and data about the immediate effects of the intervention. These data, collected repeatedly and at short intervals, provide a series of snapshots about how the intervention is progressing. Organization members can use this information, first, to gain a clearer understanding of the intervention (the kinds of behaviors and procedures required to implement it) and, second, to plan for the next implementation steps. This feedback cycle might proceed for several rounds, with each round providing members with knowledge about the intervention and ideas for the next stage of implementation.

Once implementation feedback informs organization members that the intervention is sufficiently in place and accepted, evaluation feedback begins. In contrast to implementation feedback, it is concerned with the overall impact of the intervention and with whether resources should continue to be allocated to it or to other possible interventions. Evaluation feedback takes longer to gather and interpret than does implementation feedback. It typically includes a broad array of outcome measures, such as performance, job satisfaction, productivity, and turnover. Negative results on these measures tell members either that the initial diagnosis was seriously flawed or that the wrong intervention was chosen. Such feedback might prompt additional diagnosis and a search for a more effective intervention. Positive results, on the other hand, tell members that the intervention produced expected outcomes and might prompt a search for ways to institutionalize the changes, making them a permanent part of the organization's normal functioning.

An example of a job enrichment intervention helps to clarify the OD stages and feedback linkages shown in Figure 11.1. Suppose the initial diagnosis reveals that employee performance and satisfaction are low and that jobs being overly structured and routinized are an underlying cause of this problem. An inspection of alternative interventions to improve productivity and satisfaction suggests that job enrichment might be applicable for this situation. Existing job enrichment theory proposes that increasing employee discretion, task variety, and feedback can lead to improvements in work quality and attitudes and that this job design and outcome linkage is especially strong for employees who have growth needs—needs for challenge, autonomy, and development. Initial diagnosis suggests that most of the employees have high growth needs and that the existing job designs prevent the fulfillment of these needs. Therefore, job enrichment seems particularly suited to this situation.

Managers and employees now start to translate the general prescriptions offered by job enrichment theory into specific behaviors and procedures. At this stage, the intervention is relatively broad and must be tailored to fit the specific situation. To implement the intervention, employees might decide on the following organizational changes: job discretion can be increased through more participatory styles of supervision; task variety can be enhanced by allowing employees to inspect their job outputs; and feedback can be made more meaningful by providing employees with quicker and more specific information about their performances.

After three months of trying to implement these changes, the members use implementation feedback to see how the intervention is progressing. Questionnaires and interviews (similar to those used in diagnosis) are administered to measure the different features of job enrichment (discretion, variety, and feedback) and to assess employees' reactions to and understanding of the changes. Company records are analyzed to show the short-term effects on productivity of the intervention. The data reveal that productivity and satisfaction have changed very little since the initial diagnosis. Employee perceptions of job discretion and feedback also have shown negligible change and they are confused about the expectations of managers, but perceptions of task variety have

shown significant improvement. In-depth discussion and analysis of this first round of implementation feedback help supervisors gain a better feel for the kinds of behaviors needed to move toward a participatory leadership style. This greater clarification of one feature of the intervention leads to a decision to involve the supervisors in leadership training to develop the skills and knowledge needed to lead participatively. A decision also is made to make job feedback more meaningful by translating such data into simple bar graphs, rather than continuing to provide voluminous statistical reports.

After these modifications have been in effect for about three months, members gather a second round of implementation feedback to see how the intervention is progressing. The data now show that productivity and satisfaction have moved moderately higher than in the first round of feedback and that employee perceptions of task variety and feedback are both high. Employee perceptions of discretion, however, remain relatively low. Members conclude that the variety and feedback dimensions of job enrichment are sufficiently implemented but that the discretion component needs improvement. They decide to put more effort into supervisory training and to ask OD practitioners to provide online counseling and coaching to supervisors about their leadership styles.

After four more months, a third round of implementation feedback is sought. The data now show that satisfaction and performance are significantly higher than in the first round of feedback and moderately higher than in the second round. The data also show that discretion, variety, and feedback are all high, suggesting that the job enrichment intervention has been successfully implemented. Now evaluation feedback is used to assess the overall effectiveness of the program.

The evaluation feedback includes all the data from the satisfaction and performance measures used in the implementation feedback. Because both the immediate and broader effects of the intervention are being evaluated, additional outcomes are examined, such as employee absenteeism, maintenance costs, and reactions of other organizational units not included in job enrichment. The full array of evaluation data might suggest that after one year from the start of implementation, the job enrichment program is having the expected effects and thus should be continued and made more permanent.

Measurement

Providing useful implementation and evaluation feedback involves two activities: selecting the appropriate variables and designing good measures.

Selecting Appropriate Variables Ideally, the variables measured in OD evaluation should derive from the theory or conceptual model underlying the intervention. The model should incorporate the key features of the intervention as well as its expected results. The general diagnostic models described in Chapters 5 and 6 meet this criterion, as do the more specific models introduced in Chapters 12 through 23. For example, the job-level diagnostic model described in Chapter 6 proposes several major features of work: task variety, feedback, and autonomy. The theory argues that high levels of these elements can be expected to result in high levels of work quality and satisfaction. In addition, as we shall see in Chapter 16, the strength of this relationship varies with the degree of employee growth need: the higher the need, the more that job enrichment produces positive results.

The job-level diagnostic model suggests a number of measurement variables for implementation and evaluation feedback. Whether the intervention is being implemented could be assessed by determining how many job descriptions have been rewritten to include more responsibility or how many organization members have received cross training in other job skills. Evaluation of the immediate and long-term impact of job enrichment would include measures of employee performance and satisfaction over time. Again, these measures would likely be included in the initial diagnosis, when the company's problems or areas for improvement are discovered.

Measuring both intervention and outcome variables is necessary for implementation and evaluation feedback. Unfortunately, there has been a tendency in OD to measure only outcome variables while neglecting intervention variables altogether.³ It generally is assumed that the intervention has been implemented, and attention, therefore, is directed to its impact on such organizational outcomes as performance, absenteeism, and satisfaction. As argued earlier, implementing OD interventions generally takes considerable time and learning. It must be empirically determined that the intervention has been implemented; it cannot simply be assumed. Implementation feedback serves this purpose, guiding the implementation process and helping to interpret outcome data. Outcome measures are ambiguous without knowledge of how well the intervention has been implemented. For example, a negligible change in measures of performance and satisfaction could mean that the wrong intervention has been chosen, that the correct intervention has not been implemented effectively, or that the wrong variables have been measured. Measurement of the intervention variables helps determine the correct interpretation of outcome measures.

As suggested above, the selection of intervention variables to be measured should derive from the conceptual framework underlying the OD intervention. OD research and theory increasingly have come to identify specific organizational changes needed to implement particular interventions (much of that information is discussed in Chapters 12 through 23). These variables should guide not only implementation of the intervention but also choices about what change variables to measure for evaluative purposes. Additional sources of knowledge about intervention variables can be found in the numerous references at the end of each of the chapters on intervention in this book and in several of the books in the Wiley Series on Organizational Assessment and Change.⁴

The choice of what outcome variables to measure also should be dictated by intervention theory, which specifies the kinds of results that can be expected from particular change programs. Again, the material in this book and elsewhere identifies numerous outcome measures, such as job satisfaction, intrinsic motivation, organizational commitment, absenteeism, turnover, and productivity.

Historically, OD assessment has focused on attitudinal outcomes, such as job satisfaction, while neglecting hard measures, such as performance. Increasingly, however, managers and researchers are calling for development of behavioral measures of OD outcomes. Managers are interested primarily in applying OD to change work-related behaviors that involve joining, remaining, and producing at work, and are assessing OD more frequently in terms of such bottom-line results. Macy and Mirvis have done extensive research to develop a standardized set of behavioral outcomes for assessing and comparing intervention results.⁵ Table 11.1 lists eleven outcomes, including their behavioral definitions and recording categories. The outcomes are in two broad categories: participation-membership, including absenteeism, tardiness, turnover, internal employment stability, and strikes and work-stoppages; and performance on the job, including productivity, quality, grievances, accidents, unscheduled machine downtime and repair, material and supply overuse, and inventory shrinkage. All of the outcomes should be important to most managers, and they represent generic descriptions that can be adapted to both industrial and service organizations.

Designing Good Measures Each of the measurement methods described in Chapter 7 has advantages and disadvantages. Many of these characteristics are linked to the extent to which a measurement is operationally defined, reliable, and valid. These assessment characteristics are discussed below.

Operational definition. A good measure is operationally defined; that is, it specifies the empirical data needed, how they will be collected and, most important, how they will be converted from data to information. For example, Macy and Mirvis developed operational definitions for the behavioral outcomes listed in Table 11.1 (see Table 11.2).⁶

[Table 11.1]**Behavioral Outcomes for Measuring OD Interventions: Definitions and Recording Categories**

BEHAVIORAL DEFINITIONS	RECORDING CATEGORIES
Absenteeism: each absence or illness over four hours	<i>Voluntary:</i> short-term illness (less than 3 consecutive days), personal business, family illness <i>Involuntary:</i> long-term illness (more than 3 consecutive days), funerals, out-of-plant accidents, lack of work (temporary layoff), presanctioned days off <i>Leaves:</i> medical, personal, maternity, military, and other (e.g., jury duty)
Tardiness: each absence or illness under four hours	<i>Voluntary:</i> same as absenteeism <i>Involuntary:</i> same as absenteeism
Turnover: each movement beyond the organizational boundary	<i>Voluntary:</i> resignation <i>Involuntary:</i> termination, disqualification, requested resignation, permanent layoff, retirement, disability, death
Internal employment stability: each movement within the organizational boundary	<i>Internal movement:</i> transfer, promotion, promotion with transfer <i>Internal stability:</i> new hires, layoffs, rehires
Strikes and work stoppages: each day lost as a result of strike or work stoppage	<i>Sanctioned:</i> union-authorized strike, company-authorized lockout <i>Unsanctioned:</i> work slowdown, walkout, sitdown
Accidents and work-related illness: each recordable injury, illness, or death from a work-related accident or from exposure to the work environment	<i>Major:</i> OSHA accident, illness, or death which results in medical treatment by a physician or registered professional person understanding orders from a physician <i>Minor:</i> non-OSHA accident or illness which results in one-time treatment and subsequent observation not requiring professional care <i>Revisits:</i> OSHA and non-OSHA accident or illness which requires subsequent treatment and observation
Grievances: written grievance in accordance with labor-management contract	<i>Stage:</i> recorded by step (first through arbitration)
Productivity:* resources used in production of acceptable outputs (comparison of inputs with outputs)	<i>Output:</i> product or service quantity (units or \$) <i>Input:</i> direct and/or indirect (labor in hours or \$)
Production quality: resources used in production of unacceptable outputs	<i>Resource utilized:</i> scrap (unacceptable in-plant products in units or \$); customer returns (unacceptable out-of-plant products in units or \$); recoveries (salvageable products in units or \$); rework (additional direct and/or indirect labor in hours or \$)
Downtime: unscheduled breakdown of machinery	<i>Downtime:</i> duration of breakdown (hours or \$) <i>Machine repair:</i> nonpreventive maintenance (\$)
Inventory, material, and supply variance: unscheduled resource utilization	<i>Variance:</i> over- or underutilization of supplies, materials, inventory (resulting from theft, inefficiency, and so on)

*Reports only labor inputs.

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[Table 11.2]

Behavioral Outcomes for Measuring OD Interventions: Measures and Computational Formula

BEHAVIORAL MEASURE*	COMPUTATIONAL FORMULA
Absenteeism rate** (monthly)	$\frac{\Sigma \text{Absence days}}{\text{Average workforce size} \times \text{Working days}}$
Tardiness rate** (monthly)	$\frac{\Sigma \text{Tardiness incidents}}{\text{Average workforce size} \times \text{Working days}}$
Turnover rate (monthly)	$\frac{\Sigma \text{Turnover incidents}}{\text{Average workforce size}}$
Internal stability rate (monthly)	$\frac{\Sigma \text{Internal movement incidents}}{\text{Average workforce size}}$
Strike rate (yearly)	$\frac{\Sigma \text{Striking Workers} \times \text{Strike days}}{\text{Average workforce size} \times \text{Working days}}$
Accident rate (yearly)	$\frac{\Sigma \text{of Accidents, illnesses}}{\text{Total yearly hours worked}} \times 200,000^{***}$
Grievance rate (yearly)	$\frac{\Sigma \text{Grievance incidents}}{\text{Plant: Average workforce size}}$ Individual: $\frac{\Sigma \text{Aggrieved individuals}}{\text{Average workforce size}}$
Productivity:****	Output of goods or services (units or \$) Direct and/or indirect labor (hours or \$) Actual versus engineered standard Actual versus budgeted standard Actual versus budgeted variance Output/average workforce size
Quality:****	Scrap + Customer returns + Rework – Recoveries (\$, units, or hours) Actual versus engineered standard Actual versus budgeted standard Actual versus budgeted variance Total/average workforce size
Downtime	Labor (\$) + Repair costs or dollar value of replaced equipment (\$)
Inventory, supply, and material usage	Variance (actual versus standard utilization) (\$)

*All measures reflect the number of incidents divided by an exposure factor that represents the number of employees in the organization and the possible incidents of behavior (e.g., for absenteeism, the average workforce size $\times$ the number of working days). Mean monthly rates (i.e., absences per workday) are computed and averaged for absenteeism, leaves, and tardiness for a yearly figure and summed for turnover, grievances, and internal employment stability for a yearly figure. The term rate refers to the number of incidents per unit of employee exposure to the risk of such incidences during the analysis interval.

**Sometimes combined as number of hours missing/average workforce size $\times$ working days.

***Base for 100 full-time equivalent workers (40 hours $\times$ 50 weeks).

****Monetary valuations can be expressed in labor dollars, actual dollar costs, sales dollars; overtime dollar valuations can be adjusted to base year dollars to control for salary, raw material, and price increases.

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They consist of specific computational rules that can be used to construct measures for each of the behaviors. Most of the behaviors are reported as rates adjusted for the number of employees in the organization and for the possible incidents of behavior. These adjustments make it possible to compare the measures across different situations and time periods. These operational definitions should have wide applicability across both industrial and service organizations, although some modifications, deletions, and additions may be necessary for a particular application.

Operational definitions are extremely important in measurement because they provide precise guidelines about what characteristics of the situation are to be observed and how they are to be used. They tell OD practitioners and the client system exactly how diagnostic, intervention, and outcome variables will be measured.

Reliability. Reliability concerns the extent to which a measure represents the "true" value of a variable—that is, how accurately the operational definition translates data into information. For example, there is little doubt about the accuracy of the number of cars leaving an assembly line as a measure of plant productivity. Although it is possible to miscount, there can be a high degree of confidence in the measurement. On the other hand, when people are asked to rate their level of job satisfaction on a scale of 1 to 5, there is considerable room for variation in their response. They may just have had an argument with their supervisor, suffered an accident on the job, been rewarded for high levels of productivity, or been given new responsibilities. Each of these events can sway the response to the question on any given day. The individuals' "true" satisfaction score is difficult to discern from this one question and the measure lacks reliability.⁷

OD practitioners can improve the reliability of their measures in four ways. First, rigorously and operationally define the chosen variables. Clearly specified operational definitions contribute to reliability by explicitly describing how collected data will be converted into information about a variable. An explicit description helps to allay the client's concerns about how the information was collected and coded.

Second, use multiple methods to measure a particular variable. As discussed in Chapter 7, the use of questionnaires, interviews, observations, and unobtrusive measures can improve reliability and result in a more comprehensive understanding of the organization. Because each method contains inherent biases, several different methods can be used to triangulate on dimensions of organizational issues. If the independent measures converge or show consistent results, the dimensions or problems likely have been diagnosed accurately.⁸

Third, use multiple items to measure the same variable on a questionnaire. For example, in Hackman and Oldham's Job Diagnostic Survey for measuring job characteristics (Chapter 16), the intervention variable "autonomy" is operationally defined by the average of respondents' answers to the following three questions (measured on a 7-point scale):⁹

1. The job permits me to decide *on my own* how to go about doing the work.
2. The job denies me any chance to use my personal initiative or judgment in carrying out the work. [reverse scored]
3. The job gives me considerable opportunity for independence and freedom in how I do the work.

By asking more than one question about "autonomy," the survey increases the accuracy of its measurement of this variable. Statistical analyses (called *psychometric tests*) are readily available for assessing the reliability of perceptual measures, and OD practitioners should apply these methods or seek assistance from those who can apply them.¹⁰ Similarly, there are methods for analyzing the content of interview and observational data, and OD evaluators can use these methods to categorize such information so that it can be understood and replicated.¹¹

Fourth, use standardized instruments. A growing number of standardized questionnaires are available for measuring OD intervention and outcome variables. For example, the Center for Effective Organizations at the University of Southern California (<http://ceo-marshall.usc.edu>) and the Institute for Social Research at the University of Michigan (<http://www.isr.umich.edu>) have developed comprehensive survey instruments to measure the features of many of the OD interventions described in this book, as well as their attitudinal outcomes.¹² Considerable research and testing have gone into establishing measures that are reliable and valid. These survey instruments can be used for initial diagnosis, for guiding implementation of interventions, and for evaluating immediate and long-term outcomes.

Validity. Validity concerns the extent to which a measure actually reflects the variable it is intended to reflect. For example, the number of cars leaving an assembly line might be a reliable measure of plant productivity, but it may not be a valid measure. The number of cars is only one aspect of productivity; they may have been produced at an unacceptably high cost. Because the number of cars does not account for cost, it is not a completely valid measure of plant productivity.

OD practitioners can increase the validity of their measures in several ways. First, ask colleagues and clients if a proposed measure actually represents a particular variable. This is called *face validity* or *content validity*. If experts and clients agree that the measure reflects the variable of interest, then there is increased confidence in the measure's validity. Second, use multiple measures of the same variable, as described in the section about reliability, to make preliminary assessments of the measure's *criterion* or *convergent validity*. That is, if several different measures of the same variable correlate highly with each other, especially if one or more of the other measures have been validated in prior research, then there is increased confidence in the measure's validity. A special case of criterion validity, called *discriminant validity*, exists when the proposed measure does not correlate with measures that it is not supposed to correlate with. For example, there is no good reason for daily measures of assembly line productivity to correlate with daily air temperature. The lack of a correlation would be one indicator that the number of cars is measuring productivity and not some other variable. Finally, *predictive validity* is demonstrated when the variable of interest accurately forecasts another variable over time. For example, a measure of team cohesion can be said to be valid if it accurately predicts improvements in team performance in the future.

It is difficult, however, to establish the validity of a measure until it has been used. To address this concern, OD practitioners should make heavy use of content validity processes and use measures that already have been validated. For example, presenting proposed measures to colleagues and clients for evaluation prior to measurement has several positive effects: It builds ownership and commitment to the data collection process and improves the likelihood that the client system will find the data meaningful. Using measures that have been validated through prior research improves confidence in the results and provides a standard that can be used to validate any new measures used in collecting the data.

Research Design

In addition to measurement, OD practitioners must make choices about how to design the evaluation to achieve valid results. The key issue is how to design the assessment to show whether the intervention did in fact produce the observed results. This is called *internal validity*. The secondary question of whether the intervention would work similarly in other situations is referred to as *external validity*. External validity is irrelevant without first establishing an intervention's primary effectiveness, so internal validity is the essential minimum requirement for assessing OD interventions. Unless managers can have confidence that the outcomes are the result of the intervention, they have no rational basis for making decisions about accountability and resource allocation.

Assessing the internal validity of an intervention is, in effect, testing a hypothesis—namely, that specific organizational changes lead to certain outcomes. Moreover, testing the validity of an intervention hypothesis means that alternative hypotheses or explanations of the results must be rejected. That is, to claim that an intervention is successful, it is necessary to demonstrate that other explanations—in the form of rival hypotheses—do not account for the observed results. For example, if a job enrichment program appears to increase employee performance, such other possible explanations as new technology, improved raw materials, or new employees must be eliminated.

