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## ABSTRACT

This symposium on organizational change consists of three presentations. "Institutionalizing Organizational Change Through Cascade Training: Implications for Human Resource Development (HRD) Research" (Ronald L. Jacobs, Darlene Russ-Eft, Suhail Zidan) proposes the institutionalization of change should be addressed as a major part of the change process and suggests that cascade training be used to address institutionalization issues. "Shock to the System: Analyzing Organizational Change Using the Construct of Awareness Development" (Martin B. Kormanik, Annette K. Sturdevant) reports a study that shows that by using the cycle of awareness development to examine individual employees' awareness development around an organizational transition issue, it may be possible to take a distributed view of organizational-level change. "Connotative Meanings of a Change Agenda" (S. Ramnarayan) reports on a major change program that the corporate office of a large manufacturing organization launched in its five plants. The paper describes how, though a common approach had been worked out, a study conducted eight months later showed that the different plants had followed different problem solving approaches and reached different outcomes. It examines how units develop connotative meanings of a change agenda and how these meanings influence the effectiveness of change implementation. All three papers include substantial bibliographies. (YLB)

# 2001 AHRD Conference

## Organizational Change

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### Symposium 19

Tulsa, Oklahoma

February 28 - March 4, 2001

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# **Institutionalizing Organizational Change through Cascade Training: Implications for HRD Research**

*Ronald L. Jacobs  
The Ohio State University*

*Darlene Russ-Eft  
AchieveGlobal, Inc.*

*Suhail Zidan  
The Ohio State University*

*Why do some organizational change efforts persist and become institutionalized and why others are just temporary phenomena and eventually fail. This paper proposes that the institutionalization of change should be addressed as a major part of the change process. The paper suggests that cascade training be used to address institutionalization issues. Cascade training conjures the image of having critical information flow from one group to another until it reaches the final destination.*

**Keywords:** Organizational change, Cascade training, Institutionalization of change

A major insurance company recently introduced a corporate-wide performance management appraisal system to help reward their best employees, reduce unnecessary salary costs, and ensure greater organizational competitiveness. Using an appraisal system based on performance outcomes represented a dramatic cultural shift for the organization, since the previous appraisal system focused more on behavioral indicators and it was used inconsistently throughout the organization. The human resource development function was assigned the responsibility of informing all employees, approximately 25,000 nationwide, about the system and ensuring that managers and supervisors had the competence to implement it within their business units.

The brief case study suggests two basic challenges for many organizations today. The first challenge is to determine what actions to take in response to emerging business needs. The second challenge, and perhaps the more difficult one, is to determine how to ensure that the change effort becomes part of the fabric of the organization over the long term. That is, after some initial period of success and interest, the question arises why do some organizational change efforts persist and become institutionalized and why others are just temporary phenomena and eventually fail. Indeed, the question might be asked whether most planned change efforts are doomed to fail?

The importance of this question to human resource development theory and practice should be apparent. If HRD scholars and practitioners are interested in bringing about long-term changes in organizations, then they must know more about what variables will ensure that those goals are achieved. This paper proposes that the institutionalization of change should be addressed as a major part of the change process. Further, the paper suggests an approach called *cascade training* to address institutionalization issues. Cascade training conjures the image of having critical information, similar to that of a waterfall, flow from one group to another until it reaches the final destination.

Specifically, this paper discusses a framework from the literature for institutionalizing organizational change. Second, the paper introduces the concept of cascade training and the four variations of its use. Finally, the paper proposes implications for human resource development research.

## **Institutionalization of Organizational Change**

Researchers have long noted the unique difficulties of institutionalizing organizational change (Mirvis & Berg, 1977; Levine, 1980). Goodman and Dean (1983) examined the persistence of change in selected organizations in which change programs had been successfully introduced and where positive benefits had initially been identified. They interviewed participants four to five years after the projects had been implemented and showed that only one

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third of the projects remained to any discernible degree, while the others were in decline or non-existent.

Beer, Eisenstat, and Spector (1990) discuss the failure of organizational change in view of the need among most organizations to respond to increased challenges to their competitiveness and, eventually, their survival. Many have come to understand that the key for their future success is to transform the way the organization functions. Unfortunately, these efforts have generally not proven to be successful.

More recently, a research study conducted by the consulting firm, A. T. Kearney, reports that managers in 294 European medium-sized companies reported that only one in five change efforts were viewed as being successful. The remaining efforts either made some initial improvements, but had failed to sustain them, or made no improvements whatsoever (A. T. Kearney, 1999). Thus, there is compelling evidence to suggest the continuing uncertainty of maintaining organizational change over time, in spite of the ongoing need for managers to implement change as a means to remain productive and competitive.

As shown in Figure 1, Cummings and Worley (1997) propose a systems-based framework for institutionalizing organizational change, which shows how organization characteristics influence intervention characteristics and each of them in turn influences institutionalization processes, resulting in institutionalization outcomes. The outcomes show the extent to which the change has taken hold and can, presumably, be sustained over time. The framework suggests that failure can occur because of inadequate attention to any one or a combination of the organization characteristics, the intervention characteristics, or the institutionalization processes. Thus, to ensure long-term success, the institutionalization processes require as much attention as the other parts of the framework, if not more so.

Cummings and Worley (1997) posit that institutionalization processes infer a developmental order, such that having competence related to the intervention is prerequisite to employee commitment, and employee commitment is prerequisite to the allocation of rewards, and the allocation of rewards is prerequisite to the diffusion of the change beyond the immediate setting, and so on. Logically, it follows that having the ability to meet new role expectations serves to reduce uncertainty, a primary barrier for accepting change.

### **Cascade Training**

Given the foundational role of individual competence on successful organizational change, it follows that training be considered a key institutionalization process. Indeed, numerous authors have pointed out the importance of training to facilitate the organizational change process (Nadler & Gerstein, 1992; Jacobs, 1999). But, few if any of these references provide specific information on what outcomes the training should achieve or how the training should be done. It is suggested that when training is part of the institutionalization process, it should achieve the following goals:

- A. Address the respective competence needs of the employees affected by the change, including the use of awareness, managerial, and technical training;
- B. Use an array of training approaches that are best suited to meet those needs, including both training conducted on-the-job and off-the-job; and,
- C. Be coordinated so that the training outcomes of one group are reconciled with the training outcomes of other groups.

Cascade training has been defined as the process of providing the competence required to ensure the institutionalization of organizational change. The first reported use of cascade training was to implement Job Instruction Training (JIT) programs as part of Training Within Industry (TWI) effort during WWII. As reported by Dooley (1945), plant managers were trained by the TWI staff on the need for effective technical training in their organizations. In turn, these individuals were expected to train their line managers on the issue, who in turn helped their supervisors become OJT trainers. In the end, supervisors were expected to deliver the technical training through OJT to production employees. The TWI used a deliberate approach to influence how individuals at each level of their client organizations viewed training and its importance for turning out quality products to support the war-production effort.

Cascade training again appeared in the early 1980s as several major organizations, most prominently was Xerox, relied upon integrated training programs to convey general concepts about total quality management (Galagan, 1990; Carnevale, 1991). Cascade training offered a logical approach to disseminate this information through the ranks of employees in a relatively short period of time.

Four types of cascade training have been identified: 1) hierarchical, 2) process, 3) employee role, and 4) project. Although these types will be discussed separately, they are most often used in combination and are selected based on considering the following questions:

- A. What is the target level of the change? Organization? Workflow? Individual?
- B. What is the purpose of the change? Improvement? Innovation? Transformation?
- C. What are the training outcomes for each group of employees affected by the change?
- D. Which organizational characteristics might affect the training, such as availability of employees, organizational structure, organizational culture, location of employees, or timeliness?
- E. What intervention characteristics might affect the training, such as the specificity of the change goals, availability of consultants, and availability of change sponsors.

*Hierarchical.* Perhaps the most common type of cascade training whereby the training follows the vertical structure of the organization, usually starting with upper management levels and moving downward through the ranks of employees. For example, the insurance company used a hierarchical approach starting from the CEO and executive committee to senior managers to managers and supervisors to frontline employees. Another approach to hierarchical cascade training can proceed from the lower employee levels of the organization upward through to the executive levels. For instance, consider the case when a production team in a manufacturing plant implements an initiative on their own that results in improved performance, which is then recognized by senior management as something that should be adopted by others throughout the organization.

The hierarchical approach to cascade training ensures that everyone organization-wide understands the change and addresses three issues related to employee competence:

- 1) Which tasks to keep doing;
- 2) Which tasks to stop doing; and,
- 3) Which new tasks to begin doing.

*Process.* This type of cascade training follows the chain of cross-functional relationships of suppliers and customers on a business process. For example, if a corrective action team at one station of a hard-disk producer improves how an operation is done, then the stations before and after should be aware of the changes, so that they might make any required adjustments. It ensures that whenever change occurs in one part of the process, others become aware of it and acquire the areas of competence necessary to respond accordingly. Another example would be the product to market process, which encompasses researchers, engineers, and designers, as well as operations and marketing personnel.

*Role.* This type of cascade training follows peer relationships. For example, it might be advisable to have managers train other managers across the organization on how to deliver a performance appraisal interview to subordinates. Another example would involve team leaders training others who are about to lead teams in another part of the organization. Such an arrangement makes use of the particular insights that only those in a particular role might have in adjusting to the new task. It ensures that individuals understand the change from a credible source and have the competence to respond accordingly.

*Project.* This type of cascade training follows the interconnections of groups, both internal and external to the organization, who are working in achieving a goal. One common example involves the use of the same software package by all members of a project group. This situation requires all of the project team members to obtain and learn how to use that software. In another example, the various groups involved in the roll-out of a new product line need to know about changes occurring in one group, say, the restructuring of the marketing function. It ensures that the stakeholders understand the change, even though not all groups will be affected by it to the same extent.

### **Implications for Human Resource Development Research**

Unfortunately, few if any research studies have studied the institutionalization of change process in general and its relationship with human resource development research. The convergence of the two lines of research – institutionalization of organizational change and human resource development – suggests four possible areas of future research.

First, given the proven efficiency of planned training in the workplace (Jacobs, Jones & Neil, 1992), research questions could be posed whether this efficiency extends to its use as part of cascade training as well and whether this efficiency results in more rapid change. The pace of organizational change dictates that critical change information be disseminated quickly. It could be hypothesized that through cascade training, change could be implemented more quickly. The rationale would be that more employees could be trained in a shorter period of

time, without the delays caused when waiting for groups of employees to be scheduled to come together at one location.

Second, research questions could be posed about the perceived relevance and quality of the change information to the trainees. It could be hypothesized that since cascade training focuses on the areas of competence for each employee level, employees would receive the information appropriate for them, since some of the information would be irrelevant and not related to their job expectations (Jacobs, 1994). The issue of how to connect employee expectations with broader organizational goals would be addressed in this way.

Third, research questions could be posed about the levels of employee commitment as a result of the cascade training. It could be hypothesized that since employees would have more relevant knowledge about the change, and that issues could be immediately addressed by a credible source through cascade training, there would be greater understanding of the change and, by extension, greater employee commitment to following it. The issue of employee commitment – that is, ensuring the match between employee intentions and actual behavior – has been a continuing issue of concern in the organizational change literature.

Finally, research questions could focus on the effectiveness and longevity of the change initiative. It would be hypothesized that with increased competence, more relevant knowledge, and greater commitment, the change initiative would become more institutionalized. Thus, studies such as the ones by A.T. Kearney (1999) would find an increased percentage of change efforts that were viewed as being successful.