Accounting for rival explanations is not a precise, controlled, experimental process such as might be found in a research laboratory.¹³ OD interventions often have a number of features that make it difficult to determine whether they produced the observed results. They are complex and often involve several interrelated changes that obscure whether individual features or combinations of features are accounting for the results. Many OD interventions are long-term projects and take considerable time to produce desired outcomes. The longer the time period of the change program, the greater are the chances that other factors, such as technology improvements, will emerge to affect the results. Finally, OD interventions usually are applied to existing work units rather than to randomized groups of organization members. Ruling out alternative explanations associated with randomly selected intervention and comparison groups is, therefore, difficult.

Given the problems inherent in assessing OD interventions, practitioners have turned to *quasi-experimental research designs*.¹⁴ These designs are not as rigorous and controlled as are randomized experimental designs, but they allow evaluators to rule out many rival explanations for OD results other than the intervention itself. Although several quasi-experimental designs are available, those with the following three features are particularly powerful for assessing changes:

1. **Longitudinal measurement.** This involves measuring results repeatedly over relatively long time periods. Ideally, the data collection should start before the change program is implemented and continue for a period considered reasonable for producing expected results.
2. **Comparison unit.** It is always desirable to compare results in the intervention situation with those in another situation where no such change has taken place. Although it is never possible to get a matching group identical to the intervention group, most organizations include a number of similar work units that can be used for comparison purposes.
3. **Statistical analysis.** Whenever possible, statistical methods should be used to rule out the possibility that the results are caused by random error or chance. Various statistical techniques are applicable to quasi-experimental designs, and OD practitioners should apply these methods or seek help from those who can apply them.

Table 11.3 provides an example of a quasi-experimental design having these three features. The intervention is intended to reduce employee absenteeism. Measures of absenteeism are taken from company monthly records for both the intervention and comparison groups. The two groups are similar yet geographically separate subsidiaries of a multiplant company. Table 11.3 shows each plant's monthly absenteeism rate for four consecutive months both before and after the start of the intervention. The plant receiving the intervention shows a marked decrease in absenteeism in the months following the intervention, whereas the control plant shows comparable levels of absenteeism in both time periods. Statistical analyses of these data suggest that the abrupt downward shift in absenteeism following the intervention was not attributable to chance variation. This research design and the data provide relatively strong evidence that the intervention was successful.

[Table 11.3]

Quasi-Experimental Research Design

	MONTHLY ABSENTEEISM (%)								
	SEPT.	OCT.	NOV.	DEC.		JAN.	FEB.	MAR.	APR.
Intervention group	5.1	5.3	5.0	5.1	Start of intervention	4.6	4.0	3.9	3.5
Comparison group	2.5	2.6	2.4	2.5		2.6	2.4	2.5	2.5

Quasi-experimental research designs using longitudinal data, comparison groups, and statistical analysis permit reasonable assessments of intervention effectiveness. Repeated measures often can be collected from company records without directly involving members of the experimental and comparison groups. These unobtrusive measures are especially useful in OD assessment because they do not interact with the intervention and affect the results. More obtrusive measures, such as questionnaires and interviews, are reactive and can sensitize people to the intervention. When this happens, it is difficult to know whether the observed findings are the result of the intervention, the measuring methods, or some combination of both.

Multiple measures of intervention and outcome variables should be applied to minimize measurement and intervention interactions. For example, obtrusive measures such as questionnaires could be used sparingly, perhaps once before and once after the intervention. Unobtrusive measures, such as the behavioral outcomes shown in Tables 11.1 and 11.2, could be used repeatedly, thus providing a more extensive time series than the questionnaires. When used together, the two kinds of measures should produce accurate and non-reactive evaluations of the intervention.

The use of multiple measures also is important in assessing perceptual changes resulting from interventions. Considerable research has identified three types of change—alpha, beta, and gamma—that occur when using self-report, perceptual measures.¹⁵

Alpha change refers to movement along a measure that reflects stable dimensions of reality. For example, comparative measures of perceived employee discretion might show an increase after a job enrichment program. If this increase represents alpha change, it can be assumed that the job enrichment program actually increased employee perceptions of discretion.

Beta change involves the recalibration of the intervals along some constant measure of reality. For example, before-and-after measures of perceived employee discretion can decrease after a job enrichment program. If beta change is involved, it can explain this apparent failure of the intervention to increase discretion. The first measure of discretion may accurately reflect the individual's belief about the ability to move around and talk to fellow workers in the immediate work area. During implementation of the job enrichment intervention, however, the employee may learn that the ability to move around is not limited to the immediate work area. At a second measurement of discretion, the employee, using this new and recalibrated understanding, may rate the current level of discretion as lower than before.

Gamma change involves fundamentally redefining the measure as a result of an OD intervention. In essence, the framework within which a phenomenon is viewed changes. For example, the presence of gamma change would make it difficult to compare measures of employee discretion taken before and after a job enrichment program. The measure taken after the intervention might use the same words, but they represent an entirely different concept. As described above, the term "discretion" may originally refer to the ability to move about the department and interact with other workers. After the intervention, discretion might be defined in terms of the ability to make decisions about work rules, work schedules, and productivity levels. In sum, the job enrichment intervention changed the way discretion is perceived and how it is evaluated.

These three types of change apply to perceptual measures. When changes other than alpha ones occur, interpreting measurement changes becomes far more difficult. Potent OD interventions may produce both beta and gamma changes, and this severely complicates interpretations of findings reporting change or no change. Further, the distinctions among the three different types of change suggest that the heavy reliance on questionnaires, so often cited in the literature, should be balanced by using other measures, such as interviews and unobtrusive records. Analytical methods have been developed to assess the three kinds of change, and OD practitioners should gain familiarity with these recent techniques.¹⁶

Application 11.1 describes the implementation and evaluation feedback that were developed for the Alegent Health project. It is a sophisticated example of how data can be used to guide current implementation and evaluate the effectiveness of an intervention. But the evaluation is not perfect. What are the strengths and weaknesses of the assessment? How could it have been improved? How much confidence do you have in the lessons learned from this organization?

INSTITUTIONALIZING ORGANIZATIONAL CHANGES

Once it is determined that changes have been implemented and are effective, attention is directed at institutionalizing the changes—maintaining them as a normal part of the organization's functioning for an appropriate period of time.¹⁷ In complex and uncertain environments, some changes are only part of a long journey of organization adaptation. Innovating new products is not a one-time change but a continuous process that must be implemented over and over again. Other changes, such as the process for appraising performance, need to persist. For example, there is little to be gained from making front-line supervisors learn a new performance rating system every year.

Lewin described change as occurring in three stages: unfreezing, moving, and refreezing. Institutionalizing an OD intervention concerns refreezing. It involves the long-term persistence of organizational changes: To the extent that changes persist, they can be said to be institutionalized. Such changes are not dependent on any one person but exist as a part of the culture of an organization. This means that numerous others share norms about the appropriateness of the changes.

How planned changes become institutionalized has not received much attention in the OD literature. Rapidly changing environments have led to admonitions from consultants and practitioners to "change constantly," to "change before you have to," and "if it's not broke, fix it anyway." Such a context has challenged the utility of the institutionalization concept. Why endeavor to make any change permanent given that it may require changing again soon? However, the admonitions also have resulted in institutionalization concepts being applied in new ways. Change itself has become the focus of institutionalization. Built to change, organization learning, and self-design interventions described in Chapter 21 all are aimed at enhancing the organization's change capability.¹⁸ In this vein, processes of institutionalization take on increased utility. This section presents a framework for identifying factors and processes that contribute to the institutionalization of OD interventions, including the process of change itself.

Institutionalization Framework

Figure 11.2 presents a framework that identifies organization and intervention characteristics and institutionalization processes affecting the degree to which change programs are institutionalized.¹⁹ The model shows that two key antecedents—organization and intervention characteristics—affect different institutionalization processes operating in organizations. These processes, in turn, affect various indicators of institutionalization. The model also shows that organization characteristics can influence intervention

Evaluating Change at Alegent Health

In July and August of 2005, Alegent Health (AH) conducted six large-group interventions or "decision accelerators" (DAs) to generate innovative strategies for the six clinical service areas. Researchers at USC's Center for Effective Organizations contracted with AH to assess the impact of the interventions and help the organization learn how to leverage further change. The applications in Chapter 4 described how the researchers entered and contracted with the organization, and Application 7.1 described the data collection and analysis process. In this application, we describe the implementation and evaluation feedback the researchers generated.

In terms of implementation feedback, the collected data described perceptions of change progress and employee involvement. For example, executive interviews and surveys from people who participated in "review DAs" to reflect on implementation progress and plan future changes supported a positive assessment of overall progress. People generally agreed that the implementation of the clinical strategies was going well. They were positive about the social capital that had been created by the DAs, especially between managers and physicians, as well as the evidence of culture change. Nearly everyone in the organization believed that the clinical strategies were the "right thing to do." In addition to these positive findings, there was some concern about feeling involved in the change.

That is, the DAs were a great energizer for the organization, generated comprehensive strategies, and catalyzed important changes. However, the data also contained some reservations about the organization's ability to leverage the changes. As described in Application 7.1, the implementation approaches were mostly informal; the organization was afraid that too many dedicated change processes and systems might slow down the change process. The data revealed a more complex set of issues.

First, executives and some physicians understood the roles, decisions, and processes related to implementation more than operational managers and other physicians. The six clinical services cases studied described an intense period of business planning following the DAs. Senior management, all of whom had participated in

the original six DAs, drove this process and were quite clear about the resulting priorities and initiatives. This clarity, however, was not widely shared by the hospital COOs, many physicians, and many operational managers. This resulted in a perception of a strong connection between strategy formulation and implementation at the top of the organization, but a weak perception in the middle of the organization. Managers and nurses felt overwhelmed—they heard about change with little context, and believed that the speed of change was slower rather than faster because "everything was important." Similarly, many physicians who were energized by the DAs wanted to know "where's the change?" While exceptions to this observation did exist, there was a general sense that senior managers were more involved and saw more change than others.

Second, the absence of formal change management processes made important resource allocation decisions, trade-offs on technology, and coordination of quality processes across the system more difficult. There was no visible mechanism, for example, to decide how quality programs should be rolled out or where to pilot electronic medical record systems. The lack of formal change management systems (action plans, governance mechanisms, learning practices) following the DAs was related to some feelings among all stakeholder groups that change was slow in coming and overwhelming when it did come. Most people correctly viewed the strategies created by the DAs as high-level plans providing general direction. However, the process for developing action plans and implementation activities was not visible to many people. Ad hoc change systems emerged based on the nature of the strategy implementation activities and these helped to focus attention and resources. Interestingly, these systems all started to emerge about one year after the original DAs.

Based on these implementation data, and the data presented in Application 7.1 about how the DA needed to evolve, the researchers recommended (1) creating different versions of the DA to address different issues and (2) formalizing some change processes so that the resourcing, execution, and communication of change were more coordinated. However, their overall recommendation was to

continue using the DA for strategy formulation and visioning, as well as tactical and implementation-oriented issues.

In terms of evaluation feedback, the analysis of the activities described in the DA reports provided some important conclusions. For example, the composition of the DAs, or the mix of AH managers and staff, physicians, community members, and other stakeholders, affected the processes and outcomes. First, in DAs where there was a higher proportion of physicians, there was a narrower range of stakeholder participation and an increased likelihood that the group would deviate from the agenda. In addition, there was a weak relationship between higher percentages of community participants and all DA processes. That is, when the DA had more community participants, there was broader participation in the discussions, the debates were more intense, and the DA stayed on track.

Second, the composition of the DA had differential impacts on the outcomes of meeting. When the DA had a high percentage of physicians, the resulting vision was less comprehensive. On the other hand, when the DA had a high concentration

of community participants, the vision was more comprehensive. These results were reflected in the survey data as well. The percentage of community participants was positively related to perceptions that the strategy was more innovative but less aggressive and business oriented. The concentration of physicians in the DA tended to have opposite relationships with the strategy dimensions.

When these data were fed back to the organization, the researchers specifically pointed out that these findings did not suggest that it was wrong to involve physicians or that a higher percentage of community members was better. To the contrary, the fundamental assumption of DA interventions was that a broader mix of stakeholders contributes to a better solution. This data did suggest that not all stakeholder groups are created equal. Too many of any type of stakeholder group may lead to lopsided discussions and sway the agenda. In several of the DAs for example, almost half of the participants were physicians, making it likely that this constituency would disproportionately impact the flow of the meeting.

The table below summarizes many of the findings from the Alegent project.

EVALUATION QUESTION	DATA
• Does Alegent's strategy, purpose, and organization support change? • How effective were the original six DAs in achieving intended outcomes? • What DA characteristics made a difference? • How do executives and managers characterize the service line strategies? • Are they similar or different? • How is the implementation process being orchestrated? • What processes, structure, and roles have been put in place to make the strategies a reality? • Is there evidence that implementation is likely to produce desired outcomes?	- Yes—Many powerful internal and external forces are pushing for and supporting change - Very effective—The DAs generated a lot of energy for change, healed physician relationships, and utilized good thinking - The DA's composition was an important influence on its processes and outcomes - Comprehensive, somewhat innovative, and business oriented - Managers are more positive than executives - Informally—as a result, people feel overwhelmed by change - Few—People agree there is change capacity but want more involvement and action - Generally positive attributions - While uncertainty exists, there are many shared suggestions for moving forward and commitment is high

Overall, the researchers concluded that:

1. There was a demonstrable and palpable change in a variety of organization features that if not directly tied to the DA were certainly hastened by it. A large number of specific strategic, operational, and practice-oriented changes connected with each clinical area had been implemented relatively quickly. In addition, there was substantial agreement that the culture was changing, as evidenced by new language, regular and extensive use of DAs, collaborative decision making, openness to innovation, confidence in leadership, and openness to joint ventures with the physicians. Finally, there was broad agreement that the DA process represented a visible and tangible effort to address physician relationships and clearly moved those relationships in a positive direction.
2. The organization's initial use of the DA process as a strategic visioning intervention persists in the minds of most organization members. Alegent Health can productively apply the technology and principles to other, more implementation-oriented issues. On the other hand, DAs cannot do everything, and complementary governance and implementation processes are necessary.

characteristics. For example, organizations having powerful unions may have trouble gaining internal support for OD interventions.

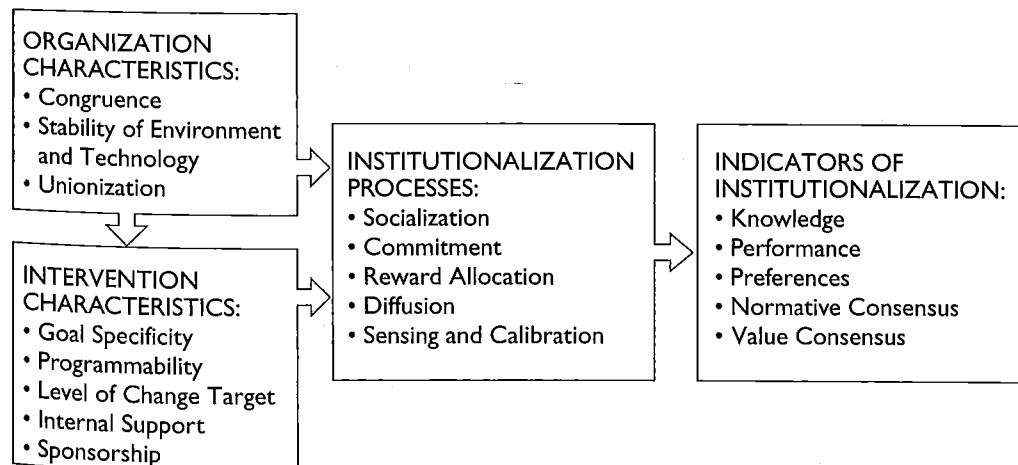
Organization Characteristics

Figure 11.2 shows that the following three key dimensions of an organization can affect intervention characteristics and institutionalization processes:

1. **Congruence.** This is the degree to which an intervention is perceived as being in harmony with the organization's managerial philosophy, strategy, and

[Figure 11.2]

Institutionalization Framework



structure; its current environment; and other changes taking place.²⁰ When an intervention is congruent with these dimensions, the probability is improved that it will be supported and sustained. Congruence can facilitate persistence by making it easier to gain member commitment to the intervention and to diffuse it to wider segments of the organization. The converse also is true: Many OD interventions promote employee participation and growth. When applied in highly bureaucratic organizations with formalized structures and autocratic managerial styles, participative interventions are not perceived as congruent with the organization's managerial philosophy.

2. **Stability of environment and technology.** This involves the degree to which the organization's environment and technology are changing. The persistence of change is favored when environments are stable. Under these conditions, it makes sense to embed the change in an organization's culture and organization design processes. On the other hand, volatile demand for the firm's products or services can lead to reductions in personnel that may change the composition of the groups involved in the intervention or bring new members on board at a rate faster than they can be socialized effectively.
3. **Unionization.** Diffusion of interventions may be more difficult in unionized settings, especially if the changes affect union contract issues, such as salary and fringe benefits, job design, and employee flexibility. For example, a rigid union contract can make it difficult to merge several job classifications into one, as might be required to increase task variety in a job enrichment program. It is important to emphasize, however, that unions can be a powerful force for promoting change, particularly when a good relationship exists between union and management

Intervention Characteristics

Figure 11.2 shows that the following five major features of OD interventions can affect institutionalization processes:

1. **Goal specificity.** This involves the extent to which intervention goals are specific rather than broad. Specificity of goals helps direct socializing activities (for example, training and orienting new members) to particular behaviors required to implement the intervention. It also helps operationalize the new behaviors so that rewards can be linked clearly to them. For example, an intervention aimed only at increasing product quality is likely to be more focused and readily put into operation than a change program intended to improve quality, quantity, safety, absenteeism, and employee development.
2. **Programmability.** This involves the degree to which the changes can be programmed or the extent to which the different intervention characteristics can be specified clearly in advance to enable socialization, commitment, and reward allocation. For example, job enrichment specifies three targets of change: employee discretion, task variety, and feedback. The change program can be planned and designed to promote those specific features.
3. **Level of change target.** This concerns the extent to which the change target is the total organization, rather than a department or small work group. Each level of organization has facilitators and inhibitors of persistence. Departmental and group change are susceptible to countervailing forces from others in the organization. These can reduce the diffusion of the intervention and lower its ability to impact organization effectiveness. However, this does not preclude institutionalizing the change within a department that successfully insulates itself from the rest of the organization. Such insulation often manifests itself as a subculture within the organization.²¹

Targeting the intervention toward wider segments of the organization, on the other hand, can also help or hinder change persistence. A shared belief about the

intervention's value can be a powerful incentive to maintain the change, and promoting a consensus across organizational departments exposed to the change can facilitate institutionalization. But targeting the larger system also can inhibit institutionalization. The intervention can become mired in political resistance because of the "not invented here" syndrome or because powerful constituencies oppose it.

4. **Internal support.** This refers to the degree to which there is an internal support system to guide the change process. Internal support, typically provided by an internal consultant, can gain commitment for the changes and help organization members implement them. External consultants also can provide support, especially on a temporary basis during the early stages of implementation. For example, in many interventions aimed at implementing high-involvement organizations (see Chapter 15), both external and internal consultants provide change support. The external consultant typically brings expertise on organizational design and trains members to implement the design. The internal consultant generally helps members relate to other organizational units, resolve conflicts, and legitimize the change activities within the organization.
5. **Sponsorship.** This concerns the presence of a powerful sponsor who can initiate, allocate, and legitimize resources for the intervention. Sponsors must come from levels in the organization high enough to control appropriate resources, and they must have the visibility and power to nurture the intervention and see that it remains viable. There are many examples of OD interventions that persisted for several years and then collapsed abruptly when the sponsor, usually a top administrator, left the organization. There also are numerous examples of middle managers withdrawing support for interventions because top management did not include them in the change program.