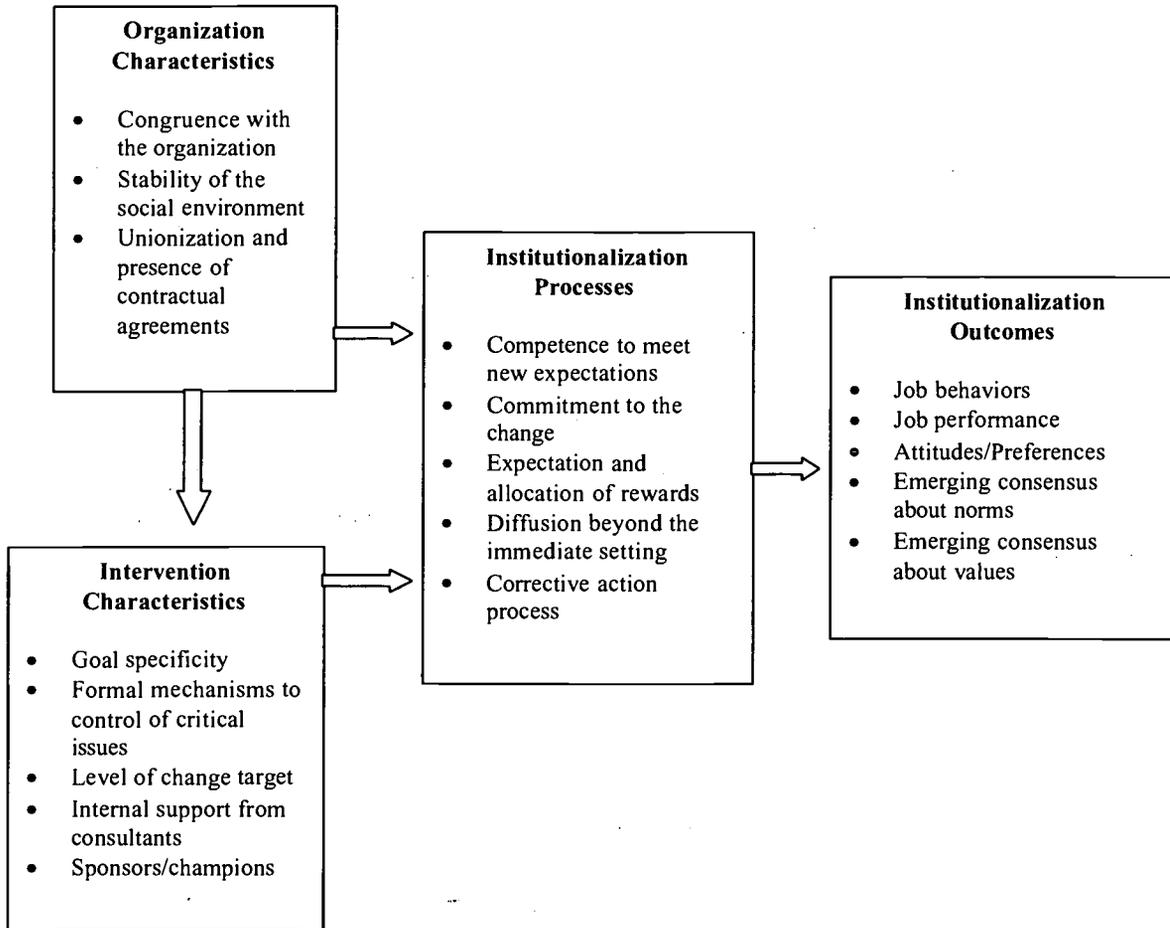
## Conclusion

How to ensure the long-term persistence of organizational change has become an issue of concern for many organizations. If the persistence of organizational change depends in large part on employee competence, then human resource development research would seem to play an important role in further understanding this phenomenon. Until now, the HRD literature has provided few if any studies focusing on the institutionalization of organizational change. Given the proven nature of human resource development to improve organizational performance, such attention now seems warranted.

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Figure 1. A Framework for Institutionalizing Change



## **Shock to the System: Analyzing Organizational Change Using the Construct of Awareness Development**

*Martin B. Kormanik  
Annette K. Sturdevant  
Organization Development Systems, Inc.*

*Awareness development is a construct for describing the changes that occur in an individual due to life transitions. The cycle of awareness development (CAD) model is helpful for analyzing an individual's awareness development regarding a transitional issue. This study shows that by using CAD to examine individual employees' awareness development around an organizational transition issue it may be possible to take a distributed view of organizational-level change.*

**Keywords:** Organizational Change, Organization Development, Adult Development

Awareness development is a construct for describing the changes that occur in an individual as he or she is "shocked" by life transitions (Kormanik, 1999). The transitional issue inducing awareness development may be anticipated (e.g., marriage, graduation) or unanticipated (e.g., sudden illness, job layoff). It may be positive (e.g., adopting a child, starting a new job) or negative (e.g., substance abuse, death of a loved one). Regardless of the issue, the transitional change and its associated awareness development is an integral part of every adult's experience, yielding cognitive, psychosocial, and behavioral effects. Kormanik describes a five-stage cycle of awareness development (CAD) model drawing from multiple disciplines, including adult development and learning. The CAD model is helpful for analyzing an individual's awareness development regarding a transitional issue, understanding differences in individuals' reaction to the same transitional issue, and planning interventions that support individuals' awareness development through the cycle. Movement through the model is evidence of adult development and learning.

Similarly, through the course of any organization's existence it experiences various transitional issues that effect organization development and learning. Issues inducing a shock to the organizational system may include planned change initiatives (e.g., downsizing, reorganization) as well as unanticipated events (e.g., workplace violence, a class action lawsuit). The issue may be obvious and discrete (e.g., merger with another organization, new product launch) or subtle and chronic (e.g., attention to workforce diversity, process improvement). As with individuals, the CAD model may be helpful for analyzing organizational awareness of the transitional issue, understanding changes in reaction to the issue, and planning organizational interventions that support awareness development.

The purpose of this paper is two-fold. First, it describes application of the CAD model at both individual and organizational levels. Second, data collection and analysis from a training initiative provides empirical evidence demonstrating the practical utility of using the CAD model to take a distributed view of organization-level change.

### *Problem Statement*

Indisputably, the contemporary work environment has experienced wrenching change in recent years. Many authors describe the deep and profound catharsis associated with organizational change (Abrahamson, 2000; Mishra, Spreitzer, & Mishra, 1998; Scanlon & Fredman, 2000; Volpe, 1999). Even organizations that have not gone through substantial planned changes such as downsizing or reorganization have been forced to adapt their mode of operation to a dynamic, ever-changing, unpredictable, and sometimes ambiguous external environment. In the effort to explain, predict, and control organizational behavior in response to organizational change, emphasis has been placed on critical reflection (Brooks, 1999), informal learning (Volpe, 1999), "tinkering" and "kludging" (Abrahamson, 2000), preserving morale (Mishra et al., 1998), using the manager-as-trainer approach (Watkins, Ellinger, & Valentine, 1999), developing emotional capability (Huy, 1999), and encouraging extrarole efforts (Morrison & Phelps, 1999). A consistent overarching theme has been the movement toward organizational learning that promotes successful navigation of change (Schwandt & Marquardt, 2000).

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Organizational change theory generally reflects two conditions: steady progression through an organizational change effort, or failure of the change effort (i.e., this is what went well resulting in successful change or this is what went wrong resulting in failure). There is a paucity of theory addressing all aspects of the change process itself, particularly taking into account those organizations that stall in the change process; those that do not emerge triumphantly or fail miserably, but instead exist in an “encounter” stage of awareness confusion. The organization understands the transitional issue, has encountered the shock to the system, but has not yet developed strategies for navigating through the shock. Also, while assessing the amount of change has consistently been an area of focus in organization development (OD) interventions, the need for diagnostic tools and measures for assessing the amount of change remains an issue.

### *Research Question*

The primary research question guiding this study was: What is the practical utility of using the CAD model for analyzing change at both the individual and organizational levels?

### **Theoretical Framework**

The management literature provides many examples linking the individual and organizational levels of analysis. Robbins (2000) makes a fundamental case by defining organizational behavior as the study of individuals’ attitudes and actions so as to understand, predict, and control individuals’ behaviors in the organizational context. Huber (1991) provides a thorough discussion of the contributing processes and the literatures linking adult learning theory with organizational learning theory. Callahan (2000) demonstrates a linkage similar to that described in this paper in a study using emotion work actions by individuals to take a distributed view of organization-level phenomena.

Application of the process of awareness development at the organizational level emerges from the concept of organizations as social systems (Parsons, 1951), where making meaning tends to be done through the social interaction of individuals (Mezirow, 1985). The construct of awareness development parallels the process of making meaning, with the process yielding cognitive, psychosocial, and behavioral effects. At both levels of application, the focus is on change, evidenced by development and learning. The following section provides an overview of the construct of awareness development.

### *Awareness Development*

The construct of awareness development is grounded in the adult development and psychology literature, particularly life transitions (Kormanik, 1999). Life transitions occur when “an event or non-event results in a change in assumptions about oneself and the world and thus requires a corresponding change in one’s behavior and relationships” (Schlossberg, 1981, p. 5). When two individuals are confronted by a transitional issue, they will likely differ in their perception of the issue based on their perspective or meaning schema (Schon, 1987). Central to the construct of awareness development is change in perspective or meaning schema. Awareness development reflects making new meaning or sense out of the transition experience because old mental models no longer apply.

Life transitions should be developmental. Similarly, awareness development comes from knowledge (i.e., learning) and experience (i.e., change). Depending on the specific issue, however, some individuals may progress rapidly in their awareness development and some might stagnate at an early stage. Schlossberg (1981) shows a life transition as a form of crisis and the concept of adaptation to the crisis is central to the transitions theoretical framework. “Every crisis presents both an opportunity for psychological growth and a danger of psychological deterioration” (Moos & Tsu, 1976, p. 13). Unless the crisis issue is addressed, awareness development may stagnate. Growth may be impeded. Deterioration may result.

The CAD model helps describe the transitional change process of awareness development through five stages: pre-encounter, intellectualization, encounter, empowerment, and integration. The cycle repeats for each transitional issue. Individuals generally progress through the stages of awareness in sequence, but progression may vary substantially from individual to individual even when both are confronted with the same transitional issue. Movement to the fifth stage in the CAD model does not mean the individual’s cognitive and psychosocial development are complete. The process of awareness development is not static. It is a dynamic, repeating cycle. The individual will remain at integration only until the next issue comes along. The individual may have already reentered the cycle around another transitional issue. The ideal is that progression through successive iterations would benefit from the cognitive and psychosocial effects gained in earlier awareness development cycles. The following five sections provide an overview of each stage in the CAD model, with theoretical foundations coupled

with practical examples. Each section begins with a discussion at the individual level and closes with a discussion at the organizational level. The examples are drawn from 20 years of practice in individual counseling and organizational consulting.

#### *Pre-encounter*

Rokeach (1968) defines attitude as “a relatively enduring organization of beliefs around an object or situation predisposing one to respond in some preferential manner” attached to cognitive, affective, and behavioral components (p. 112). When the individual has no cognitive, affective, or behavioral experience with the transitional issue, the individual is at the pre-encounter stage of awareness development. The individual has no attitude or perception of the issue in terms of self or others (e.g., a man gives a cursory glance at the newspaper headline reporting that a woman was assaulted in the neighborhood but does not read the article because it has no meaning for him). The individual has not actually experienced it or recognized it in relation to others. From an epistemological perspective, the issue is not a part of the individual’s world view (e.g., a White male who has no concept of racial discrimination). Given this state of awareness development, the individual would not be cognizant of the issue even though it may be quite evident to others. The pre-encounter stage is shown in the older gentleman who does not see the need for attending mandatory sexual harassment prevention training because, “There aren’t any women in my shop.” Sexual harassment has no relevance in his world.

An organization in the pre-encounter stage similarly has no awareness of or experience with the transitional issue. The public sector agency that historically did not have to respond to the market because its focus was not on a profit margin was in pre-encounter around customer service (e.g., pre-1990s Internal Revenue Service). The pre-IPO high-tech start-up that, in its preoccupation with developing a product, has no awareness of the need for developing and implementing policies and procedures for managing its human resources.

#### *Intellectualization*

Bronfenbrenner’s (1979) work on the effect of social and cultural factors on adult development suggests that those closest to the individual are going to have the most impact. The role of context literally forms you. Schon (1987) further suggests that the situation frames the learning. In a situation that does not present, focus on, or involve the individual with the issue, their stage of awareness development would be pre-encounter. Cognitive development starts as the situation begins reflecting the issue. In the CAD model, as the individual’s situation reflects the issue, the individual moves from pre-encounter into intellectualization.

The individual begins to recognize the issue, yet there is little or no emotional involvement. Intellectualization creates a sense of invulnerability. The White male moving into the intellectualization stage begins to understand that workplace discrimination occurs, yet thinks that if he works hard and keeps his nose clean he will steadily advance up the corporate ladder. The older gentleman intellectualizes that sexual harassment might become an issue if a woman were to enter his work group, but thinks he doesn’t need to worry about it till then.

The individual in intellectualization spends a great deal of time on mental gymnastics, repeating a pattern of single loop learning and enjoying the intellectual discourse on an issue that does not really affect them. Argyris’ (1982) description of single loop learning focuses on cognitive development using existing routines and mental models, causing self-reinforcing patterns rather than developing new solutions for presenting issues. The individual in intellectualization recognizes the issue as a function of what happens to others, often rationalizing the occurrence of the issue as warranted. After reading the newspaper article about the woman being raped, the man in intellectualization wonders why the woman was stupid enough to go out at a late hour by herself, then turns to thinking about the neighborhood property values going down because of the increase in crime.

Single-loop learning also plays out at the organizational level, in tandem with first-order organizational change. “First-order change is incremental and convergent. It helps firms maintain reliability; it may involve adjustments in systems, processes, or structures, but it does not involve fundamental change” (Newman, 2000, p. 604). Any organization operating with an “if-it-ain’t-broke-don’t-fix-it” or “we’ve-always-done-it-this-way” attitude is operating in the intellectualization stage. Existing mental schema and organizational routines remain unchallenged. This echoes Cook and Yannow’s (1996) view of change without learning. Organizational inertia impedes development (Newman, 2000). The intellectualization stage is evident in the rational cognitive approach to organizational learning (e.g., put out a new policy or procedure and the problem will be fixed, put the new organizational structure in a formal organization chart and the reorganization will be complete).