Institutionalization Processes

The framework depicted in Figure 11.2 shows the following five institutionalization processes that can directly affect the degree to which OD interventions are institutionalized:

1. **Socialization.** This concerns the transmission of information about beliefs, preferences, norms, and values with respect to the intervention. Because implementation of OD interventions generally involves considerable learning and experimentation, a continual process of socialization is necessary to promote persistence of the change program. Organization members must focus attention on the evolving nature of the intervention and its ongoing meaning. They must communicate this information to other employees, especially new members of the organization. Transmission of information about the intervention helps bring new members onboard and allows participants to reaffirm the beliefs, norms, and values underlying the intervention.²² For example, employee involvement programs often include initial transmission of information about the intervention, as well as retraining of existing participants and training of new members. Such processes are intended to promote persistence of the program as new behaviors are learned and new members introduced.
2. **Commitment.** This binds people to behaviors associated with the intervention. It includes initial commitment to the program, as well as recommitment over time. Opportunities for commitment should allow people to select the necessary behaviors freely, explicitly, and publicly. These conditions favor high commitment and can promote stability of the new behaviors. Commitment should derive from several organizational levels, including the employees directly involved and the middle and upper managers who can support or thwart the intervention. In many early employee involvement programs, for example, attention was directed at gaining workers' commitment to such programs. Unfortunately, middle managers were often ignored and considerable management resistance to the interventions resulted.

3. **Reward allocation.** This involves linking rewards to the new behaviors required by an intervention. Organizational rewards can enhance the persistence of changes in at least two ways. First, a combination of intrinsic and extrinsic rewards can reinforce new behaviors. Intrinsic rewards are internal and derive from the opportunities for challenge, development, and accomplishment found in the work. When interventions provide these opportunities, motivation to perform should persist. This behavior can be further reinforced by providing extrinsic rewards, such as money, for increased contributions. Because the value of extrinsic rewards tends to diminish over time, it may be necessary to revise the reward system to maintain high levels of desired behaviors.

Second, new behaviors will persist to the extent that rewards are perceived as equitable by employees. When new behaviors are fairly compensated, people are likely to develop preferences for those behaviors. Over time, those preferences should lead to normative and value consensus about the appropriateness of the intervention. For example, many employee involvement programs fail to persist because employees feel that their increased contributions to organizational improvements are unfairly rewarded. This is especially true for interventions relying exclusively on intrinsic rewards. People argue that an intervention that provides opportunities for intrinsic rewards also should provide greater pay or extrinsic rewards for higher levels of contribution to the organization.

4. **Diffusion.** This refers to the process of transferring changes from one system to another. Diffusion facilitates institutionalization by providing a wider organizational base to support the new behaviors. Many interventions fail to persist because they run counter to the values, purpose, or identity of the larger organization. Rather than support the intervention, the larger organization rejects the changes and often puts pressure on the change target to revert to old behaviors. Diffusion of a change to other organizational units reduces this counter-implementation force. It tends to lock in behaviors by providing normative consensus from other parts of the organization. Moreover, the act of transmitting institutionalized behaviors to other systems reinforces commitment to the changes.
5. **Sensing and calibration.** This involves detecting deviations from desired intervention behaviors and taking corrective action. Institutionalized behaviors invariably encounter destabilizing forces, such as changes in the environment, new technologies, and pressures from other departments to nullify changes. These factors cause some variation in performances, preferences, norms, and values. To detect this variation and take corrective actions, organizations must have some sensing mechanism. Sensing mechanisms, such as implementation feedback, provide information about the occurrence of deviations. This knowledge can then initiate corrective actions to ensure that behaviors are more in line with the intervention. For example, if a high level of job discretion associated with a job enrichment intervention does not persist, information about this problem might initiate corrective actions, such as renewed attempts to socialize people or to gain commitment to the intervention.

Indicators of Institutionalization

Institutionalization is not an all-or-nothing concept but reflects degrees of persistence in a change. Figure 11.2 shows five indicators of the extent of an intervention's persistence. The extent to which the following factors are present or absent indicates the degree of institutionalization:

1. **Knowledge.** This involves the extent to which organization members have knowledge of the behaviors associated with an intervention. It is concerned with whether members know enough to perform the behaviors and to recognize the consequences

of that performance. For example, job enrichment includes a number of new behaviors, such as performing a greater variety of tasks, analyzing information about task performance, and making decisions about work methods and plans.

2. **Performance.** This is concerned with the degree to which intervention behaviors are actually performed. It may be measured by counting the proportion of relevant people performing the behaviors. For example, 60% of the employees in a particular work unit might be performing the job enrichment behaviors described above. Another measure of performance is the frequency with which the new behaviors are performed. In assessing frequency, it is important to account for different variations of the same essential behavior, as well as highly institutionalized behaviors that need to be performed only infrequently.
3. **Preferences.** This involves the degree to which organization members privately accept the organizational changes. This contrasts with acceptance based primarily on organizational sanctions or group pressures. Private acceptance usually is reflected in people's positive attitudes toward the changes and can be measured by the direction and intensity of those attitudes across the members of the work unit receiving the intervention. For example, a questionnaire assessing members' perceptions of a job enrichment program might show that most employees have a strong positive attitude toward making decisions, analyzing feedback, and performing a variety of tasks.
4. **Normative consensus.** This focuses on the extent to which people agree about the appropriateness of the organizational changes. This indicator of institutionalization reflects how fully changes have become part of the normative structure of the organization. Changes persist to the degree members feel that they should support them. For example, a job enrichment program would become institutionalized to the extent that employees support it and see it as appropriate to organizational functioning.
5. **Value consensus.** This is concerned with social consensus on values relevant to the organizational changes. Values are beliefs about how people ought or ought not to behave. They are abstractions from more specific norms. Job enrichment, for example, is based on values promoting employee self-control and responsibility. Different behaviors associated with job enrichment, such as making decisions and performing a variety of tasks, would persist to the extent that employees widely share values of self-control and responsibility.

These five indicators can be used to assess the level of change persistence. The more the indicators are present in a situation, the higher will be the degree of institutionalization. Further, these factors seem to follow a specific development order: knowledge, performance, preferences, norms, and values. People must first understand new behaviors or changes before they can perform them effectively. Such performance generates rewards and punishments, which in time affect people's preferences. As many individuals come to prefer the changes, normative consensus about their appropriateness develops. Finally, if there is normative agreement about the changes reflecting a particular set of values, over time there should be some consensus on those values among organization members.

Given this developmental view of institutionalization, it is implicit that whenever one of the last indicators is present, all the previous ones are automatically included as well. For example, if employees normatively agree with the behaviors associated with job enrichment, then they also have knowledge about the behaviors, can perform them effectively, and prefer them. An OD intervention is fully institutionalized only when all five factors are present.

Application 11.2 describes Hewlett-Packard's successful history of institutionalizing a new set of behaviors through structural change. It describes how culture and reward systems can play a strong role in both supporting and constraining change.²³

Institutionalizing Structural Change at Hewlett-Packard

In May 2002, the hotly contested acquisition of Compaq by Hewlett-Packard (<http://www.hp.com>) was finalized. Unlike the major organization changes before it, the acquisition challenged the abilities of this perennial "most admired company" to execute a complex structural change. The success of the integration process described in Application 10.4 is partly due to a store of institutionalized knowledge and capability within the HP organization. This application describes a number of large-scale structural changes at HP. Its repeated ability to carry out such change speaks to the institutionalized capability to manage change.

Since its founding in 1939, HP has implemented successfully no fewer than a dozen major organizational changes, including the transition from a high-tech entrepreneurial start-up to a professionally managed company; from a small instruments business to a leading computer company; from a company oriented around complex-instruction-set computing technology to reduced-instruction-set computing technology; from a technology/engineering-based company to a market/brand-driven company; and, since the appointment of Carly Fiorina as CEO, from a "pure products" company to a services company.

HP's electronics and computer business was characterized by highly volatile technological and market change. It had to quickly adopt, innovate, and implement a variety of technological and organizational changes just to survive. HP's traditional and current strategies were built on innovation, differentiation, and high quality. Another important feature of HP, and one of its more enduring characteristics, is the "HP Way"—a cultural artifact that supports a participative management style and emphasizes commonness of purpose and teamwork on one hand and individual freedom and initiative on the other. Over time, however, the HP Way has been both a constraint to and a facilitator of change.

For example, the HP Way has been at the root of the company's difficulties in institutionalizing structural and behavioral changes to bring about more cooperation among the computer divisions. The initial structural change occurred in 1982 when HP transformed itself from a producer of high-quality electronic measuring instruments into a computer

company. At the time, computers and computer-related equipment accounted for only about one-third of revenues and HP was structured into more than 50 highly autonomous and decentralized product divisions focused on specialized niche markets. Individual engineers came up with innovative ideas and "bootstrapped" new products any way they could. Organization members were encouraged to work with other engineers in other departments within the same division, but there was little incentive to coordinate the development of technologies across divisions. This focus on the individual was supported by a performance management system that measured and rewarded "sustained contributions;" the key to success for an individual was working with many people in the division. HP prospered by maximizing each of its parts.

Former CEO John Young's decision to focus on computers fundamentally shifted the keys to success. Computer production required a coordinated effort among the different component divisions and market shares large enough to encourage software vendors to write programs for their machines. In a culture that supported individual contributions over divisional cooperation, Young placed all the instruments divisions into one group and all the computer divisions into another group, a basic design that persisted until the spin-off of the Agilent instruments business in 1999. In addition, he centralized research, marketing, and manufacturing, which had previously been assigned to the divisions. Problems quickly arose. In one case, the company's new and highly touted graphics printer would not work with its HP3000 minicomputer. The operating software, made by a third HP division, would not allow the two pieces of hardware to interface.

In response, the computer group formed committees to figure out what new technologies to pursue, which to ignore, which of HP's products should be saved, and which would be shelved. As the committees came up with recommendations, the committees themselves kept multiplying. The company's entrenched culture, built around the HP Way's philosophy of egalitarianism and mutual respect, promoted consensus: Everyone had to have a hand in making a decision.



By 1988, the organization chart still showed a predominantly decentralized divisional structure. What it didn't show was the overwhelming number of committees that slowed decision making and product development. In one case, it took seven months and nearly a hundred people on nine committees to name the company's new software product. This web of committees, originally designed to foster communication among HP's operating divisions, had pushed up costs and slowed development. In the rapidly changing world of software, personal computers, minicomputers, and printers, the HP Way was hamstringing the organization's success. The ethic of individual freedom balanced by teamwork had produced an unwieldy bureaucracy.

After a series of delays of important new products, John Young reorganized the computer group. In late 1990, he eliminated most of the committees and removed layers of management by dividing the computer business into two groups: one to handle personal computers and peripherals sold through dealers, and the other to handle sales of workstations and minicomputers to big customers. To match the organization structure, the previously centralized corporate salesforce was split and assigned to particular divisions. This change focused HP's computer systems on the market and restored much of the autonomy to the divisions. The balance between individuality and common purpose that characterized the original HP Way was unleashed, leading to several years of strong revenue and profit growth.

In 1993, and before he was officially installed as the new CEO, Lewis Platt announced that HP would pursue the convergence of several base technologies, such as wireless communication, printing, and measurement, to create whole new products for the converging computer, communication, and consumer electronics markets. Implementing such a strategy again depended on strong coordination among HP's product divisions. To ensure that the gains in cooperation were not lost as HP embarked on its new strategy, CEO Platt tied division managers' incentive compensation to working cooperatively with other divisions to create new products that used multiple-division technologies.

The new structure was also a big success. Growth in the printer and PC markets drove revenues from \$13.2 billion in 1990 to \$38.4 billion in 1996, with profits growing in the same proportions. In 1996, they were the fifth-most-admired company in the United States. In the Internet world, however, their success was short-lived, and critics argued that Platt's subsequent attention to "soft" issues such as work/life balance and promoting diversity, rather than launching an Internet strategy, resulted in stalled growth. For 1997 and 1998, and aided by the Asian financial crisis, growth rates slipped to single digits. In the summer of 1998, Platt believed that HP had simply become too big and complex. In March 1999, he announced and implemented the spin-off of HP's \$7.6 billion instruments division, the business on which the company had been founded.

Shortly after being named HP's fourth CEO in 1999, and the first to come from outside the company, Carly Fiorina laid out her agenda: create a compelling vision for HP, implement a structure to support the vision, and launch a marketing campaign to build the HP brand. The vision called for a shift from a stand-alone products company to a services company. The structural change involved merging the four major product divisions into a group focused on computing and a group focused on printing. This structure for the first time united HP's laser and inkjet printing divisions and furthered the opportunities for computer products to coordinate their activities. Fiorina also announced a major marketing campaign focused on the HP Way's value of innovation. Then, in the fall of 2001, Fiorina announced the intended acquisition of Compaq computers.

The lessons of history have not been lost on the CEO. The acquisition process pulled knowledge from the experiences of other mergers and other changes within HP; it acknowledged the strengths and weaknesses of the HP Way; and structural changes have been backed up with changes in the compensation system. Few organizations have implemented as many major changes and still maintained both strong financial performance and corporate reputation. HP's history of seeing the need for, implementing, and reaping the benefits of structural change is a testament to its ability to institutionalize change, as these examples demonstrate.

SUMMARY

We discussed in this chapter the final two stages of planned change—evaluating interventions and institutionalizing them. Evaluation was discussed in terms of two kinds of necessary feedback: implementation feedback, concerned with whether the intervention is being implemented as intended, and evaluation feedback, indicating whether the intervention is producing expected results. The former comprises collected data about features of the intervention, perceptions of the people involved, and its immediate effects, which are fed back repeatedly and at short intervals. The latter comprises data about the long-term effects of the intervention, which are fed back at long intervals.

Evaluation of interventions also involves decisions about measurement and research design. Measurement issues focus on selecting variables and designing good measures. Ideally, measurement decisions should derive from the theory underlying the intervention and should include measures of the features of the intervention and its immediate and long-term consequences. Further, these measures should be operationally defined, reliable, and valid and should involve multiple methods, such as a combination of questionnaires, interviews, and company records.

Research design focuses on setting up the conditions for making valid assessments of an intervention's effects. This involves ruling out explanations for the observed results other than the intervention. Although randomized experimental designs are rarely feasible in OD, quasi-experimental designs exist for eliminating alternative explanations.

OD interventions are institutionalized when the change program persists and becomes part of the organization's normal functioning. A framework for understanding and improving the institutionalization of interventions identified organization characteristics (congruence, stability of environment and technology, and unionization) and intervention characteristics (goal specificity, programmability, level of change target, internal support, and sponsorship) that affect institutionalization processes. The framework also described specific institutionalization processes (socialization, commitment, reward allocation, diffusion, and sensing and calibration) that directly affect indicators of intervention persistence (knowledge, performance, preferences, normative consensus, and value consensus).

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Kenworth Motors

It began with a telephone call, as did so many of my engagements. The person calling identified himself as Robert Denton, the plant manager of Kenworth Motors' Seattle truck manufacturing operations. Denton said he'd gotten my name from Charles Wright, a client of mine in Seattle. Charlie is the OD manager for a major timber products company. I'd been doing several projects with Charlie's group of internal consultants for the past three years and occasionally served as the OD group's consultant. Denton noted that Charlie and he were members of the same sailing club. He went on to say that when, as someone relatively new to Seattle, he'd asked Charlie if he knew any consultants, Charlie had spoken highly of me. I remember thinking that Charlie probably wouldn't have mentioned me unless he thought I could be useful to Denton. My trust in Charlie's competence and judgment was very high.

Denton went on to explain that he'd been the plant manager for only eight months, that things seemed to be going well, but that he had a gnawing sense that things could be better. I must have murmured something appropriate because Denton invited me to visit him and become acquainted with his operation.

I was both flattered by and interested in Denton's invitation. After all, I thought to myself, it's nice to be wanted, a consulting engagement might come out of it, I always wanted to get behind the gate of the Kenworth plant, and Denton sounded like a basically smart guy and nice besides. However, reality intruded into my thoughts, as it often does.

THOUGHTS ON THE ROAD

I reminded Denton that I lived across the state in Spokane and added that I had limited time available in the short run. I noted that I had plans to visit Seattle in three weeks and could

see him then, otherwise it might not be for a month. Denton sounded almost eager as he agreed to a 10 A.M. appointment on April 11.

The drive westward from Spokane across the state of Washington on Interstate 90 begins with several hours of boring highway. I had purposely put off thinking about my appointment with Robert Denton until I was on the road. As the interstate stretched out over the rolling sagebrush hills and checkered wheat fields, I turned my thoughts to Kenworth Motors and Denton. Uppermost in my mind was that I was about to talk with a man I knew little about, consult with a firm I knew very little about, and I had no focused agenda. What should I say and do?

As the miles went by, I envisioned several alternative scenarios for my upcoming appointment with Robert Denton, the plant manager of the truck manufacturing division of Kenworth Motors Corporation. I saw his office in several possible ways. It could be spartan and centrally located to the production floor. It could be conventionally furnished but of a fair size. It could be large. It might even be opulent. It could be personalized with mementos of career, hobbies, or family. It might be far from the production floor, or even in a separate building. The more I tried to envision Denton's office, the more alternatives came to mind. So I focused on Denton, trying to imagine him from the voice cues on the telephone—not old, probably fit, probably clean shaven. Again the futility of trying to imagine came home to me.

What did I think I knew? I didn't know much beyond a handful of facts about his title and his job tenure, the fact that he knew Charlie, believed things were generally going OK at the plant, and had some vague notion something wasn't quite right. I also had the distinct impression he had been fairly eager to talk with me—after all, he'd initiated calling me

and had quickly settled for an appointment convenient to me.

What did I really want to accomplish when I met with Denton? The more I considered this question, the more I pared down my answers. At minimum, it seemed for me a low-cost situation—a couple of hours of my time, perhaps some impressions of me that would be communicated to Charlie (though I believed Charlie and I had a relationship of mutual respect and trust based on a lot of shared work). On the other hand, there was potentially a lot to gain—perhaps another consulting job, perhaps more visibility and reputation in Seattle, which would be good for my business.

I decided I couldn't plan for our meeting in much detail; about all I could reasonably do was to be true to the posture I found to be useful in situations like this. I had to be myself, be as real as possible. I see myself as a curious, friendly person who basically likes others. I also know I can be bold and thought I might have to be to get the conversation going, to help Denton become clear as to why we were talking together, and to clarify my role.

I also wanted to leave our meeting with a decision to either go forward or not. While I didn't mind investing a little time, my time was valuable. I also felt strongly, as I always do, that I didn't want to work with anyone who I didn't basically like as a person or who didn't seem to genuinely want to do some real work. Seeing the Cascade mountains on the horizon, I began to feel easier. I'd be myself, whatever happened. Only one question nagged: Could Denton and I connect swiftly enough so there would be time to push for clarity in our possible work relationship?

MAKING CONTACT

At the Kenworth plant, the uniformed guard at the plant gate checked his clipboard, slipped around my car, and copied down my license plate number. Returning to my open

window, he pointed ahead to a one-story brick building attached to the multistoried plant and told me I could park in the space in front and then go inside and identify myself to the receptionist.

The floor of the wide hallway inside the double glass doors of the office building was freshly waxed. Framed photographs of trucks and large buildings lined the walls. A middle-aged woman in a suit looked up from her desk and smiled. After I identified myself, she led me down a side corridor to an alcove and informed the secretary there who I was and that I was there to see Mr. Denton. She then turned to me, smiled again, and wished me a good day. The seated secretary told me Mr. Denton was expecting me, but was on the telephone. She gestured toward a bank of chairs and asked me to wait. As I sat down, I observed the corridor traffic, busy but quiet. I settled back to wait.