Intellectualization at the organization level reflects Huber’s (1991) stipulation that gaining knowledge does not necessarily imply learning. The organization that sees the experience of its competitor, yet the competitor’s

experience has no meaning to the organization. For organizational learning to occur, the knowledge must be translated into usable information that changes the range of potential behaviors. The monolithic corporation demonstrates this aspect of the intellectualization stage when it pays no attention to lesser competitors because it "owns" the market (e.g., IBM at the time of Apple's entry into the PC market).

### *Encounter*

Encounter, the third stage of awareness development, begins when the individual has the primary experience with the issue. This may be sudden or it might be a gradual slide. The earlier example of the man who intellectualized about property values declining because of neighborhood crime suddenly moved into encounter when his wife was forced to go out at night to get milk for their colic baby and was raped in the poorly-lighted store parking lot. The individual might slide into the encounter stage after an extended, low-level exposure to the issue. One woman, the first female engineer in the organization for which she worked, suggested, "It's not the big things in life that get you down. It's the constant barrage of little things that erode your confidence and make you wonder if it's all worth it." Pearlin, Lieberman, Menaghan, and Mullan (1981) stipulate:

"Hardships that are an enduring testimony to one's lack of success or to the inadequacy of one's efforts to avoid problems would seem to pose the most sustained affront to one's conceptions of self-worth and of being in control over personal destiny....It is the abiding problems to which people can see no end, those that seem to become fixtures of their existence, that are intrinsically uncongenial with positive self-concept" (p. 346).

The individual in encounter has total and extended immersion in the issues, resulting in intense emotional involvement (i.e., "rage stage"). The individual often perceives his or her social power has been threatened, eroded, or taken away. The feeling of powerlessness and loss of control are paramount in the "valley of despair" of encounter. Gurin and Brim (1984) suggest the need for control is basic to self and describe research showing depressed individuals as hyper-realistic about their lack of personal efficacy. Personal efficacy means "judging the self as capable, as a person able to produce acts that should lead to desirable outcomes" (p. 283). Individuals in encounter perceive their capability is substantially diminished, with the cognitive *and* affective immersion in the transitional issue creating a blindness that inhibits further progression in awareness development and growth.

The organization in encounter might slide into that stage due to performance below aspiration level. Other negative (i.e., unanticipated, coercive) transitional issues include a critical incident of workplace violence or a class action lawsuit. The transitional issue inducing encounter in an organization can also be positive (i.e., anticipated, participative), such as a planned change, a merger or acquisition, or a new venture. An executive at NASA suggested that the agency was still in encounter 15 years after the Challenger explosion, with diminished capabilities rendering the agency unable to recover the risk-taking and cutting edge norms that had been integral to the agency's culture. More recent examples of encounter at the organization level are shown by the recent Ford automotive and Firestone tire manufacturing debacle, the merger of Bell Atlantic and GTE into Verizon Wireless, and the expansion of Amazon.com into new business areas. In all instances, the encounter stage of the CAD model represents a substantial restraining factor (Lewin, 1951), impeding organizational growth and development.

### *Empowerment*

The fourth stage of awareness development is empowerment. This stage includes seeking and finding strategies for securing enough power to make necessary changes while managing risk to self and others. Empowerment requires proactive reflection on experience, where negative judgment is suspended. The individual begins to use his or her discretion in a more rational manner. During the empowerment stage, the feelings of powerlessness and loss of control generated during the encounter stage are reconciled. Individuals begin to recognize the extent of power they have within their span of control and, even if that power is limited, use that power to regain a sense of control.

A significant aspect of the empowerment stage involves enlisting the aid of others through the development and maintenance of support systems (e.g., mentors, confidants, networks). The feedback learning loop that support systems provide fulfills the need for coaching the individual in the empowerment stage. Feedback as a strategy to use in the empowerment stage requires a discourse or dialogue. It serves as the making meaning piece for enabling the individual to move beyond the frustration, anger, and misperception of encounter. Mezirow (1985) suggests this tends to be done socially. Gurin and Brim (1984) identify "attention and processing of social information as the first step in change" (p. 312). Kram (1988) also notes the importance of workplace social systems for supporting individual development and reconnecting an individual experiencing the isolation of encounter.

Much of the research on organizational learning and change focuses on strategies that would be useful for facilitating movement out of encounter into the empowerment stage of the CAD model. These include critical reflection (Brooks, 1999), informal learning (Volpe, 1999), preserving morale (Mishra et al., 1998), using the manager-as-trainer approach (Watkins, Ellinger, & Valentine, 1999), developing emotional capability (Huy, 1999), and encouraging extrarole efforts (Morrison & Phelps, 1999). Hedberg (1981) highlights the need for the unlearning of existing cognitive maps and frames of reference that affect organizational routines before new learning can occur.

### *Integration*

Integration, the fifth stage of awareness development, represents “being whole” (i.e., synergy, synthesis). The individual has regained his or her sense of control. The effects of the issue that precipitated encounter dissipate easily. The female engineer stating, “Like rain off a duck’s back, I don’t let the pettiness bother me anymore.” The individual knows what they do and why they do it as a result of the cognitive and psychosocial development during the preceding stages. The individual is capable of helping himself or herself, as well as others, be effective and successful in their coping and adaptation efforts. For the individual, the cognitive and psychosocial development represented by moving through the empowerment stage into integration represents the growth piece. As the individual moves into integration, the individual has in place new and more effective ways to resolve or at least cope with the issue that precipitated the encounter stage. In integration there is practical application of strategies for moving beyond the crisis of encounter. Sternberg (1985) defines pragmatic intelligence that emphasizes experience and real-world context where problem solving in everyday life occurs naturally. Awareness development through integration is similar to the double loop learning suggested by Argyris (1982). The integration stage correlates to the Jungian (1983) concept of individuation; learning how to operate in alternative, non-preferred ways. Mezirow (1985) describes perspective transformation as a fundamental change in the way the individual views the world, revolution rather than evolution. Movement through the cycle of development to the stage of integration around a particular issue embodies the concept of perspective transformation.

Integration at the organization level represents ongoing adaptive organizational change (Brown & Eisenhardt, 1998) and organizational transformation (Newman, 2000) where change leaves the organization better able to compete in its changing environment. Strategies put in place during the empowerment stage enable the integration stage focus on second-order learning (Lant & Mezirow, 1996) or double-loop learning (Argyris & Schon, 1978) involving the search for new routines and schemas. Argyris and Schon suggest double-loop learning is most beneficial when existing routines become ineffective or when new information cannot be understood within the currently accepted schema; conditions fundamental to the encounter stage of awareness development. A consistent theme has been the movement toward organizational learning to promote successful navigation of change (Schwandt & Marquardt, 2000). Second-order learning facilitates second-order organizational change (Newman, 2000).

The construct of awareness development is grounded in *both* change and learning. Organizational learning means “acquiring, sustaining, or changing of intersubjective meanings through the artificial vehicles of their expression and transmission and the collective actions of the group” (Cook & Yanow, 1996, p. 449). Huber (1991) qualifies that behaviors do not have to change to have organizational learning. Instead, a change in the *range of potential* behaviors represents learning. There is also much debate in the literature distinguishing between individual and organizational learning. We adopt Schwandt and Marquardt’s (2000) distinction that organizational learning is more than the sum of individual learning, given our focus on both individual and organizational levels in the application of the CAD model.

### **Methods**

Empirical application of the CAD model at the organizational level was demonstrated through a case study of a single entity bounded by time and activity. The site was a government agency responsible for all building and infrastructure maintenance functions of a large, multi-building office park setting. By all accounts, the agency had operated as a traditional hierarchical organization for more than 200 years. Stable, long-term leadership and ongoing funding meant first-order organizational change at best. Employee tenure averaged 26 years, leaving many employees in the aging workforce eligible for retirement. Suddenly in the mid-1990s, the agency had a major transition in senior leadership, compounded by increased questioning of the agency’s budget and human resource management (HRM) practices. While serving the customer had always been a high part of the agency’s informal culture, doing so within budget had not. A shift toward project management began. Generally accepted HRM policies and procedures were dated to the 1950s, and in some cases were nonexistent. The overhaul of 11 major HRM processes began within a six month time period.

To support the organizational changes, the agency undertook its first-ever basic supervisory skills training initiative. The training was mandatory for all the agency's managers, supervisors, foremen, assistant foremen, and team leaders. This research was completed in conjunction with the three-year training initiative, begun in September 1997 and concluded in June 2000. Twenty-four sessions were conducted during this time period. The difficulty of coping with the multitude of changes occurring in the agency quickly emerged as a barrier to the supervisors' effectiveness. After consultation with agency representatives the curriculum was modified to include a discussion of awareness development, with change itself as the transitional issue.

Subjects were the training participants. As part of each training session, the trainers provided an overview of the CAD model and applied it to several personal and workplace issues. After the overview, quantitative data was collected anonymously by each participant completing a form included in the training materials. The form asked each participant to identify where he or she perceived the organization as a whole, their specific organizational jurisdiction, and themselves in the CAD model around the issue of organizational change. Frequencies for response sets from all participants were tabulated using statistical software. Additionally, analysis of variance (ANOVA) was conducted to compare the means between the first three and last three training sessions. Qualitative data augmenting the quantitative data came from participants' discussion of the agency's level of awareness development around change, as compared to their own individual level. Qualitative data also came from conversations with the HRM division director, the training and development branch staff, other human resources practitioners, and senior management representatives. The qualitative data included first-hand observations from the authors' meetings and telephone logs of conversations with agency representatives. Physical artifacts were examined, including the organization's strategic plan, policy and procedures manual, internal memoranda, and other documents.

## Results

Usable data was obtained from 229 participants during 18 of the training sessions. Frequencies of their responses are shown in Table 1. In every session, participants identified that individual employees exhibit all levels of awareness development around the issue of change. Participant responses indicate that there are those who are not aware and do not understand the need for change; those who can intellectualize and understand on an impersonal level the need for change; those who are in "rage stage" around the changes occurring in the organization; those who are developing strategies for adaptation and coping with the organizational changes; and, those who have developed their awareness level to where they can deal effectively with change situations and issues.

Table 1. Frequencies of Participants' Responses In The CAD Analysis Of Change

Stage of Awareness	Organizational	Jurisdictional	Individual
Pre-encounter	14 (06.1%)*	11 (04.8%)	9 (3.9%)
Intellectualization	74 (32.3%)	59 (25.8%)	23 (10.0%)
Encounter	77 (33.6%)	80 (34.9%)	64 (27.9%)
Empowerment	70 (30.6%)	79 (34.5%)	109 (47.6%)
Integration	6 (02.6%)	11 (04.8%)	35 (15.3%)

\* Percentages do not total 100% because some respondents identified more than one stage.

In every session, participants also identified that the agency itself exhibits all levels of awareness development around the issue of change in the organization. Participant responses indicate that in some regards the agency does not understand the need for change; that in some regards (particularly mid and senior management) the agency "talks a good game" but really isn't serious about making change; that the majority of the workforce is in encounter around the multitude of changes occurring in the organization; that in some regards the agency is making changes and developing adaptation and coping strategies; and, that in some regards the agency is effectively managing change without any problem.

At the same time, two trends emerge from the data. First, participants perceived themselves as significantly further along in their own awareness development than they perceived their jurisdiction and the organization. The majority of participants saw themselves at integration (47.6%), yet placed the majority of the organization at encounter (33.6%). Second, although not statistically significant, the ANOVA comparison between the data from the first three and last three training sessions showed a discrete overall shift in the means for each level of analysis. The data indicate that individuals, organizational jurisdictions, and the total organization had moved through the CAD; there was a change in awareness development over the three year duration of the training.

Discussion in each training session concluded with participants identifying strategies for moving individually and collectively beyond encounter to integration around the issue of change. Thematic analysis revealed six strategy themes, including: working the underlying issue (e.g., uncertainty, fear and anxiety about change) out internally, getting outside assistance from a third party, putting the issue on hold, taking training, gaining more experience in dealing with change, and taking action to change the situation. This data reinforced individual responsibility and accountability for moving through the CAD model to the integration stage around the issue of change. The data also emphasized the need for employees to provide assistance to, or seek assistance from, others in the workplace, to enable them to reach the integration stage of their awareness development.

## **Conclusions**

This paper presented a model based on the construct of awareness development that was well-grounded in the existing adult development and psychology literatures. It proposed that the model can be applied at both individual and organizational levels. Application of the CAD model at the individual level is oriented toward examining changes (i.e., development and learning) precipitated by life transitions. Similarly, application at the organizational level is oriented toward change precipitated by organizational transitions and the social construction of meaning associated with the transitional change. The empirical results of the study demonstrated the practical utility of using the CAD model for analyzing change at the organizational level. Examination of individual employees' awareness development around the organizational transition issue provided a distributed view of organizational-level change.

### *Contributions and Implications for Practice*

The CAD model provides a useful framework that helps predict, explain, and interpret attitudes and behaviors in application at both the individual and organizational levels. The framework provided by the CAD model may be helpful in a variety of organizational settings to analyze discrete perceptions about organizational transition issues, as well as assess progress made in transforming an organization toward a desired state through an OD intervention. The model may suffice as a diagnostic tool and measure for assessing development in certain OD interventions.