About 10 minutes later, a man of medium height and build wearing a sports jacket over an open-collared shirt came through the door behind the secretary and walked directly to me. He extended his hand, smiled, introduced himself as Bob Denton and motioned me into his office.

The office was larger than I expected. It was paneled and a large Persian rug was centered on the floor. At one end were a clean desk with side chairs and a table full of papers behind it. At the other side of the office were a couch and two stuffed chairs around a low coffee table. Drapes framed one large window that looked out on the parking lot. Denton asked if I wanted coffee, and I said I did. He went to the door and asked the secretary to bring us both coffee and added we were not to be disturbed. While waiting for the coffee, we sat on the two stuffed chairs and made small talk. He asked about my drive across the state; I asked about the framed sailing prints on the wall and whether he'd been sailing lately. We chatted about the Sonics, the Kingdome, and the coming World's Fair in Vancouver. After

our coffee arrived, I asked him to tell me about his plant and products.

Denton spoke excitedly for 10 or 12 minutes on a wide range of topics—the daily production rate of 23 trucks, the cost of a truck, the sales order backlog, some equipment updating just finished, his coming to this job from a plant in the Midwest, his spending a lot of time lately with the next year's budget, and so forth. My impression of Denton was that he was highly involved in his work. He spoke rapidly but clearly with enthusiasm. Finally, he leaned back, smiled, and said, "Well, I've been going on, haven't I?" I remember thinking I liked Denton's ease and his willingness to talk about his plant and himself. I'd already learned a lot about the plant and his job without more than looking interested. Denton certainly did seem likable, and he was younger and more casual than I expected.

GETTING DOWN TO BUSINESS

I clearly recall my response to Denton's question. "Actually, I've appreciated your sharing all this background with me. I've always been curious about this plant. Years ago, I had a part-time job when I was in college and used to deliver some industrial supplies in this end of town and always wanted to know what happened in this plant. All I could see from the road were those lines of big shiny trucks. It's nice to know they're built with care. But you asked for this meeting, Bob. Remember you told me that while things were going well here you sensed something wasn't quite right. Can you tell me a little more now?"

"Not really. I know the plant is doing fine. I feel pretty much on top of my job. I like what I'm doing here very much. My department heads—all nine of them—are all good people. All but two have been here quite a while. They're dependable, damn good at what they do, get along fine, and basically are good managers," he said.

"I get along good with everyone. I go out in the plant every day and circulate around. Things are moving smoothly. My two newer managers—one runs our purchasing and inventory, the other is in personnel—couldn't be working out better. Yet some things nag at me that I can't put my finger on. I guess it boils down to some crazy notion I have that while we get along fine and work together well, we haven't jelled together as a team quite like I'd hoped."

I bombarded Denton with questions, trying to find something that didn't hang together or might indicate a problem. No matter what I asked about—from union relations to accounts receivable, from engineering-production relations to turnover figures—Denton's responses were consistently factual and full, and everything seemed to be in remarkably good shape.

I caught myself from going on with more questions. Instead I said, "Bob, everything I've been asking about tells me you're OK. Maybe things here really are OK. Maybe you've just got some apprehension that things couldn't be that good. After all, you've been here long enough to really know. While there is some chance that you're not well informed, and some things aren't so hot, the odds are against it. About all I can suggest is whether you might want someone like me to independently confirm how things are going." Denton smiled as if to himself and replied, "Hmm, maybe, what would you suggest?"

"What's usually done in situations like this, if there is the interest and if there is the money to pay for it, is to engage someone like me to spend a few days interviewing a sample of managers and other key staff people to see what might turn up."

"From what you've heard so far, do you think that makes sense here?" Denton asked.

"Frankly, I don't know. It might be worth it to you just to learn things really are OK. What usually happens, however, is that I do find out about something that could be improved. After

all that's what I'm supposed to be good at, finding problems. One way or another, Bob, the mere fact I was here would have some impact. The word would spread pretty fast that some outsider was snooping around. What impact that might have I can't say. If things really are OK, my presence might mean little. If there are real problems, my being here would probably create some tensions, it could raise expectations that something would be done about them, and it could even cause problems."

Denton nodded, "I see what you mean. If you came in, it would cost me some bucks, it would have some risks in how my people reacted; one way or another I'd have to do something." He paused and then went on. "Well, to tell the truth, I don't want to upset things if they're OK, but just finding out whether they are or not appeals to me. Isn't there some other way to do this?"

Bob Denton seemed to me to be open to some minimal work by me. He'd responded as I'd hoped to my candidness about the risks of some conventional diagnostic snooping. He'd really seemed to pay attention to what I'd said, and I was beginning to like him and was intrigued with the situation. At times like this, my thought processes seem to jump into high gear. After all, a careful response was called for and there were a number of considerations to factor in. The things I recall noting to myself went like this: apparently some minimal motivation on Bob's part; my real lack of information about the Kenworth situation; my own schedule for the coming months—which was pretty full; my intuition that probably nothing major was wrong with Bob and his managers; and that whatever I proposed had to be of modest cost.

LET'S HAVE A RETREAT

I said to Bob: "Let me sketch out one idea that comes to mind. We could do a modest retreat. You, your department managers, and I could meet away from here for a couple of days, say

on a weekend, to jointly explore how things are going. At minimum, I see several probable outcomes from such a meeting: everyone would get somewhat better acquainted with one another; we'd know better if there were serious issues to tackle; we'd have the experience of jointly going through problem identification; and you'd get a sense of whether or not your team was open to working with an outsider like myself."

I paused and went on: "Such a meeting would be relatively efficient. It wouldn't take time away from work, and it wouldn't cost an arm and a leg." Bob nodded, sipped his coffee and looked at me intently. "OK," he said, "I can see your points. Just what would we be doing?"

Seeing Bob's interest as well as warming to the idea myself, I went on to outline a retreat. I suggested doing it at a country club or lodge within a few hours' drive of Seattle. This setting was to provide a symbolic break from the customary business environment, and because it would cost everyone weekend time and the company the expense of travel, food, and lodging, it would show Bob's seriousness about the event. I then suggested we begin with cocktails and dinner on a Friday evening, work all day Saturday with appropriate breaks, and conclude by noon Sunday. Again, Bob nodded. He then asked, "But what would we do? What would you charge?"

I did some quick calculations and responded, "As for my fee, I'd have to bill you for a minimum of three days at my daily rate of \$___ per day, and travel expenses—assuming Kenworth would provide food and lodging. As for what we'd actually do, that's more difficult to say exactly. Frankly, while I have several ways to get us started, I'd need to play it by ear. In general, it would be my responsibility to see we talked straight and a lot with one another to surface our concerns both big and small. I'm afraid you'd have to trust me on this." I said this last couple of sentences with some trepidation, knowing from my experience that most

managers would want much more clarity, but I needed to know how Bob was viewing me.

I was surprised at what happened next. Denton quickly agreed to have a retreat weekend as I'd outlined. We also selected a weekend a month-and-a-half away. He would find a site and let me know. In addition, we agreed he would use the phrase "a communications workshop" when he informed participants. Glancing at my watch as I left Denton's office, I saw it was just 11:30.

Questions

1. How well did the OD consultant prepare for the meeting with Denton? Would you have done anything differently?
2. In the discussion between the OD consultant and Denton, what was effective and ineffective about the consultant's behavior?
3. How effective was the contracting process described in the last part of the case? What is the scope and clarity of the agreement?
4. How would you design the upcoming retreat?

SOURCE: Craig C. Lundberg, *Cornell University*.

Peppercorn Dining

The partners of Square One Consulting were having lunch at Peppercorn Dining on the campus of All-American University. Although Square One was headquartered nearby, most of the consultants' business was conducted in other cities. The partners were enjoying having the opportunity to attend a seminar on a campus in their hometown. By chance, Drew Randall, the manager of Peppercorn, noticed the trio and recognized Erica, who had worked her way through college as a student manager at the dining unit. Drew pulled up a chair and started to catch up on the two years that had transpired since she had graduated. The other consultants, Roger and Lynn, listened as they began to reminisce about the "good old days" at Peppercorn.

Erica recalled the time a swim test coincided with her first shift at the dining hall. She called to let the unit know she would be detained, and she finally arrived about an hour late. When Erica entered the unit, she was greeted by a supervisor who took her downstairs to change into the uniform of blue pants, blue-and-white-checkered shirt, a hair net, and a name tag, an outfit similar to what was being worn by the current employees. Erica was then taken to the dish room and informed she was receiving a verbal warning for being late. As the group laughed, the consultants chided Erica further by commenting that her sense of timing hadn't changed. Drew, however, suggested that times had changed.

DEVELOPING A CONTRACT

The consultants were eager to learn about Peppercorn, and Erica, eager to learn about the changes Drew had alluded to, asked about current operations at the unit. Drew, sipping on his coffee, commented, "Staffing is a nightmare. We can't find qualified people anywhere;

recruiting and retention has become a constant challenge." Drew went on to explain that the labor market in the county had become tight due to the prosperous Reagan years. Garden County had become a boomtown and, as a result, the university was having difficulty gaining employees. Roger wondered aloud about the general steps Peppercorn had taken to offset the current labor shortage.

Drew, sensing the consultant's interest, openly discussed his perceptions of the dining unit. He stated:

I would like to make Peppercorn a more pleasant place for everyone to work. I get great productivity out of these guys and they really care. It's just that there needs to be something more. Maybe morale is a little low. There's not much creativity involved in most of the tasks, but the cooks feel great when they sell out of stuff. However, when we sell out, it's probably because the forecast was incorrect rather than as a response to a good product. I take a humanistic management approach, maybe they just need some kind of support. On the other hand, I may give them too much autonomy since I let them manage themselves to a large degree.

I believe that scheduling is management's right. I base my scheduling on operational need. Ultimately, the manager is responsible for the success or failure of the operation, therefore, I should have the right to put the people where I deem best. You know, niche management. Although, I did inherit a lot of the schedule.

As Erica tentatively nodded her head in response to Drew's comments, Roger and Lynn caught each other's gaze and shrugged inquisitively. By the consultants' behavior, it was apparent they were wondering about the meaning behind Drew's words. However, because he was obviously in the mood to talk, the consultants did not interrupt.

Warming up to his listeners, Drew continued, "Some employees have been at Peppercorn, working in the same position, for 20 plus years. Bob, the day cook, has been working here for 28 years. Can you believe that Doug, the night cook, has been here for 10 years and is waiting for Bob to retire so that he can transfer to the day shift? Doug may have to wait a long time since Bob won't be retiring for at least 15 years. It's hard for me to believe that Doug looks forward to that time and that he refuses to transfer to another dining unit."

"That's amazing," said Roger. "You seem to have loyal employees. It must be easy to manage people who know their job so well."

Drew responded:

It's not that simple. The union contract forms a second set of rules and operating parameters. The contract deals with turnover, sick leave, pay, promotion, and all of the other usual stuff. It seems that there is no reward for non-sickness, but there is a reward for sickness. Now people get one and a half times the pay for sick days if they are on overtime. If they are on overtime, absenteeism is more of a contractual issue than a workplace issue.

Frankly, I believe that staffing affects attitudes and attitudes affect quality; both of which affect productivity. Increased productivity means making better use of time. Perhaps I should structure the tasks in a better way, but managing and working behind the lines makes it difficult for me to see the trees through the forest. There's no time for anyone to stand back and see what's happening.

Drew paused and, as if speaking more to himself than to the consultants, said, "Since I've been so busy, maybe I've lost track of some of my priorities." Turning to the consultants, Drew inquired about their experience with situations of this type and what advice they might offer.

The partners explained they are usually contacted by organizations when management believes an external opinion could provide a fresh outlook on operations. They went on to

state they normally begin their work by performing an operations audit, the results of which are presented to management. Additionally, when the situation warrants, strategic interventions are designed to facilitate the achievement of management objectives. The partners further indicated they believe it is essential to become familiar with an organization before appropriate suggestions can be made.

Without hesitation, Drew said to the consultants, "The situation here at Peppercorn has been concerning me for quite some time. I know that you must be very busy, but perhaps you could find the time to work with me. Erica already knows a lot about the operation, and it wouldn't take long for her to become reacquainted."

Because the consultants were planning to be in the area for several days to attend the seminar and to complete some paperwork, Erica suggested they observe operations at Peppercorn. The group, discussing Erica's suggestion, agreed that the first stage should be a preliminary evaluation of the unit, followed by a feedback session with management. Then, based on the outcome, management could conduct an in-depth operations audit. Drew concurred that evaluation and feedback could be useful first steps in achieving his goals. He restated that his goals for Peppercorn were to increase productivity and to improve morale among the workers.

The consultants concluded their discussion by telling Drew they would drop off a written contract by the following afternoon. The contract would include their fee structure as well as a schedule of the dates and times they would like to be on the premises.

REVIEWING BACKGROUND INFORMATION

Two days later, the team gathered around the table in Roger's office to discuss the Peppercorn consultation. Roger and Lynn initiated the discussion by reintroducing the subject of

Erica's objectivity. It became obvious that all three of the partners were concerned about how Erica's past experiences would bias her view of the operation. The partners also discussed the fact that Erica's views would influence Roger and Lynn's perceptions of the dining unit. Although Erica believed she could recognize and work with her bias, she suggested she focus on gathering current managerial data. Because their time was limited, Lynn recommended that Erica also conduct a few on-site interviews with people who would be more candid with an old friend than with strangers.

As he was reaching for a notepad, Roger asked Erica about the general operating procedures and the key personnel at Peppercorn. Erica began outlining the operation:

Peppercorn's hours are 11 A.M. to 7:30 P.M., Monday through Friday. When I first started, we served about 1,500 to 1,600 lunches and 900 to 1,000 dinners daily. By the time I graduated, the counts were down by about 30 percent at lunch and approximately 50 percent at dinner.

When I was a student worker at Peppercorn, there were full-time employees, all of whom were union members. There were also student workers, and we had our own student management staff. When I first started working, there were more student workers than when I graduated. Some of the gaps were filled by full-time temporary workers.

Lynn pointed out that it would be important to determine if these changes were affecting the operation. Erica agreed and indicated that by the time she had graduated, minor conflicts were arising between student and temporary workers at Peppercorn. Erica continued her briefing by providing an overview of the key personnel during her tenure with All-American Dining, the parent organization of Peppercorn.

Erica stated:

Drew is obviously the manager of Peppercorn. He was also the manager of the Salt Mill over at the "B"-School. He was responsible

to Stan O'Malley, one of the assistant directors of All-American Dining. Stan supervised Drew and Beth Clarkson, the manager of food service in the student union.

John Cerrano was the receiving clerk. He always worked closely with Drew. There never seemed to be any problems with his work; he always knew where everything was because he received the goods and then put them in storage. John, or "Bo-bo" as we called him, was the shop steward. He had a close relationship with most of the employees and a bunch of us used to go out drinking with him regularly.

Matt Copperfield was definitely a key player. Matt was the professional supervisor who handled inventory, purchasing, scheduling, and other administrative tasks. It always seemed as if he was at the heart of the operation. I can't remember her name, but there was a secretary who was also in a pivotal position. She had access to a lot of information and she was the source and respondent of all official Peppercorn communication.

The student supervisors were the only other key players that I can think of at this point, and they had extensive responsibilities which included daily management, scheduling, and hiring of the student workers.

The partners' conversation shifted to the amount of time available for the investigation. Lynn asked her partners how much time they thought was necessary for conducting the initial investigation. "Well, Lynn," replied Roger, "based on the information we have so far, it's possible that the longtime employees may not be as open as we might like. They may be protective of their turf." Lynn agreed but added that they shouldn't jump to any conclusions. She noted that often it was the old-time employees who were most interested in talking about their work.

The consultants agreed that three days should be an ample amount of time to gather the necessary data and to develop a presentation for the management of Peppercorn Dining. The consultants concluded the meeting by agreeing that Lynn would concentrate on the production

areas of the unit while Roger would survey front-of-house operations.

DAY ONE: INTERVIEWS AND OBSERVATIONS

Lynn was the first to arrive at Peppercorn the following morning. As she approached the facility, she noticed that three female employees were smoking cigarettes on the loading dock, joking around with a purveyor. Lynn introduced herself and lingered with the workers for a few minutes.

Back of House

Entering the kitchen from the loading dock, Lynn noticed it was clean and most of the equipment looked relatively new. The kitchen had fairly good fluorescent lighting, and natural lighting was provided by windows in the pot washing and food preparation areas.

As Lynn placed her coat and briefcase on a rack in the storage area, she observed that the dry goods were neatly arranged, although the supplies were not plentiful. From the storeroom doorway, she could see that the workers were busy, but not rushed. The members of the kitchen staff chatted as they worked and they appeared to know what tasks to perform without needing direction.

The kitchen was divided into five areas (as shown in Exhibit 1). After introducing herself to the workers and taking a brief tour of the kitchen, Lynn positioned herself near the walk-in cooler where she could easily see most of the kitchen operations. She noticed that the walk-in cooler and freezer were clean and were stocked with a moderate amount of supplies. She also observed that the workers' uniforms were clean. However, some of the workers were wearing aprons and some were not. As if reading her thoughts, a student worker passing through the room commented to no one in particular, "We're out of aprons again. Oh well, it's no big deal." Lynn wondered what else might not be a "big deal" to the workers.

The doors to the dining facility were opened at 10:55 A.M. at which time the pantry workers took a break.

Bob, the day chef, was grilling sandwiches in the tilt brazier while Robert, the day cook, was breading pork. Robert moved between food preparation, the fryer, and the steamer. During lunch service, the kitchen staff appeared to be relaxed. Although there was not much talking, they did joke with each other from time to time.

Shortly after 11:00 A.M., a man wearing a chef's uniform entered the kitchen and greeted the other workers. He then took a clipboard and a stack of computer printouts to a table near where Lynn was standing. Lynn felt a bit awkward until he introduced himself as Doug, the dinner chef.

Lynn explained she was observing the facility in order to become familiar with the operation. Doug showed interest in Lynn's curiosity and stated:

I want the kitchen to run as smoothly as possible. I believe that it takes organization, morale, communication, and a system to have an efficient operation. Communication is important. I ask the servers how things are working out so that I know if I should change anything. I try to maintain a routine system so there won't be many questions during service. I train all of my workers and I enjoy having the opportunity to teach. I've been in food service for 25 years and at Peppercorn for 10 years. I started working in the food service industry when I was about 11.