The CAD model also has utility for application as a diagnostic measure for practitioners. For example, the work group that goes into encounter when there is a critical incident of violence in the workplace, or the workforce that goes into encounter after. The practitioner can develop programs for increasing awareness about workplace violence to move people out of pre-encounter and assist in proactive intellectualization (i.e., promoting cognitive development). Critical incident teams can be set up to assist employees in encounter. A plan can be put in place with strategies for moving employees out of encounter, through empowerment, to integration.

Practitioners must be ready to assist employees and management in moving through the cycle, while recognizing that some work groups and individual employees will need additional help in moving beyond encounter. Diversity training programs, for instance, should focus on moving employees out of pre-encounter with workforce diversity issues by enhancing understanding of what coworkers might be going through as a result of their diversity. Practitioners should recognize that confrontational diversity awareness training may force individuals into encounter (e.g., White males). While this training method may be appropriate, the training design must also move the individuals out of encounter into the empowerment stage via skills building and development of support systems.

### *Limitations and Areas for Further Study*

This study was limited in several ways. It was an analysis of one organization at one point in time. The self-reported data were derived from asking members of the organization about their perceptions. Although the responses were anonymous, the survey instrument was completed as part of a mandatory training initiative. Respondents were limited to one segment of the organization's population. Lastly, there was no distinction between ineffective and effective change or between planned versus unexpected change as the transitional issue.

The construct of awareness development is ripe for additional empirical study demonstrating transition through the cycle at the individual, group, and organizational levels of analysis. While this paper has shown that the CAD model provides practitioners with an organizational assessment tool, its utility should be explored further. Both qualitative and quantitative analyses of the stage of awareness development the organization is at in the CAD model can be determined through the collection of discrete and longitudinal data examining change in awareness development over time. Comparison of awareness development around the same issue in a variety of organizations would be beneficial. We need more compelling arguments regarding the cycle, particularly the variables that affect progression through the cycle. Cause/effect of awareness development should be explored (i.e., if an individual claims to be at integration, how has his/her behavior changed since being in encounter; if an organization claims to

be beyond intellectualization regarding the transitional issue, how is this manifested in organizational performance?). A last suggestion for more research centers on the level of immersion in the encounter stage. One aspect of level of immersion is repetition of encounter around the same issue (e.g., examining the organizational stress of a constant state of change, upon change, upon change). Much remains to be done before the practical utility of the concepts presented in this paper can be fully realized.

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## Connotative Meanings of a Change Agenda

*S. Ramnarayan*

*Indian Institute of Management, Ahmedabad*

*The corporate office of a large manufacturing organization had launched a major change program in its five plants. Though a common approach had been worked out, a study conducted eight months later showed that the different plants had followed different problem solving approaches, and reached different outcomes. The paper presents this case, and examines how units develop connotative meanings of a change agenda, and how these meanings influence the effectiveness of change implementation.*

Key Words: Change Implementation, Organizational Decision Making, Internal Customer Satisfaction

We can understand some of the challenges in the effective implementation of organizational change by taking an example of a specific change program. Let us consider the introduction of a change program based on the Internal Customer Satisfaction (ICS) model. According to the ICS model, each department or section in an organization has some "internal customers" to be satisfied. For example, in a steel plant, the blast furnace supplies pig iron to steel-melting shop, or the outputs of the hot rolling mill constitute the raw material supplies for the cold rolling mill. In a steel plant, therefore, steel-melting shop is an important internal customer of the blast furnace. In a similar vein, the hot rolling mill is responsible for keeping the cold rolling mill, one of its key internal customers satisfied with regard to quantity, quality, and timeliness of supplies. A service function like the accounts department would have several internal customers like the top managers, different line managers, and so on. It has the responsibility to meet, for example, the line managers' expectation of accurate and timely cost information on important organizational aspects.

The ICS model aims at getting each department to identify all its key internal customers, understand their requirements, views and ideas by effectively negotiating with them, and then work out departmental goals and actions to enhance the satisfaction of internal customers. The ICS model states that in a large organization with several departments, this process enhances inter-group integration, and if actions are taken to satisfy internal customers, it would increase the satisfaction of the external customers. When it is applied properly, ICS is a major organizational change program or intervention to improve co-ordination and responsiveness within the organization.

### Coping with Complex Problems

Implementation of organizational change agenda poses a number of problems to the managers, which have been variously described in literature as ill-structured, non-programmed, wicked, or complex (Ackoff, 1979; Dearborn & Simon, 1958; Doerner, 1996; Newell & Simon, 1972; Ungson, Braunstein & Hall, 1981). Such problems present several difficulties to decision-makers. There is, often, lack of consensus and clarity on what the problem is, what the preferences and goals are, and on the pathways to reach the destination. There are multiple stakeholders with conflicting interests, and changes tend to occur in different aspects of the problems, preferences and interests over time. Doerner (1996) outlines three key characteristics of these problems: complexity, uncertainty, and changes over time.

*Complexity.* A complex system has several interdependent elements. Given the multiple links in the system, the organization cannot afford to pay attention only to one or two aspects and ignore the others. Decisions and actions in one part affect other parts of the system, and so actions in complex systems have side effects and long-term repercussions that are important to anticipate and guard against. Level of engagement with the problem is an important determinant of complexity. Based on whether the problem evokes interest or whether actors give up trying to solve the problem, complexity perception goes down or up (Bronner, 1986). If the managers feel oppressed by being made to go through a change program that is not relevant at all to their needs, complexity perceived to be

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high. On the other hand, if a group of managers are attracted by the possibility of using the program to make improvements, it contributes to a reduction in the complexity.

*Uncertainty.* The decision-makers do not have the luxury of having all the information about the situation that they are confronted with. They cannot be sure of how their actions would influence the system. There is no way of precisely estimating the relative impact of each of their actions at the start. It is almost as if the managers have to develop a reasonable understanding of the system to be able to act, but have to develop that understanding by watching the situation, at best, through frosted glass. Bronner (1986) states that factors like non-transparency and information load present certain difficulties. The decision-makers may have limited information on the situation that they have to address. There may be a number of unanswered questions: Would a directive model be more appropriate for implementing change? In an ICS change program, what should be the nature and scope of inter-functional issues that should form the focus of negotiations? Should the exercise be restricted to the manufacturing departments? Would inclusion of service functions enrich the program, or would it complicate matters? The key actors are required to make decisions on these aspects on the basis of their vision of the future, which may be shadowy, blurred, partial, and unclear. Uncertainty also arises from imprecise and inadequate information. The expectations from the change agenda may be neither shared nor clear and consistent. Added to the problem of multiple preferences is the uncertainty of how to gain agreement on goals, and time frames for achieving intended priorities. Uncertainty also results from lack of clear criteria for assessing performance and the approaches available to deal with problem situations. This includes difficulties in assessing quality of solution, work satisfaction, and group satisfaction.