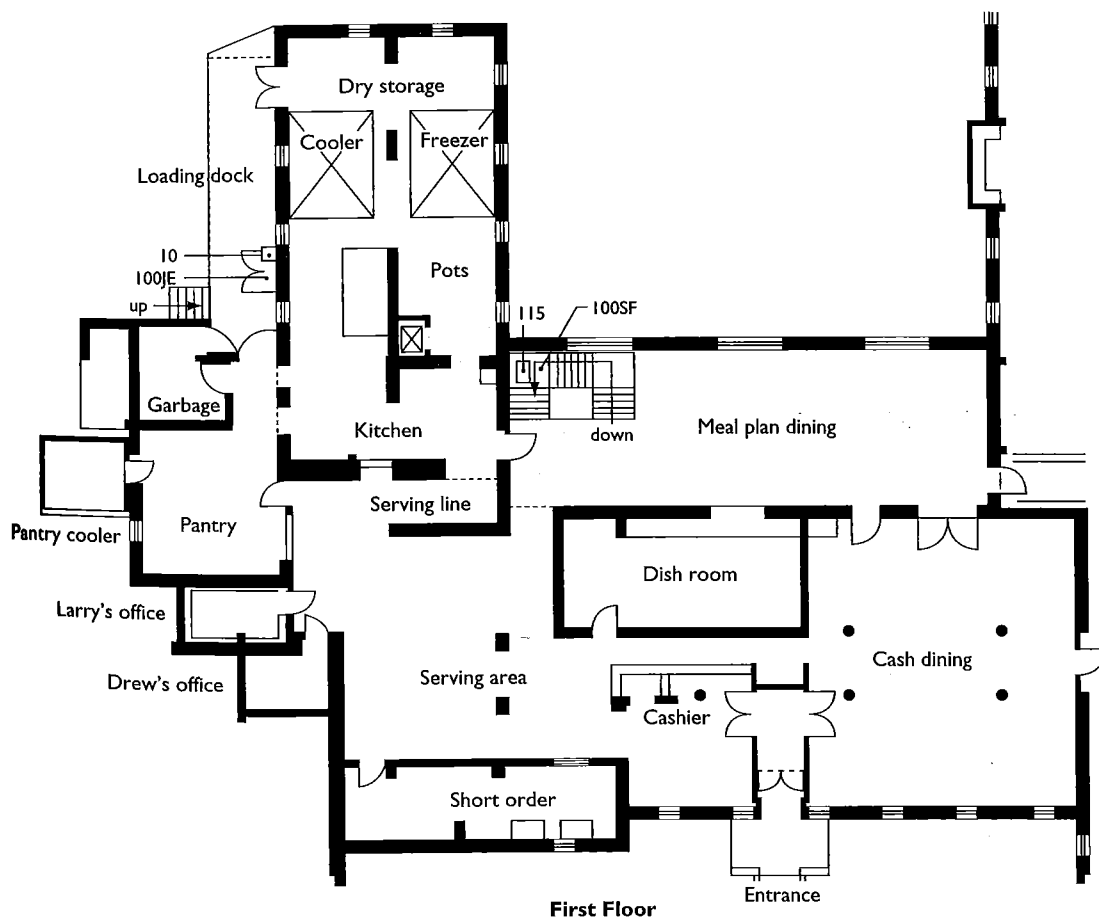
I think that Peppercorn has the best food on campus. Some of my own recipes have been accepted by management and are now a part of the menu computer bank. I've also developed ideas that have been adopted here and at other campus dining facilities. For example, I started the trend of keeping plastic tasting spoons by the steam kettles. I'm also the person who started using a yellow marker to highlight important items on the computer printouts.

As Lynn and Doug were talking, a man came over and listened to their conversation. Doug's speech became hesitant in this man's presence. After only a few minutes, the man left. Lynn wondered who the man was and why he had such an effect on Doug. From the way he was dressed, there was no way to determine if he worked at Peppercorn, was from the union, or was part of the All-American management staff.

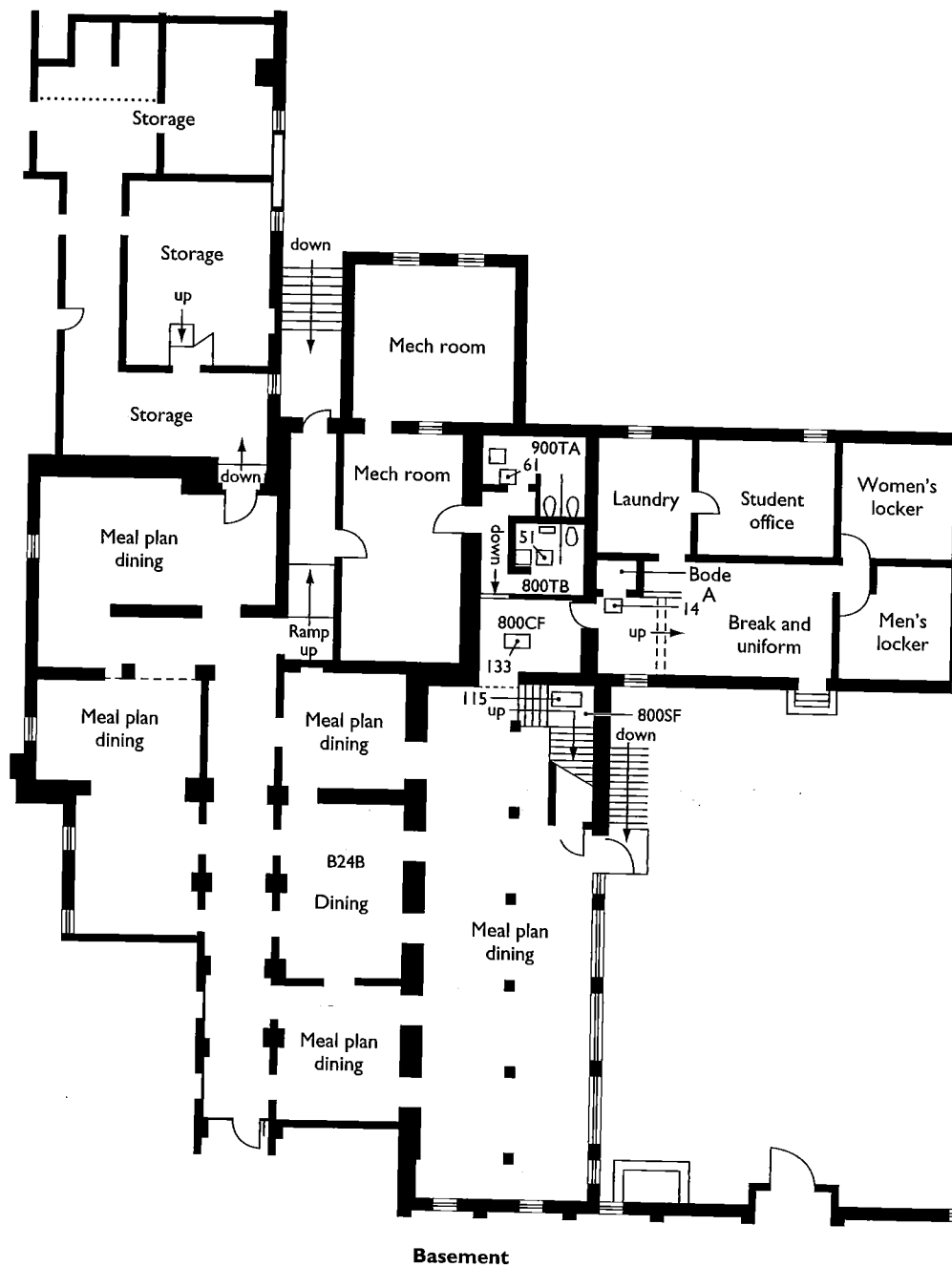
Coincidentally, Doug explained to Lynn that the man was Larry, the professional supervisor. He went on to say Larry plans the menus and tries to balance the use of ovens and kettles so the equipment is not overloaded. According to Doug, Larry prints out the menus from a computer located in the office. Doug added that the computer system does not always work the way it should. The system is supposed to print menus, compile order lists, and check

[Exhibit 1]

Floor Plan of Peppercorn Dining



[Exhibit 1]
Floor Plan of Peppercorn Dining, (continued)



the inventory. Doug commented, "Sometimes it works well, and sometimes not. Sometimes the menus have to be changed at the last minute because of short stock. We haven't had any salt all semester. This is mostly a result of computer errors."

Doug went on to talk about some of his co-workers. Bob, the lunch chef, has been at Peppercorn for 28 years. Chris, the assistant dinner chef, has been with the unit for about three years. Chris, who moved to the kitchen from the short-order station, was trained by Doug. They enjoy sharing ideas and they always try to prepare the food a day in advance.

While Lynn was talking with Doug, she could see the cafeteria line by way of a pass-through window. She noticed that a steady flow of diners was entering the facility. Realizing that Doug enjoyed talking about the unit and being curious about Doug's responses, Lynn felt comfortable continuing the conversation. Observing a student supervisor restocking the hot food line, Lynn asked Doug how he felt about working with students.

He replied, "Some student workers are reliable, while others are less committed." Lynn asked Doug about the role of the student supervisor and in response Doug called the student over. The student seemed unhurried and went on to explain that student supervisors do not have any power over the regular workers; only over temps and other students. Students have their own management structure that includes a student coordinator, managers, and pay clerk. The student personnel coordinator handles complaints. Temps and regular workers take complaints to the regular personnel worker. More temps have been needed recently since there are less student workers at Peppercorn than in previous years.

As Lynn, Doug, and the student were talking, Larry entered the kitchen again. When the student noticed him, he quickly went back to work restocking the food line.

The activity in the kitchen seemed to be getting busier, and Lynn decided she should move to another position so Doug could continue his work. Before she left, Doug commented about the union. He stated, "Skilled workers are on the same union contract as unskilled workers. I think that this arrangement holds back the skilled workers and helps the unskilled to get ahead. It doesn't work well, and we don't even have a shop steward. The only way that I can move up in the organization is to become part of management."

Lynn bid Doug farewell and went into the service area to get some lunch. As she went through the cafeteria line, she noticed Roger observing the cafeteria service. Lynn invited him to join her for lunch, but Roger declined, saying he had just begun his observation and he wanted to spend some time watching service during the busiest hours.

Service Areas

Roger immediately noticed the line servers interacted a great deal with the customers. He also noted there was no portion control. The students would ask the line servers for "a little more spaghetti, just meatballs, no corn, more sauce, or a small cup of soup." Each customer wanted the standard portions or combinations of food items altered to meet their personal needs, and they were accommodated.

The first line server plates the entrees and the second worker serves the side dishes (see Exhibit 2). The workers must communicate in order to properly fill each order. The overall atmosphere in the serving area was relaxed. Roger timed the service and discovered it took two to four minutes for a customer to enter the line and be served during a busy period.

As the flow of customers slowed, Roger initiated a conversation with a line worker who introduced herself as Carrie. She told Roger she had been at Peppercorn for 10 years and was a door checker for 9½ of those years. She explained the door checker made sure that

[Exhibit 2]

Line Servers Setup

Starch	Vegetable	Backup	Entree	Entree
Soup	Vegetable	Entree	Entree	Entree

Server 2 Server 1

only diners on the university meal plan were allowed in the noncash dining area. She went on to say she had become bored with her position. She was also dissatisfied with her former hours, which were from 11 A.M. to 7:30 P.M. Carrie attained her new position with Drew's help. He facilitated a trade between her and a line server. Now that the swap is final, Carrie believes the other woman, who is now the door checker, may not think the trade was equitable.

During his conversation with Carrie, Roger saw the chef come out of the kitchen and pick up an empty pan. The chef lingered for a minute. He appeared to be watching the line service. Roger returned his attention to Carrie and continued the conversation by asking her about line staffing. Carrie explained, "Usually there are three main workers on the line, two full-timers at one station and one student or temp at the other. We choose our own positions on the line and we usually stick to the same spots. When it gets busy, additional student workers fill in. Today one full-timer is sick, so a temp from another area filled the position. Sometimes they can't find substitutes, so we just have to work that much harder."

Roger stepped aside as a student worker carrying a tray of soup cups began to restock the service line. Roger apologized for any inconvenience and explained he was a member of a group learning about the operations at

Peppercorn. Roger asked the student if he could take a moment to tell him about the relationship between student and nonstudent workers.

The student explained that Peppercorn is supposed to be staffed primarily by students. The students are grouped into three segments: student managers, student supervisors, and student workers. However, he said, "Since the supply of students has been diminishing over the years, more temps have had to fill the positions. There's a lot of tension between students and temps as well as between students and full-timers. This isn't surprising since the students supervise the operation. They call us 'students' as opposed to 'supervisors' and we seem to be stereotyped."

He clarified his statement, saying, "There's a discrepancy with age, economic status, and experience in many cases. Only the full-timers and the professional managers are not under the supervision of students. Students have a difficult time supervising older people, and older people have a difficult time taking orders from young people who they probably consider similar to their own children."

The student went back to work, leaving Roger to his thoughts. He was reminded of the conversation that he had with his partners about the conflicts between student and nonstudent workers. It was becoming clear to Roger that this was an important issue.

Just as Roger was beginning to consider the problems that can arise from role conflict and role ambiguity, he was startled by the sound of shattering glass. Roger turned in time to notice a student stepping away from a broken glass, acting as if nothing had happened. Several dishwashers, on their way to the drink station, also saw the broken glass as they walked by. Roger was curious to see how long it would take for someone to clean up the mess. Two minutes later, a dishwasher returned and swept up the glass. During this time, a student supervisor was informed of the problem. Roger noted she never returned to make sure the situation was corrected.

Roger followed the dishwasher toward the dish room. As he rounded the corner of the serving area, Roger heard the sound of blaring rock music. Roger had to weave his way through a narrow passage that was blocked with customers at the cashier's station.

As he entered the dish room through an open doorway, Roger was greeted by a mixture of machinery noise, loud music, and a hot, humid atmosphere. The machinery was arranged in a pattern that allowed many people to perform different tasks simultaneously. The five workers gave Roger a cursory glance and continued with their tasks.

Roger, feeling a bit out of place and self-conscious, stood to one side of the work area and watched the activity. There was a lot of joking, talking, and interacting as the workers sorted and cleaned dishes, silverware, glasses, and trays. Full dish trays were stacked at the rinse station. Each rack was rinsed and then sent through the dishwashing machine. When the dishes completed their cycle, a worker sorted the dishes. Roger noted the worker put several freshly washed dishes into racks with dirty dishes. He also noticed the silverware was run through the dishwasher twice.

Roger wanted to know why the silverware had to go through the wash cycle two times, so he asked the dish sorter who was positioned

at the end of the line. The sorter said, "We're concerned that plates and especially the silver are clean. We wouldn't want people catching something from someone else."

The sorter asked Roger what he was doing in the dish room. Roger explained and then asked the worker how long he had been at Peppercorn. The worker said he had been at Peppercorn for a year. Further discussion revealed the worker is on a split shift. He works from noon to 4 P.M. and then from 6 P.M. until 10 P.M. He said he likes having a midday break in order to get things done in his personal life. He explained that he knew three of the other workers before he started the job. Because he was the newest employee in the dish room, he was stationed at the hottest position. He pointed out that the two full timers he worked with had held their positions for four and two years, respectively. The other three workers, including him, were temps.

The worker finished sorting and left the dish room to get his co-workers a cold drink. Roger went over to the area where workers were scraping and sorting dirty plates. The dishes and filled racks were piling up. Roger noted the dish machine was not able to keep up with the demand. He also saw that the paper items were shredded with the food scraps and that Styrofoam was sorted separately.

The oldest woman in the dish room yelled out from time to time, "Come on, keep it movin'." Roger spent a few more minutes observing. As he recalled Erica's story about her first day at Peppercorn, Roger wondered why there were no students working in the dish room. As he was leaving, a student supervisor came in to get trays for the service area.

Roger proceeded to the cashier station where he found the dish sorter chatting with the cashier. After a minute, the sorter returned to the dish room. Roger struck up a conversation with the cashier. After briefing her about his project, the cashier proceeded to tell Roger

about some of her observations and experiences at Peppercorn.

She explained that the cashier's job is a full-time, nonunion position she has held for two years. She replaced the person who is currently the secretary. She enjoys having the opportunity to meet people and getting to know the regulars, but she has found that some of the students are rude.

The cashier stated, "I usually get along well with management. Everyone has their good and bad days. I was a manager in my previous job, so I understand what Drew has to deal with. I also understand the problems that the student supervisors have." Roger wondered what the cashier meant by this statement. What does Drew have to deal with and what problems do the student supervisors really have to deal with? Thus far, he had noted that the operation appeared effective, although some communication problems were evident.

The cashier, seeing Drew passing by, stopped him and asked him for more change and small bills. Roger asked if it was standard procedure for her to ask managers for more money, or if she was able to get it herself. She replied she is authorized to get cash, but it is difficult for her to leave her station.

While the cashier was waiting for Drew to return, Roger asked her about work conditions. The cashier replied:

I get cold in the winter because I'm so close to the entrance and the wind blows in. It's ironic because the rest of the workers complain about it being too hot at their stations. Peppercorn is built over heating ducts, so it's very hot everywhere except at my station. People's biggest complaint is the heat. There isn't adequate ventilation or air flow. Another common complaint is that there's not enough room in the dining, kitchen, and service areas. This is because Peppercorn used to be a riding stable.

In the winter I get sick easily, but I only miss about five days per year. I've learned to live

with not feeling well on the job. I have a sore back every night because I set on a bar stool all day.

Before Roger could inquire if she had ever talked to management about her work conditions, she stated, "I'm the only cashier. I have to call on the secretary when it's really busy, but I know she has a lot of work to do. I also restock silverware. This entails shutting down the register, running to the dish room, and then restocking before the register line gets too long. Our job descriptions say that if someone sees something that needs doing, they are supposed to do it. Therefore, during slow periods I help clean tables, do the menu board, and look around for other things to do."

Roger asked the cashier about her plans for the future, and she explained she would like to have a secretarial job so she could get away from food service for a while. The cashier went on to say there are temps and students that make more money than she does as a full-timer and this disparity makes her resentful. The wages seem to be based on job position or union membership. Only four positions are nonunion. These positions include the cashier, secretary, supervisor, and manager. The rest of the workers at Peppercorn are temporary, union members, or students. The cashier added there are only five single people on the staff.

When Roger asked the cashier about the relationship between student and full-time workers, she replied there is a lot of pressure in the dish room. She believes the pressure builds up because the student supervisors never send student workers in to help. The supervisors' excuse is that they are short of help elsewhere. Drew returned with the cash, and Roger went to see if he could find his partners.

Administrative Information

Roger found Lynn and Erica sitting in the dining area. Erica was telling Lynn she had arranged for them to have dinner with some students that evening. Roger sat down with his partners

and asked Erica if she could clarify some details about the organizational structure.

Erica responded, "There are three tiers of management at Peppercorn (Exhibit 3). There is the professional management staff, which consists of Drew and Larry. They oversee the full-time workers. There are also student managers and student supervisors. The student managers oversee student supervisors as well as the student workers. The student supervisors are responsible for daily operations. The student workers and the temporary employees report to them. It seems, however, that the temporary workers also report to, and are trained by, the professional managers."

Roger and Lynn interjected that they had noticed difficulties between the students and the other workers at Peppercorn. Lynn asked

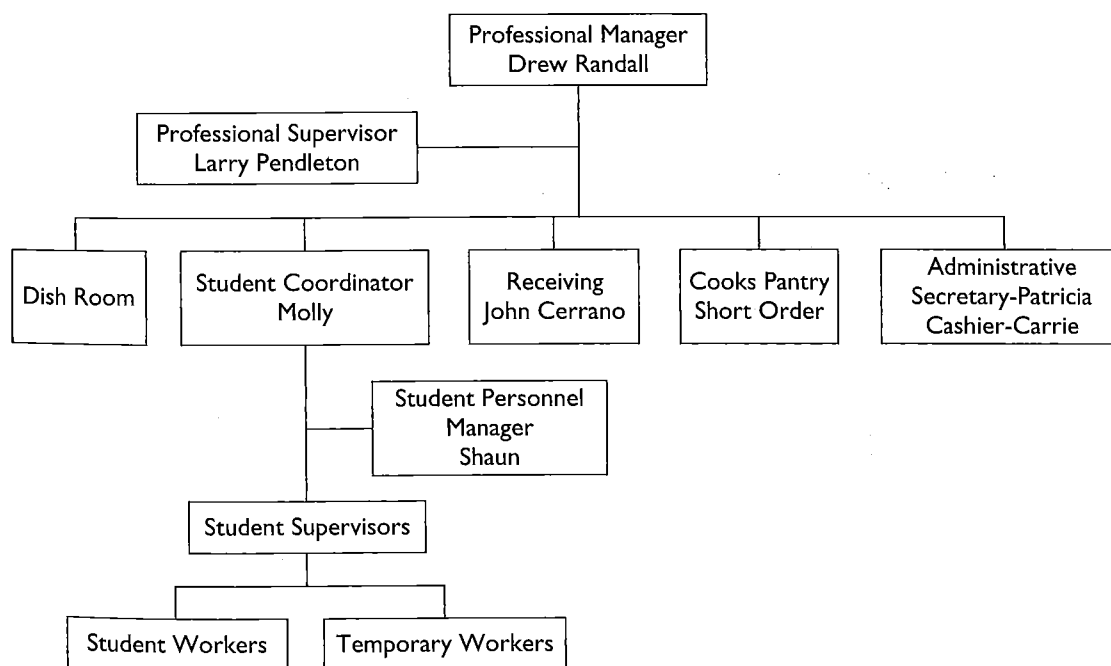
Erica if she would clarify the distinction between the different levels of employees. Erica clarified the organizational structure stating:

There are full-time union employees, full-time nonunion temporary employees, and student labor. Full-time employees hold the positions of cooks, short order chefs, pantry workers, and cashiers. In past years, students filled all the other supplementary positions, including dishwashers, servers, cooks, helpers, short order helpers, pantry helpers, beverage servers, and serving area floaters. For the past four to five years, fewer students have wanted jobs at Peppercorn. This phenomena has resulted in the addition of the third type of employee, the full-time temporary worker.

Erica went on to tell her partners that she had gathered enough information to update them on the key players at All-American Dining.

[Exhibit 3]

Peppercorn Dining Organizational Chart



She explained that Larry Pendleton is the new professional supervisor, replacing Matt Copperfield at Peppercorn. In the central office, Nancy Lawrence is still the director of All-American Dining (Exhibit 4). She has been spending a great deal of time traveling to different universities in order to analyze their food service operations. Stan O'Malley is still an assistant director of All-American Dining. Although there is a central office, each unit is independently operated.

Roger asked Erica if she had the opportunity to speak with any employees and if she had been able to uncover any information about management-employee relations. Erica told her partners she had spoken with John Cerrano and some of the pantry workers.

Erica went on to say she and John spoke about changes that had occurred at Peppercorn since she had left. John told Erica the lack of student help has hurt operations at the unit. For example, a special dining event that Peppercorn sponsored last night was difficult for the workers. There were virtually no students on the staff. As a result, the full-time workers and temps had to pick up the slack.

John also commented that Larry doesn't listen to his advice about ordering food. John spends a lot of his time getting food items that should have come in from the suppliers from the other units on campus. According to John, Larry doesn't have the respect of the staff. He doesn't take anyone's advice and acts like a know-it-all. The situation is made worse because Larry doesn't do his job very well.

Erica went on to discuss the pantry workers stating:

The workers seemed to indicate a general belief that the management of All-American Dining, as well as the management at Peppercorn, doesn't really care about them. They mentioned how All-American's previous personnel director used to visit the different dining units at least once a month and talk with the full-time employees. During that time, the workers felt that someone

cared about them. They said that the new personnel director doesn't come around at all and probably doesn't even know who the full-time employees are.

The workers also told me that there is minimal union representation for food service employees. According to the workers, food service members are a minority faction of the union and aren't considered important unless a strike is in progress. Apparently, the union's primary concern is with maintenance workers, groundskeepers, janitors, and bus drivers. There's no shop steward and union officials don't come to Peppercorn unless there is an official grievance.

Lynn added that Doug had also commented on the union. She stated, "Based on what we have heard so far, no one is thrilled with the union. Workers and management alike seem to find the union a burden."

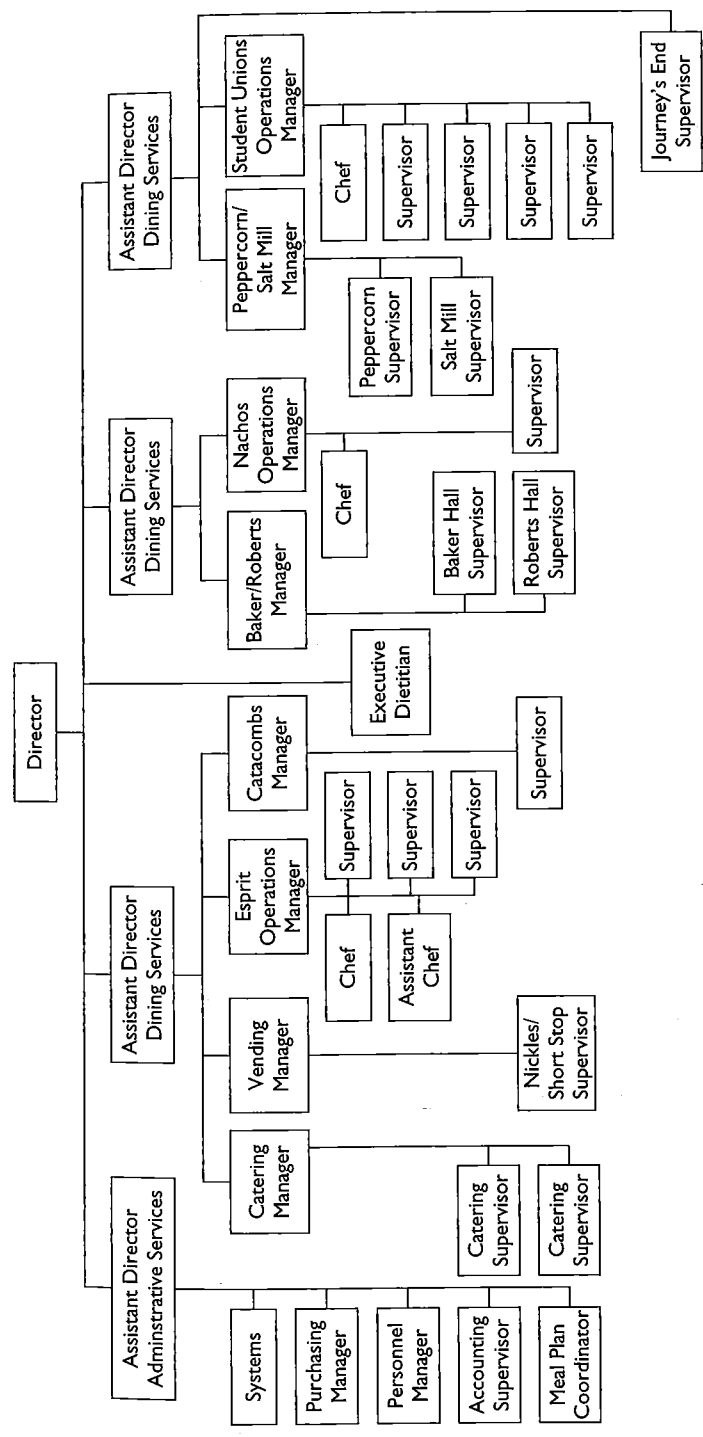
Roger asked Erica about how each unit on the campus was staffed. Erica explained that the units were independently staffed and at the beginning of each semester, the different units held recruitment campaigns.

Erica became quite excited as she stated, "OK, enough of the routine stuff. One thing that I found out today is that the university is building a new 400-seat dining facility. Also, a privately funded food service operation that will include a variety of dining concepts is opening nearby. Of course, these things will impact Peppercorn, but the scoop is that Drew will be the manager of the new facility!"

Erica, acting quite pleased, sat back, smiled, and waited for her partners to respond. Lynn paused only for a moment and then, turning to Erica, said, "This isn't making much sense, but, before I ask the obvious, why don't you tell us the rest of the facts?"

Erica, a little disappointed at the response her comment evoked, went on to explain that Drew would be leaving Peppercorn in about five months and that Eric Weston, the current vending manager, would take charge of the unit as soon as Drew left.

Department of Dining Services



As Lynn and Erica began to engage in an intense discussion about the future of Peppercorn dining, Roger, in true form, looked at his watch and stated, "Well, not only do we have a contract, we also have a dinner engagement in 20 minutes. Let's get some fresh air before we meet with the students!" The partners began laughing and, recognizing the sanity of Roger's comment, decided a break was in order.

Dinner with Student Managers

After freshening up, the trio returned to Peppercorn to meet the students for dinner. Molly, the student coordinator, and Shaun, the student personnel manager, were waiting for the consultants at Peppercorn's main entrance. The five of them went through the cafeteria line and then entered the dining room, where they found a quiet table to have their dinner.

Shaun seemed to know why the consultants had asked them to dinner and began to tell them about his tenure at Peppercorn. Shaun explained that when he had started at Peppercorn four years ago, there were two to three times the number of student workers. He went on to say more students made the work fun and the operation ran more efficiently. Shaun explained it is hard for the students who have been at Peppercorn for a long time because they know how it used to be.

Molly agreed with Shaun, saying students would work at Peppercorn because it had a reputation for being social. "To attract student workers," Molly said, "Peppercorn must become special, more conducive to meeting students' needs. In the early days, students were proud to be Peppies and looked forward to seeing their co-workers." She proceeded to say they have to treat students well because they can't risk alienating anyone. They can't afford to fire students or give them too many warnings.

Erica asked the students to comment on working with the temporary workers. Shaun said, "The temp-student relationship is not great.

Temps are under the student supervisors' authority, but it doesn't really work that way. Temps are less efficient than students, but they are needed to fill the vacant positions. They are probably not as efficient because they have less loyalty to Peppercorn than the students."

Molly interjected, "This year, no students and temps work in the same areas except for emergencies. Temps are trained by the professional management but are supervised by students. Last year, it was unclear who was in charge of the temps. This year it is better. Most things are written in manuals.

"The regular and temporary workers don't talk much to the students," continued Molly. "Temps and full-timers think students are stupid; they have an attitude toward students. It's hard for the students to get cooperation and respect from the temps."

Lynn asked the students about their relationships with Drew. Shaun and Molly explained that while most students don't interact with Drew frequently, they, as supervisors, meet with him regularly. Most of the students think Drew is rude and cold and unapproachable, but they have found he can be very patient. Additionally, many students don't believe Drew is knowledgeable about food service operations. Molly and Shaun have discovered that he is, in fact, an astute person. They attributed his reputation to a lack of accessibility, noting that Drew is generally more accessible to the full-time and temporary workers than to the students.

Lynn further inquired about the students' reactions to the forthcoming management changes. Molly replied, "Since most of the students don't work closely with Drew, we really can't foresee the change having much of an effect on them. Most students don't have any preconceived ideas about the new management."

Shaun disagreed with Molly stating, "It's going to be hard for a new manager to come in mid-year. The transition will cause problems since the new manager won't have the experience. I think that the new manager should change things

quickly. New student workers are recruited by us in the spring and meet their supervisors when they begin working in the fall. They immediately have some respect for their supervisor. I think that the new manager will be in a bind."

Molly said she believed the change would have a greater effect on the full-time and temporary workers than on the students. She has heard some workers mention they are concerned because Peppercorn's future is unclear. Many of the full-time workers are loyal to Drew; they have become comfortable with his management style.

Roger, addressing Molly, asked about communication at Peppercorn. Molly responded:

Communication has been a major problem. The students thought that if they left me notes, things would get done. I would take the notes to management, but important things were not noted as being important. Mostly, the problems were repair and maintenance issues. People brooded that things didn't get done quickly. They didn't realize that most things have to go through a lot of channels, which takes time. There is so much paperwork involved. Now the students make special notations when issues are urgent so that I can establish priorities.

An area that is related to communication is ordering. There are a lot of problems with Larry. Last year, we had a problem with the person who filled a similar job but the job description has changed. Last year, the kitchen workers were getting burnt out. Larry revised the menus and for a while the kitchen seemed better. Larry just doesn't do his job well and we constantly run out of things.

Roger asked about the student pay structure at Peppercorn. Molly told him the pay rate has been changed twice. The effect is that workers are kept on the same pay grade because the raises push people back to level one. The only workers who benefit from the changes are the student managers.

Shaun noted that one of the most frustrating situations at Peppercorn was the lack of student interest, something that could not be controlled. Even when the wages were raised, no

one applied for jobs. Shaun added that the student supervisors are upset about paying for their meal plan tickets because many of them worked their way through school.

It was getting late and the students had to attend classes the next morning. The consultants thanked the students for being so candid with them. After the students left, the consultants discussed their impressions of Peppercorn.

Roger commented that their earlier concerns about the willingness of employees to speak with them were unfounded. Lynn agreed, noting that although most of the workers seemed to be quite open, Doug was an exception. He was eager to talk, but the discussion seemed contrived. He seemed to be conveying information that he thought she should know and was careful to portray himself and the operation in a favorable light. Lynn said she thought he was concerned about possible repercussions from his responses.

Lynn went on to recount the interactions she had observed earlier in the day between Larry, Doug, and the student supervisor. She then commented, "Larry is an interesting player. All of the workers mention him. He seems to have a lot of power over the other workers, yet he seems to govern by fear. The workers become timid in his presence; nonetheless, they don't appear to have much respect for him."

Picking up on Lynn's train of thought, Roger noted that in his conversations and observations throughout the day, he had begun to wonder about the social system at the unit. He commented, "Although the organization was highly stratified, operations still seem to run smoothly. While workers may be timid around Larry and even fear Drew, the fact that operations are smooth and that the workers appear to be loyal indicates that personality conflicts and role ambiguity are symptoms of a larger problem."

"That's true," said Erica. "The unit always had a reputation for being a social environment. In the past, we were able to overlook personality and role conflicts because there was a strong culture at the unit."

Noticing that the cleaning crew was beginning to break down the dining room, the partners decided to call it a night.

DAY TWO: INTERVIEWS AND OBSERVATIONS

Erica arrived at the dining hall at 10:30 A.M. As she climbed the stairs beside the loading dock, she noticed a worker was in the car wash, hosing down the trash cans. As she entered the kitchen, Erica spotted Drew helping out in the pantry. They greeted each other cordially and chatted for a few minutes. Drew, taking off his lab coat, said he was due at a meeting on the other side of the campus.

Erica left the kitchen and went into the office to gather more information on the structure and operations of Peppercorn. When she entered through the open office door, she found Larry working at the computer, placing orders with the central purchasing system. Larry explained to Erica that the computer system had not been working properly. It is supposed to generate order lists and inventories based on the menus that he inputs. He indicated, however, there must be some problem with the system because the orders are not coming in, and when they do, they frequently are late. After providing Erica with some literature such as employee handbooks, Larry suggested she talk to Patricia, the secretary at the main office.

Erica followed Larry's suggestion and on her way out of the unit she met Roger. She explained she was planning to visit the main office and said she would meet her partners in the late afternoon to discuss her findings.

Roger wandered around the unit for over an hour, observing the lunch service. During the first hour, the cafeteria was packed with customers. Roger noticed the student supervisors were busy refilling the salad and beverage stations. Shaun helped by restocking glasses and trays. The cafeteria line became long and at one point, Drew, having returned from his meeting, helped serve food. Roger noted that

by the end of the lunch period, the cafeteria was short on silverware.

As the lunch service slowed, Roger decided to take a look at the student office. As he entered the downstairs dining room, he immediately noticed it was very hot, that a large percentage of the tables were dirty, and that many of the light bulbs in the dining room needed replacement. Roger located the student office and what appeared to be a small gathering or meeting area.

From the open office doorway, Roger could see a bank of time cards on the wall. Roger also noted the office contained a suggestion box. As he peered in the door, he was greeted by the sound of a woman's voice. Roger entered and introduced himself. In response, the woman identified herself as Sarah Lange. Roger asked Sarah if she would be willing to discuss her work experiences at Peppercorn.

Sarah began by saying she had worked at Peppercorn for three years and had been a student supervisor two years. Sarah stated, "Working at Peppercorn is not as much fun as it used to be. Although the job was never easy, it has become increasingly difficult. As supervisors, we don't really manage any more, and the upper-level student managers like Shaun don't work and don't care. He won't even help out when we are short staffed."

Sarah described an incident when Naomi, another student supervisor, was working a snack shift that was understaffed. Shaun, aware of the problem, stayed downstairs at his desk. When Naomi went downstairs to ask him for help, he acted ambivalent. Shaun finally helped in the dining room for about 20 minutes.

"In contrast to Shaun," Sarah commented, "Molly is willing to pitch in when we are short staffed, but this has caused her to become burnt out. Molly has a hard time dealing with problems that arise among the student supervisors. A few days ago, she called a meeting and told us there was a new policy restricting the snacks that we were allowed to eat. She also told us that we were scheduled to work on

special dining programs, which are always at dinnertime. The whole time that Molly spoke with us, she was really curt and acted like she was annoyed. We don't even have a student rep to complain to anymore. At least Molly is leaving at the end of the school year."

Sarah said that although she is not very happy working at Peppercorn, she does not want to quit. She has loyalty to both her fellow workers and to the unit. Sarah said she would definitely quit if some of her friends, who are also supervisors at Peppercorn, stopped working at the unit.

Roger thanked Sarah for talking with him and wished her luck in the future. As he walked up the stairs to the service area, Roger made a mental note to talk to his partners about information flow and to further discuss coalitions within the unit.

While Roger had been observing service, Lynn, who arrived at 12:30, had entered the unit from the loading dock. Hoping the workers would be less self-conscious if she was undetected, Lynn quietly observed operations for almost an hour. During that time, Lynn noticed the steam kettles were draining, and much like the previous day, the kitchen workers appeared unhurried but attentive to their tasks. The manner in which they worked seemed highly professional and reflective of the long years the employees had worked together.

When Doug finally noticed Lynn, he greeted her warmly and began to chat with her. As Doug and Lynn were talking, a man who Doug said was a short-order cook walked through the kitchen. He stopped and stared at Lynn for a moment and then asked, "Are you with the health department or the union?" Lynn introduced herself and explained the nature of her project. The man stared at her again briefly and then walked away.

Doug excused himself and Lynn, left to her thoughts, wondered if the man had accurately stated the paranoia she had perceived in Doug the previous day. Doug returned a few minutes later with a cup of soup and offered it to Lynn,

saying he thought she should have the opportunity to taste Peppercorn's good food. As Lynn was finishing the soup, she saw two students walk through the kitchen carrying tacos. They proceeded to the loading dock and began to eat their meal. Lynn, wanting some fresh air, went out to the dock and began to converse with the students.

The students told Lynn they had worked at Peppercorn for three years. One of the students said, "Peppercorn used to be a better place to work. We used to have more students working here. The unit always used to be cheerful, and they used to buy beer and have parties on Friday nights."

Lynn asked what had caused the situation to change and the second student replied, "Drew is much tighter about things. The management is only concerned about customers and not about workers. When I first started working here, we had to mop the floor, but there were a lot of students so it was more fun. Then they didn't make us mop any more. Now we have to mop again, but there is not as much camaraderie among the workers."

The worker continued, "What makes the situation worse is that we can't even mop properly because we are always short of supplies. We haven't had any bleach for a week."

Doug came out to the loading dock and said he was going on break. He wanted the students to come inside so he could give them instructions before he left. Doug told the students that because there was not much work to be done, they could work at a slow pace or even sweep the floor so they could work their full shift.

Lynn followed Doug and the students back into the kitchen. Bob and Robert were finishing the lunch cleanup, and Chris was looking at the dinner menu while eating a snack. When Chris saw Lynn standing alone, he approached her and immediately began to tell her about his work experiences and views of Peppercorn.

Chris told Lynn he likes working at Peppercorn. In the same breath, he said he had recently

seen ads for positions at a hotel and plans on applying for jobs. Chris said, "I think the food service industry is hard. We're always working when other people are off, and it's hard to get good financial compensation."

Chris went on to explain that the management at Peppercorn does not give the kitchen staff feedback. He believes this is because management does not eat at Peppercorn often. He also said the management is very cost oriented and won't bring in the best quality products.

Chris went on to state:

Dining used to pay for us to attend professional culinary classes. Now they don't want to spend the money, so they present lectures by campus chefs. It doesn't accomplish much since we are usually taught things that we already know how to make or things that are not within the budget constraints. It doesn't make sense that they are willing to shell out bucks for things like unit specials and management classes and not spend any money on us.

It's hard to get new recipes on the menu. I've tried, but I'm usually met with resistance. I guess that in large quantities they can't afford mistakes. Once, they let us try to test market a new recipe by putting out small chaffing dishes in the meal plan dining room and then asking students for comments on the product. It worked out fairly well and we've used the recipe several times.

As Lynn was wondering about Drew's comment on being a participatory manager, Erica entered the kitchen and came over to tell her she was able to gather some information from the main office. Lynn thanked Chris for speaking with her, and she and Erica went into the service area to find Roger. Roger was chatting with some customers near the salad bar. When he saw his partners approaching, he concluded his conversation.

The consultants each purchased a beverage and on their way to the dining room, Roger told his partners that customers generally had a favorable impression of Peppercorn. They like the food but thought the service was too slow. The only other comment the customers made was that the dining areas were too warm. Erica added that when she had worked at Peppercorn there were rarely any complaints about the food, but they constantly received negative feedback about the heat.

After the consultants were seated, Roger asked Erica what she was able to discover about the structure of the All-American Dining organization. Erica showed her partners copies of the organizational chart, mission statement (Exhibit 5), and goals and objectives (Exhibit 6). Erica went on to describe a few of the things she had discovered that day. For example, menu and staffing changes had to be approved

[Exhibit 5]

Mission

The mission of All-American Dining is to meet the nutritional, social, aesthetic, and economic needs of the university community with varied and innovative dining services. By meeting these needs we:

- Exert a strong and positive influence on community life.
- Provide educational opportunities for students, staff, and faculty.
- Create a living environment that will help maintain All-American's position as an outstanding center of learning.

The challenge is to accomplish all this within the framework of the enterprise concept.

[Exhibit 6]

Goals and Objectives

The goals of All-American Dining are closely interwoven with those of the Division of Campus Living and the University. These goals and related objectives are outlined below.

- I. Customer Satisfaction.** The primary goal is to provide the All-American community with a nutritious, economical, and quality dining program. The objectives are to:
 - Provide high-quality cuisine at an affordable price.
 - Conduct surveys to determine customer satisfaction and provide guidelines for change.
 - Maintain a variety of quality dining services, including: cafeterias, professional catering, vending, and retail food outlets.
 - Offer special dining experiences such as gourmet cuisines, unit specials, and community dining events.
 - Create flexible and cost-effective meal plans and options that give customers a wide choice of dining times and locations.
 - Maintain the highest standards of health and safety.
- II. Excellent Facilities.** The department's goal is to maintain dining facilities in superior condition.

The objective is to continually assess and maintain the functional and aesthetic design of facilities in the comprehensive context of the following:

 - An ever-changing and varied customer market.
 - The need to assure that production and service areas are clean, safe, efficient, and comfortable.
 - Budgetary constraints.
 - Department and university master facilities planning processes.
 - Energy conservation goals.
- III. Professional Management.** Recruit and maintain a professional management staff that can meet the challenges of a dynamic food service enterprise. The objectives are to:
 - Encourage a participatory, decentralized management style.
 - Recruit exceptional talent and support internal promotions.
 - Provide a stimulating work environment through interunit transfers, challenging staff assignments, and intradepartmental competition of programs and services.
 - Maintain a compensation program that attracts and motivates an innovative, skilled staff.
 - Maintain open and positive lines of communication among management, staff, and customers.
 - Provide and encourage education and training opportunities that promote professional and personal growth.

continued

[Exhibit 6]**Goals and Objectives, (continued)**

- Conduct regular performance evaluations that are based on predetermined goals and objectives.
- Maintain policy and procedural manuals that will ensure consistent and efficient administration.

IV. Sound Financial Management. Develop and maintain effective financial accounting and reporting systems that facilitate effective planning, decision making, and accountability. The objectives are to:

- Be financially self-sufficient.
- Encourage financial responsibility by providing timely, accurate statements, emphasizing the management budget process and requiring managers to be financially accountable.
- Maintain an effective system of internal controls.
- Control labor costs through efficient use of employee time and control the costs of goods with purchasing, menuing, forecasting, and precosting policies and procedures.
- Protect the department against fluctuation in meat costs through hedging in the commodities market.
- Evaluate and budget effectively for future facilities and equipment replacement needs.
- Conduct thorough cost-benefit analyses of potential programs and products.
- Cut costs with a comprehensive energy conservation program.
- Use resources in a reasonable manner.
- Evaluate short-term possibilities with long-range perspective.

V. Contribution to the University Mission. Dining's program must contribute to the educational, economic, and community service goals of the University. The objectives are to:

- Support the educational goals of the University through staff teaching and lecturing.
- Provide educational opportunities for the students.
- Use the diverse dining facilities as laboratories for student research and job training.
- Contribute professional time in support of the community.
- Encourage staff participation in University committees and projects.

VI. Industry Leadership. Maintain Dining's position as a leader through continual educational and professional contributions to the food service industry. The objectives are to:

- Develop active and creative food service leaders.
- Participate in professional organizations and committees.
- Communicate our ideas and problem-solving techniques to others in the industry.

by the central office. She also found out that managers are frequently transferred between units.

Erica then asked her partners what their thoughts were on the structure of All-American Dining and what effect it had at the unit level. Roger suggested that from the information that Erica had gathered, the organization seemed highly centralized. However, workers at the unit level are interested in making their own decisions. He added that the structure of the organization could be contributing to the problems that Drew perceived with productivity and morale.

Lynn, looking over the mission and goal statements that Erica had collected, commented, "All-American professes to be decentralized. Also, Drew believes he is a participatory manager. It seems as if this organization doesn't play by its own rules. I haven't seen any indication of participation, let alone adequate communication between management and line employees."

The consultants continued to talk for a while about the tension they had noticed at the unit. Since Drew was leaving, they wondered if their presence at the unit would have any affect and if the feedback session would really serve its purpose. The consultants decided they would spend several hours the following morning reviewing the information

they had gathered. In order to facilitate their meeting, they quickly constructed a partial list of the individuals they had encountered during their observations. This list included characteristics the consultants believed might be important to their analysis (Exhibit 7).

As the consultants sat at the table, several of the employees came over to speak with them. The workers seemed relaxed and joked with the consultants. Doug commented he was working on putting his résumé together, and Chris told the partners about some new recipes he was developing. The pantry workers and dish room workers made small talk until the consultants said they had to depart. Roger, Lynn, and Erica thanked the workers for being so cooperative and said they hoped to see them sometime soon.

Questions

1. How effective was the OD consultants' data gathering? The content of the data? The process of how the data were collected?
2. What concepts or models might help you analyze the data? What conclusions would you draw from the analysis?
3. How should the feedback session be designed?

SOURCE: JoAnn Carmin, *Cornell University*; Todd Comen, *Cornell University*; Yariels Kerr, *Cornell University*.

[Exhibit 7]**All American Divning and Peppercorn Dining Personnel Chart (partial)**

Name	Job Title	Education	Seniority	Age	Full-time	Part-time Student	Management
Peppercorn							
Drew	Manager	A.S.- Restaurant	8 yrs.	37			X
Bob	Day chef		28 yrs.	48	X		
Robert	Day cook	Navy cook	11 yrs.	44	X		
Doug	Night chef	Navy cook	10 yrs.	36	X		
Chris	Night cook		3 yrs.	31	X		
Carrie	Server		10 yrs.	28	X		
Larry	Supervisor	A.S.-Mgmt.	1 mo.	32			X
John	Receiving		11 yrs.	35	X		
Bonnie	Cashier		2 yrs.	28	X		
Molly	Coordinator	Senior-A&S	4 yrs.	21		X	
Shaun	H.R. manager	Senior-E.E.	4 yrs.	21		X	
Sarah	Supervisor	Senior-Gov't.	4 yrs.	21		X	
All-American Dining							
Nancy	Director	A.S.- Restaurant	12 yrs.	41			X
Stan	Asst. director	B.S.-Hotel	9 yrs.	32			X
Larry	Supervisor	A.S.-Mgmt.	6 yrs.	32			X
Eric	Vending manager	B.A.- English	8 yrs.	34			X

Sunflower Incorporated

Sunflower Incorporated is a large distribution company with over 5,000 employees and gross sales of over \$700 million (1991). The company purchases and distributes salty snack foods and liquor to independent retail stores throughout the United States and Canada. Salty snack foods include corn chips, potato chips, cheese curls, tortilla chips, and peanuts. The United States and Canada are divided into 22 regions, each with its own central warehouse, salespeople, finance department, and purchasing department. The company distributes national as well as local brands and packages some items under private labels. The head office encourages each region to be autonomous because of local tastes and practices. The northeast United States, for example, consumes a greater percentage of Canadian whisky and American bourbon, while the West consumes more light liquors, such as vodka, gin, and rum. Snack foods in the Southwest are often seasoned to reflect Mexican tastes.

Early in 1989, Sunflower began using a financial reporting system that compared sales, costs, and profits across regions. Management was surprised to learn that profits varied widely. By 1990, the differences were so great that management decided some standardization was necessary. They believed that highly profitable regions were sometimes using lower-quality items, even seconds, to boost profit margins. This practice could hurt Sunflower's image. Other regions were facing intense price competition in order to hold market share. National distributors were pushing hard to increase their market share. Frito-lay, Borden's, Nabisco, Procter & Gamble (Pringles), and Standard Brands (Planter's peanuts) were pushing hard to increase market share by cutting prices and launching new products.

As these problems accumulated, Mr. Steelman, president of Sunflower, decided to create a

new position to monitor pricing and purchasing practices. Agnes Albanese was hired from the finance department of a competing organization. Her new title was director of pricing and purchasing, and she reported to the vice president of finance, Mr. Mobley. Steelman and Mobley gave Albanese great latitude in organizing her job and encouraged her to establish whatever rules and procedures were necessary. She was also encouraged to gather information from each region. Each region was notified of her appointment by an official memo sent to the regional managers. A copy of the memo was posted on each warehouse bulletin board. The announcement was also made in the company newspaper.

After three weeks on the job, Albanese decided that pricing and purchasing decisions should be standardized across regions. As a first step, she wanted the financial executive in each region to notify her of any change in local prices of more than 3%. She also decided that all new contracts for local purchases of more than \$5,000 should be cleared through her office. (Approximately 60% of items distributed in the regions was purchased in large quantities and supplied from the home office. The other 40% was purchased and distributed within the region.) Albanese believed that the only way to standardize operations was for each region to notify the home office in advance of any change in prices or purchases. Albanese discussed the proposed policy with Mobley. He agreed, so they submitted a formal proposal to the president and board of directors, who approved the plan. Sunflower was moving into the peak holiday season, so Albanese wanted to implement the new procedures right away. She decided to send an email to the financial and purchasing executives in each region notifying them of the new procedures. The change would be inserted in

all policy and procedure manuals throughout Sunflower within four months.

Albanese showed a draft of the email to Mobley and invited his comments. Mobley said the Internet was an excellent idea but wondered if it was sufficient. The regions handle hundreds of items and were used to decentralized decision making. Mobley suggested that Albanese ought to visit the regions and discuss purchasing and pricing policies with the executives. Albanese refused, saying that the trips would be expensive and time-consuming. She had so many things to do at headquarters that a trip was impossible. Mobley also suggested waiting to implement the procedures until after the annual company meeting in three months. Albanese said this would take too long because the procedures would not take effect until after the peak sales season. She believed the procedures were needed now. The email went out the next day.

During the next few days, replies came in from most of the regions. The executives were in agreement with the email and said they would be happy to cooperate.

Eight weeks later, Albanese had not received notices from any regions about local price or purchase changes. Other executives who had visited regional warehouses indicated to her that the regions were busy as usual. Regional executives seemed to be following usual procedures for that time of year.

Questions

1. How well did Albanese manage the pricing and purchasing changes at Sunflower? Were the changes implemented successfully? How would you find this out?
2. What might Albanese have done differently? What should she do now?

SOURCE: Adapted from R. Daft, *Organization Theory and Design* (St. Paul: West, 1983), pp. 334–36.

Initiating Change in the Manufacturing and Distribution Division of PolyProd

Information management has become a critical competency in modern high-technology firms. These companies simply cannot afford to waste time reinventing or re-justifying existing methodologies, and costly errors—even injuries—can result from not having and following appropriate operating procedures. Yet, the burgeoning quantity of data, information, and knowledge that must be retrieved and used has begun to tax some companies' abilities to keep up. In addition, many of the people within these organizations are not trained properly or willing to deal with formal information systems.

You are Roberta Jackson, a concerned, experienced first-level project manager working at the headquarters site of the manufacturing and distribution division (M&DDiv) of PolyProd, a corporation that develops, markets, and manufactures a variety of high technology products for industry and home use. You are convinced, based on your experience and some informal information that you have collected, that failing to improve the current information management practices will cost PolyProd millions of dollars in direct expenses and could contribute to long-term market share declines in PolyProd products. As a result, you believe that it is necessary to change M&DDiv's documentation processes and procedures. These processes govern the creation and use of the specifications and formal procedures required by the manufacturing organization.

You anticipate that the undertaking will involve change and project management techniques traditional in large engineering firms, and that it should proceed along well-trodden paths: you will plan the project, "sell" it to management and obtain the authority to begin, and then allocate resources and monitor progress

until you can declare victory. The following sections describe the M&DDiv's organization, the documentation system, and other factors contributing to the current situation.

THE M&DDIV ORGANIZATION AND CULTURE

M&DDiv manufactures and distributes a small but lucrative subset of PolyProd's products and has five locations around the world. The headquarters organization is located in the United States. It centrally manages the other four sites in Canada, Asia, Africa, and Europe, but also allows them a lot of autonomy in decision-making. Each location houses both manufacturing and distribution processes.

The variety and complexity of M&DDiv's products have increased markedly, as have the speed, intricacy, and expense of the unique high-volume automated manufacturing processes that produce the products. As a result, M&DDiv has been growing rapidly during its entire 11-year history, experiencing exponential increases in locations, sales, capital equipment, product lines, and personnel. Support systems, such as the information and knowledge management system, have struggled to keep up with the growth. Moreover, the required hiring of many inexperienced or temporary personnel has stretched the ability of M&DDiv to maintain the culture of PolyProd. These trends are expected to continue unabated for the foreseeable future.

The company's business strategy charters the headquarters site with designing products and their manufacturing methodologies, and then with transferring the maturing manufacturing processes offshore to take advantage of the lower tax rates and cheaper labor at the four production locations. The key success factors

for the headquarters site are rapid design innovation and time-to-volume-manufacturability. The priorities of the production sites are shippable-product volume, quality, and cost-effectiveness.

Over the last several years, the friction developing between headquarters and the other locations has been increasing. The sites are generally dissatisfied with what they regard as a patronizing and demanding attitude, and resent policies and assignments unilaterally sent out by headquarters. Headquarters, in turn, resents the fierce and sometimes unnecessary individualism of the other locations. Throughout M&DDiv, there is a subtle but strong resistance to large-scale or externally initiated change. This is especially true when the change involves converging all sites to a single process or technology. Much of this is due to the pressures of maintaining high production levels; unproven change is simply too risky. Historically, any attempt to institute a change by dictate has been doomed to failure. For example, announced changes typically take three to five years to institutionalize, and even after that time, there is considerable residual resistance or malicious compliance. It is not uncommon for otherwise successful projects to wither and die due to lack of implementation support.

Headquarters has its own internal issues. First, it has a long-standing tradition of conservatism and hardened reluctance to change. Second, it is still reeling from the rapid growth that has transformed it from a small, independent factory into the hub of a global business. Finally, it is suffering from a discontinuity in its own cultural history: Rapid hiring and promotion, insufficient mentoring, heavy outsourcing and downsizing of certain competencies, and extensive use of a temporary workforce in non-engineering areas has put extreme pressures on the once homogenous and intensely loyal culture.

In a static and stable environment, the relationship between headquarters and the other

locations might be considered an acceptable cost of doing business. In M&DDiv, however, the stakes are far too high to allow it to continue. The anticipated continued growth will magnify all problems exponentially, and the seriousness of the problems could very well inhibit or halt that growth. Because M&DDiv's revenue represents a significant portion of PolyProd's bottom line, much of PolyProd's total growth is contingent on M&DDiv's continued expansion. If M&DDiv falters, PolyProd could well follow.

THE DOCUMENTATION PROBLEM

In PolyProd, quality is everything. The company simply cannot allow bad products to reach the customer, but neither can it afford to scrap good products that may have failed too-stringent tests. The precision high-volume manufacturing processes used by all M&DDiv sites utilize rigorous quality control procedures to ensure the highest yield of good products and the lowest scrap. This is achieved by statistical analyses of interim results and by standardizing tasks and tooling as much as possible. This, in turn, hinges on a huge quantity of documentation, including material and process specifications, operating instructions, maintenance information, replication data (bills of materials, assembly and checkout instructions, etc.), and the like. In summary, good products require either good documentation or expensive workarounds and corrections.

- *The documentation system.* The documentation "system" consists of a number of components: an electronic "vault" where a variety of documents are kept, the computer systems and networks that allow access to the vault, the documents (electronic files) themselves, the protocols for routing and approving revisions, and perhaps most critical and most dangerous, all of the people who interact with these components. To be effective, a documentation system has to be carefully developed, actively maintained,

and closely protected from inappropriate alteration. Since products and their production equipment migrate between sites, the documentation must also be portable and useable without extensive revision.

When a new product design is initiated, a suite of drawings and other specifications is created immediately and remains with the project for its whole life. The design engineer's early sketches and notes are entered into an electronic "vault" where they are protected against loss and inadvertent change. As experiments are done and prototypes are created, test results and design refinements are added to the vault. As the design moves into the pre-manufacturing stage, parts lists, materials specifications, assembly instructions, test procedures, and quality criteria are added to the file. When the automated equipment to produce the product in volume is designed, its information joins the product's information in the vault.

The vault provides functions other than safekeeping. Accessed through workstations throughout the site, the vault allows engineers to "sign out" documents for revision, printing, or on-line viewing. Every time a change is made, the vault's software tracks the differences between the old and new versions, records who made the changes, and routes the revised documentation by e-mail through an approval team. Once approved, the revised document replaces the original version, which is then automatically archived to provide an audit trail. Throughout its life, a document may be entirely electronic and viewed only on-line, printed and bound, printed when needed and then discarded, or some combination of these media.

Virtually every department in the factory uses these documents. R&D designs the product, manufacturing engineering uses the product specifications to design production equipment, materials engineering uses the same specifications to

select the plastics and metals used to make the product, materials procurement uses the materials engineering documents to order the supplies for the production line, capital purchasing uses the manufacturing engineering documents to get contracts for the production lines, technical writing groups use all of these documents to create user manuals and other printed materials to ship with the final product, and traffic combs through the data to estimate the number and types of shipping containers and vehicles that will be needed. When the product is actually manufactured, the production departments continuously refer to the documentation for instructions on how to operate, test, and repair their equipment; how to order and load raw materials into the machinery; how to test the products; and how to judge the product's quality.

When headquarters prepares to send a product and its production equipment to one of the other locations, the documentation is supposed to be sent first. The documentation is used at the new location to train employees, to guide the preparation of the new facility, and to ensure that all of the supply chain components are in place to provide raw materials and outbound shipping. Much of the documentation is translated into the local language for use by semi-skilled production workers once the production line is running at the new location.

Every department at every location is both a consumer and a producer of documentation, and all are completely interdependent. A single error in a specification can cascade into a multimillion dollar disaster in the form of incorrect raw materials, a product that passes tests but doesn't work for the customer, a production line that won't fit inside the factory building, or a huge fine from US Customs for mistakenly exporting restricted technology.

- *The current situation.* Various departments within M&DDiv have invested heavily in the human resources, tools, and time needed to create and maintain the documentation process. Despite this investment, M&DDiv's documentation is still regarded as unsatisfactory by the majority of employees and management. For example, there is widespread dissatisfaction with the documentation system in the design departments at headquarters. Because of past bad experiences with outdated or incorrect documentation, users distrust all documentation's accuracy, and find the vault hard to access. The quality department is distressed by the delays in the correction and update cycle. Technical writers are unhappy with the general usability of the required word processors, graphics programs, and the vault; they also feel artistically constrained when asked to use standard templates or designs for their documents. They get little cooperation from the subject matter experts and reviewers they rely on for information, and feel that creating a finished document can take four to five times as much time and effort as it should take.

The headquarters document control supervisors and technical-writing supervisors also are frustrated. Their personal workloads have ballooned to unmanageable levels as they added staff to keep up with the increasing documentation requirements of M&DDiv's growing number of products. At the same time, they are permitted to hire only temporary resources; qualified candidates became increasingly hard to find, and they take everything they have learned away with them when their finite-length contracts end.

The production sites share all these concerns and have unique issues of their own. They are frustrated by their inability to get correct and complete documentation when a manufacturing process

transfers from headquarters, even though the documentation is supposed to arrive long before the manufacturing process. They often must convert unusual file formats or struggle to rewrite United States-idiomatic information to meet the needs of their local users. They also often feel that they need to invent their own document designs because global designs are still pending or are too specific to another location's needs.

CONTRIBUTING FACTORS

As your early interest in overcoming these problems increased, you conducted an informal analysis based on interviews and observations at all five locations. You have concluded that there are a number of interrelated causes producing M&DDiv's documentation problems.

The primary issue is the lack of an overriding vision or strategy to guide the creation of a full and robust documentation system. To be fair, several years ago, M&DDiv's senior management chartered a documentation quality effort. However, this was only partially implemented, and the project lost momentum after some early successes. This sent a signal—to both the headquarters site and the production locations—that documentation was not really so important after all, much to the relief of those who considered documentation-related tasks a distraction from their "real work." As the rigor of document-creation and -maintenance rules began to wane, the quality of the documents and the processes they supported began to deteriorate again. This continuing gradual slide at each of the locations is exacerbated by the lack of coordination between them. Decisions are made independently, based on local or perceived larger-scope needs, or occasionally on policies that were developed during the short-lived documentation-quality project. Few people consider a time horizon farther out than one year, and even fewer look forward with a global perspective.

There are severe integration problems between the different locations. The production entities are concerned with document control and simplicity. Headquarters has difficulty in simply collecting the information in the first place, and with keeping it up-to-date and complete as the subject matter rapidly evolves during the design and tuning phases. Headquarters often uses the documentation as repositories of historical or justification information; this serves only to confuse and annoy the production sites, which require only the minimum information necessary to manufacture products.

There also are internal integration problems within each individual location. Responsibility for different aspects of the documentation falls within several organizations: creation and storage technology in one, the formal processes for acquisition and control in another, best practice consulting in a third, and technical writers scattered throughout several other departments with their "customers" (e.g., some writers sit within R&D, some work with manufacturing engineering, and still others are in the quality department). There are no rewards for communicating or collaborating, and the groups frequently develop similar or conflicting solutions to what turn out to be common problems.

Day-to-day operation is also less than optimal. The majority of involved personnel have little or no training or experience in the field of documentation. This has led to quality problems, arbitrary decision-making, inappropriate prioritizing of tasks and objectives, and several "blind alley" projects (i.e., projects that start successfully but then run into insurmountable barriers and are abandoned). Many writers and document controllers are former production line operators who show little interest or aptitude during times of high need. Few of the external temporary personnel have formal technical writing experience; most are recently graduated English majors or

journalists. The technical writing supervisors all moved laterally from production, and received no special training or mentoring; this results in inefficiency and quality problems within their departments.

Generally, each of the problems and frustrations outlined above is restricted to the immediately affected departments. The various symptoms are highly distributed, are frequently noticeable only at the lowest levels of the organization, and are often concealed beneath their effects. For example, raw material rejection in the receiving department might increase without anyone questioning whether the inspection checklist itself was incorrect, or growing headcount in the support department might not be linked with a particular manufacturing location's use of an obsolete adjustment procedure. These problems would usually be examined by the immediate department supervisor without regard to a larger context, and would seldom be escalated to a point of visibility to upper management or someone with a less parochial viewpoint.

Until you began talking with people at all sites, most people were aware only of their own difficulties with the documentation, and were surprised by your interest. You found that the overall sense of "shared pain" in the organization was very low, and that upper management was completely unaware of the magnitude, frequency, and very real cost of the issues.

Aside from a few informal networks and councils, there are no worldwide activities working to resolve these problems from a system perspective. Most of the separate organizations do recognize the local aspects of the problems, and some have projects in place to improve their own processes in isolation. However, there is no movement toward a larger-scale solution.

It is clear that M&DDiv is in a state of uneasy stasis and that external stimulus—you—will be needed to begin a resolution.

YOUR PLAN TO INITIATE CHANGE

You have decided to conduct an informal discussion with Stewart Jones, the M&DDiv executive you deem to be the most likely potential sponsor for the project, to get a preliminary opinion on whether your project would be worth proposing formally. You have planned your approach carefully.

Because of the engineering-intense environment in M&DDiv, you know that you must follow a defined, rational project management methodology—overt “touchy-feely” techniques would be rejected out of hand. However, you also understand that changing the documentation process will be equal parts cultural change and process improvement.

You also understand the dynamics of M&DDiv management: They seem powerless to force change upon the different geographical locations, and they also are unable and unwilling to spend much time attempting to reach a

consensus on the need for standardizing anything. “Going to the top” won’t help. Because you are dealing with many branches of a very large organization you must face a “Catch-22” situation: when you appeal up the organization chart to a level that has the power to command all relevant organizations, that individual is so removed from the problem that he or she is unwilling to consider it unless it has huge demonstrable impact.

Questions

1. What is your assessment of your (Roberta’s) efforts to date?
2. How will you convince Stewart Jones to allow you to proceed with the project? What arguments might you use?
3. Describe how you will develop a change process and the critical issues you will face in managing the change.

SOURCE: ©2000 by Clarity and Brian B. Egan.

Evaluating the Change Agent Program at Siemens Nixdorf (A)

selected cases

Siemens Nixdorf Informationssysteme (SNI) was the largest European-owned computer manufacturer and information technology vendor in 1994. The company was created by a 1990 merger between Nixdorf Computer, an entrepreneurial minicomputer firm, and the mainframe computer division of Siemens AG, the German electronics giant. The company offered a broad range of computer products, from personal computers and mainframes to software and support services. In 1994, the company posted \$8 billion in revenues and employed 39,000 people worldwide. Despite its size and a strong market presence in Europe, SNI had not posted a profitable quarter since the merger. The company lost over \$350 million in fiscal 1994. Over 65% of its products were sold in Germany, and the company had a weak base in the growing Asian and North American markets. While the organization had a strong technological focus, SNI was slow to respond to market changes requiring more customer responsiveness and market shifts away from large mainframe systems. In addition, SNI's efforts to trim high labor costs were hampered by strong union pressure and strict German layoff regulations. Industry analysts observed that the company was constrained by a rigid corporate culture established during the merger. The organizational structure was considered too bureaucratic in its approach to decision making for the rapidly evolving market.

In mid-1994, in the search for profitability, a decision was made by the Chairman of Siemens AG (the 100% shareholder of SNI) to bring in a new CEO for Siemens Nixdorf. Gerhard Schulmeyer, President and CEO of the American division of Asea Brown Boveri (ABB), a Swedish-Swiss engineering company, was chosen. Schulmeyer wanted SNI to become more customer driven and responsive

to the market, and he was convinced that the major adjustments necessary to recreate SNI could only occur alongside a radical change in the corporate culture. He wanted to create an SNI culture that enhanced entrepreneurial thinking and team building. He aimed to replace top-down procedures with innovative leadership that rewarded decision making and risk taking.

To accomplish these goals, Schulmeyer initiated a companywide culture change program that had three major objectives:

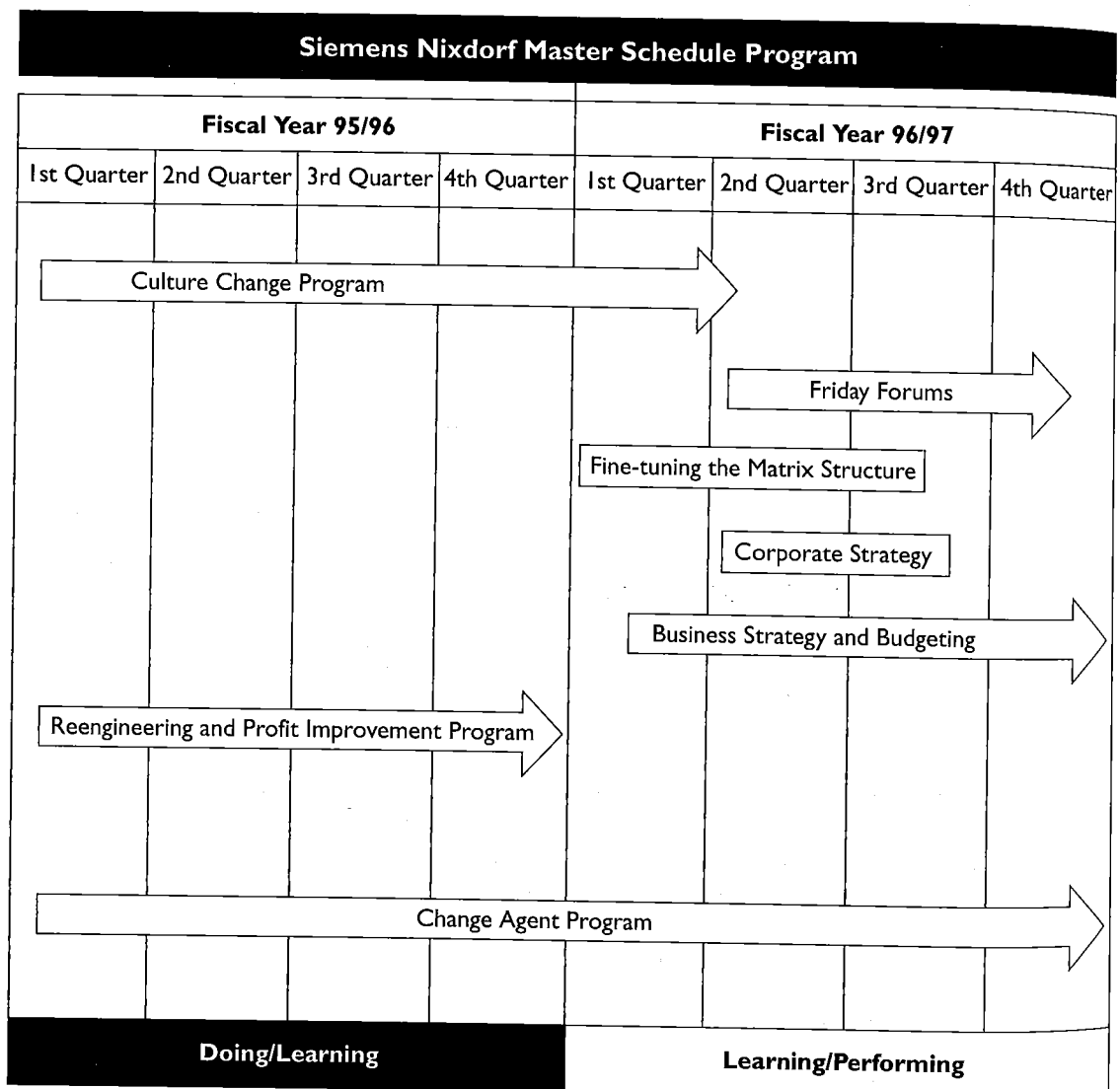
1. To change the behavior of managers and employees with a view to achieving dramatic improvement in performance and results
2. To change work systems to foster a culture of operational excellence
3. To change processes to emphasize the customer and to ensure the primacy of customer service

He believed that SNI's radical change requirements could only be met holistically, addressing structure, systems, behavior, and strategic philosophy together, underpinned by a continuous learning process for both individuals and the organization itself. A road map (Figure 1) was created and published, and execution was set in motion in October 1994. Of particular importance in creating a foundation for change at SNI were the behavioral and learning components of the road map. On the behavioral side, a set of mutually reinforcing initiatives was introduced to encourage new ways of acting and to support the development of new capabilities. These initiatives included the Culture Change and Friday Forum Programs (described below), a fine-tuning of the organization's matrix structure, a reengineering and profit improvement program, the introduction of a new management

information system (MIS), and corporate and business strategy initiatives. On the learning side, the organization committed to a Change Agent Program (described below). Two additional educational programs, the Entrepreneurial Development Program and the Management Development Program, supported the learning objectives of the change agent program.

THE CULTURE CHANGE PROGRAM

The process started with the scheduling of four major change events in Hanover, Germany. The first, Hanover I, held in December 1994, was a gathering of selected SNI employees with the theme of "Giving Employees a Voice in Defining the New Culture." Over 300 employees, called Opinion Leaders, met with



managers, known as Business Leaders, to agree on changes that were worth striving for at the company. Nineteen topics were identified (e.g., "Establishing an Environment of Creativity"), followed by brainstorming to translate ideas for change into actions. The discussions led to the establishment of 60 action teams with agendas that required tangible results within 90 days. A Results Fair was held in Munich in May 1995, where 12,000 employees were shown what had been accomplished so far on the action items and what would happen in the future.

Hanover II, in June 1995, followed the theme of "Giving Customers a Voice in Defining the New Culture." A new set of 300 SNI Opinion Leaders and 75 SNI managers teamed up with 54 customer representatives to develop change ideas and recommendations. An additional 18 action initiatives were generated, such as "How to Hear the Voice of the Internal Customer." As with Hanover I, a Results Fair in January 1996 presented the status of the work on the actions identified and assigned during Hanover II.

Hanover III, in December 1995, had the theme of "Giving Partners a Voice in Defining the New Culture." During this meeting, SNI worked on strengthening its partner relationships. In attendance were 350 employees and 40 SNI partners, who looked for new ways to reinforce and expand the areas in which they worked together.

Hanover IV took place in October 1996, with a presentation by Schulmeyer on the need to develop a new matrix organization. This final event involved decentralizing the organization's businesses and associated responsibilities and delegating them to some 250 "entrepreneurs" (Unit Managers) out in the field with full profit-and-loss responsibility.

The Hanover meetings were designed to help people learn new patterns of behavior. Instead of the typical hierarchical distinctions, first names were the rule, and everyone was free to intervene in the discussions. This atmosphere

deeply affected participants, who returned to their day-to-day activities motivated and fired up with a new sense of mission.

To disseminate change information from the Hanover conferences and to stimulate change ideas from throughout the company, a series of Friday Forums was introduced. Whereas the Hanover meetings were large and one-off public events, Friday Forums were small-group discussions that attempted to build a frank and open communication environment within the fabric of the organization. Any topic could be brought to the meetings, from day-to-day problems to "hot potatoes," and involved employees from all levels of the company. Information exchanged in the forums was broadcast more widely throughout the organization via electronic mail twice a month. In addition to sharing information, employees were encouraged to form small groups to act on issues raised in the meetings.

THE CHANGE AGENT PROGRAM

During Hanover I, Schulmeyer introduced the Change Agent Program (CAP) that sent 20 employees to the United States to participate in a 13-week training event administered by a well-known management consulting firm known for business reengineering. The goal of the CAP was to build an understanding of business fundamentals and business change along three dimensions: customer, competitiveness, and culture.

The high-potential participants were selected from the original 300 "opinion leaders" invited to the Hanover I conference. A key element of the CAP was that each participant, or change agent (CA), was sponsored by two members of management: (1) a "Business Leader," who was typically a senior manager in the division in which the CA worked, and who funded the CA's participation in the program and (2) an "Executive Sponsor," one of 14 Executive Board members, who was responsible for the entire division in which the CA worked.

The 13-week program was held at MIT and Stanford, with site visits arranged to high-technology companies in the Boston and Silicon Valley areas. In addition to classroom learning, each participant performed an analysis of a project drawn from a previously defined list of the most important challenges facing the company. The projects spanned a variety of topics from improving innovation at SNI to exploring international markets for the company. The CAs discussed and defined their projects in cooperation with their sponsors. The program expected the sponsors to provide leadership, guidance, and support to the CAs, and to help them implement their project and other goals upon return to SNI. Much of the CAP instruction, including case studies, company visits, and coaching was intended to help CAs find innovative ways to approach and implement their projects. The project findings were to be implemented on the employee's return to SNI. A further post-program task for the employee was to act as a catalyst and multiplier of change to ensure that the culture change initiative would be spread across the company.

Over the course of six years and 142 participants, several changes were made to the Change Agent Program. Although the broad "catalyst for change" goal remained constant, the operational dynamics shifted over the tenure of the program. For example, although the first program comprised 13 continuous weeks of study, subsequent programs broke down into two- to three-week modules to avoid long periods away from home. The projects continued to receive heavy emphasis as did the retention of a high level of stress among participants. In years two and three of the program, the management consulting firm administering the program also changed. Internally, questions were raised about whether the consulting firm or Siemens Nixdorf was in control of the program. Towards the end of the third program, the participants' level of discontent grew to a point where they decided to take over design of the final module. There was a sense that the project was too dominant with a resultant lack

of concern in the program design for individual development.

In 1998, substantial changes were made to the program. An internal design team was formed that included three CAs from the previous year's program. Supporting the culture change process within SNI continued as an important goal, but the development of leadership, business, and project management skills grew in significance. The projects shifted from being the driving force in the program to being an important but not dominant way for participants to apply their new skills. An original intent for a "10X" return—the cost of instruction was estimated to be about \$100,000 and the projects were expected to produce \$1 million in revenue increases or cost decreases—was dropped. It was replaced by a stretch goal agreed on by the participant and his or her Business Leader and Executive Sponsor. A study trip to Southeast Asia was added to the program, to complement the time spent in Boston and Silicon Valley, and a module at INSEAD was added in 1999. Thus, although geographic coverage was extended, considerable effort was expended to make it a more cost-effective program. Cost per participant dropped from \$100,000 to about \$50,000 when the program was brought in-house.

Internal management of the CAP by SNI proved short-lived. In October 1998, SNI was fully integrated into the parent company, Siemens AG, and ceased to exist. Siemens had become exasperated with the perceived underperformance of its computer subsidiary and absorbed all of its activities. With this transition, the culture change program came to an end, as did Gerhard Schulmeyer's champion's role. It was decided, however, to continue the CAP under the auspices of the newly formed division—Information and Communication (I&C)—at Siemens while retaining the same internal program team. A strong content program was delivered in 1999, with significant individual benefits resulting. Unfortunately, the *raison d'être* of

inculcating the whole corporation with culture change had been lost because most senior managers at Siemens showed little interest in learning from either the project results or the enhanced skills of participants. Interestingly, one or two business units did continue to encourage the CAs to act as change catalysts, with positive results in terms of both behavior and performance. The program was run again in 2000, when mid-level managers rather than high-potential participants were chosen. By this time, the focus had changed to become more of a leadership excellence program. Because of these shifts in the environmental and political situation, the official CAP was terminated at the end of 2000.

Questions

1. Critique the change process initiated and executed by Gerhard Schulmeyer. What

do you see as the strengths and weaknesses of his efforts?

2. Assume that the head of the Information and Communication division at Siemens contacts you after receiving a variety of emails and voice mails supporting and questioning the CAP program. A request is made for you to conduct an evaluation of the CAP program. Based on the above information, design and justify an evaluation process, including the contracting terms or "essential wants" that you think are critical in carrying out the assessment, the interview and/or survey questions you would ask, and the sampling design you would use.

SOURCE: Adapted and excerpted with permission from Philip Dover, "Change Agents at Work: Lessons from Siemens Nixdorf," *Journal of Change Management*, (2003) vol. 3, no. 3, 243-57. <http://www.tandf.co.uk/journals/titles/14697017.asp>.