*Changes Over Time.* The decision-makers are not presented with static and secure reality. They confront a dynamic situation, in which preferences do not remain stable and unchanged. Preferences or choices of decision-makers are also affected by the choices they control. It is not sufficient, therefore, to analyze a situation just at a single point of time. Managers must attempt to determine where the whole system is heading over time. The decision-makers are preoccupied with several routine and non-routine matters. Implementation of a change program is just one of the several concerns of the key decision-makers. The limited attention and time available generates its own pressures and stress, as changes also occur in the larger context of the units.

As March (1988) points out, decision making in the domain of complex, uncertain and dynamic problems involves interpretive activity, where the concern of the managers is with examining how decisions fit into efforts to establish individual and social meaning. Research indicates that there are broadly six areas where this interpretive activity is critical for problem-solving effectiveness (Doerner, 1996; Doerner & Schaub, 1994; Doerner & Wearing, 1995).

*Defining the Goals.* Goal formation is not completed before problem-solving activity begins (March, 1988). Human choice behavior is at least as much a process for discovering goals as for acting on them. Even if the overall goal is set, say as effective implementation of the ICS change program, it still needs to be broken down into sub-goals. This would involve identification of the factors that could influence the overall goal, and understanding how these factors fuse to help achieve the final goal.

*Forming a Mental Map of the Situation.* A clear mental image of the system to be managed will help estimate effects or outcomes of decisions. Decision-makers, therefore, have to develop a map of the different factors that make up the system, and collect information about the current state.

*Predicting the Future Development.* Decision-makers need to make interpretations of the possible future to take concrete measures and decisions in the present with a degree of confidence. This necessitates collecting adequate information on the present state of the system, and on significant external developments.

*Planning Actions.* Having developed some interpretations of the structure of the system and possible future developments, the next logical step is to plan the actions. The complexity of the planning process would depend on the number and nature of actions that influence the system.

*Monitoring the Effects of Actions.* When a certain course of action has been chosen and implemented, monitoring the effects becomes crucial. In complex systems, there could be considerable lead-time before the effects of an action may be apparent. This makes the task of interpreting the feedback a challenging one.

*Monitoring Own Behavior.* Complex problem solving is not just an intellectual process, but involves emotions, values and motivation. It is, therefore, important for decision-makers to reflect on their own processes of problem solving and

working together. Without this self-reflection, there is a grave danger, for example, of the decision-makers remaining entrenched in a futile course of action without making mid-course corrections.

### **Research Problem**

The manufacturing units in traditional industries are designed to perform largely structured tasks in a fairly stable environment. To achieve performance in a reliable and efficient way, they are built around clear lines of command, communication, coordination and control. For such organizations, the task of implementing an organizational change program is an ill-structured problem. It is, therefore, possible to study change implementation by using the complex problem solving perspective, and explore the following questions: How do such organizations handle the interpretive activity in the six areas outlined above? How do they make sense of the different elements of the change agenda? How do decisions emerge? What factors lead to effective or ineffective implementation of change? Can the evaluations of errors, pathologies, and failures in problem solving behavior be utilized to throw some light on organizational decision making?

### **Data Collection**

An opportunity to explore the above research questions emerged after one of the largest manufacturing organizations of India with multi-unit operations spread across the country, had introduced a change program based on the ICS model. The change program had been introduced in five major plants located in different towns. Each unit was an integrated steel plant having 20,000 to 50,000 employees working in several departments and sections. The five units were largely similar in terms of technology and products. The units were government-owned traditional manufacturing organizations. Having functioned for long years in a regulated and protected environment, the organizations were quite bureaucratic in their approach, and had fairly centralized management control. An Executive Director headed each unit.

A staff function at the corporate office had taken the initiative to introduce the ICS change program. The staff function had done elaborate preparatory work to compile program-related materials, and had followed it up with workshops at the central management training facility. A cross section of senior managers from different units had attended the workshops before the formal launch of the change program.

Eight months had elapsed since the ICS program had been formally introduced. During this period, the corporate office had not really followed up the change program. But informal feedback had indicated that the five units had approached the change implementation very differently, and achieved very different outcomes. The organization agreed to have an outside researcher to conduct a study of the process of implementation followed by the different plants, and examine the results achieved by each plant. Two HRD specialists from the corporate office joined the research team.

The implementation of a common change agenda in five units, which were similar in many respects (similar technology, products & size, and same parent organization) provided a natural setting to make comparisons. It was decided to use the complex problem solving perspective to study the change implementation process, and explore the broad questions discussed in the earlier section.

While a number of frameworks are available for studying the change process, the present inquiry utilized the problem-solving framework to gain some insights on organizational decision-making. The weakness of the chosen methodology is that it does not lend itself to developing and testing hypotheses. It was, however, expected that the rich case descriptions would help in developing interesting insights that could be explored in future research to determine their validity and general application.

The research team initially collected all the relevant documents from the different units. This included: the memos/circulars sent by the corporate office on ICS model, readings handed out during the training workshops, minutes of meetings of ICS change program implementation, copies of presentations made within the plant, and the reports sent by the units to the corporate office. The review of documents was followed by interviews with key actors from different locations, functions, and levels. The interviewees included key departmental heads, and concerned managers from service functions and operational levels. A minimum of 16 and a maximum of 22 managers were interviewed from each plant. Each interview lasted an average of about 90 minutes, and tried to gain an understanding of what was done or not done at different units.

On the basis of interviews and study of relevant documents, a case description of the implementation process in each of the plants was put together. The researchers, then, identified certain themes or patterns underlying each plant's approach to ICS change implementation, with a view to examine the similarities and differences among the plants in their problem-solving behavior. Table 1 provides a summary description of the change implementation process in each of the five plants. The underlying patterns identified by the researchers have been presented in the third column.

Table 1. Description of the Change Implementation Process

Plant No.	How Change was Implemented	Themes/ Patterns underlying Plant's Approach
1	<ul style="list-style-type: none"> <li>- No explicit process for identifying internal customers and suppliers. Only production linkages considered in identifying internal customers and suppliers. Service departments not considered for inclusion in change program.</li> <li>- The head of the unit (ED: Executive Director) actively involved in sorting out problems and differences between interacting departments.</li> <li>- A formal memorandum of understanding (MOU) worked out by departmental heads, and circulated up to middle management.</li> <li>- A few interesting and innovative initiatives emerged at departmental level, such as - (a) wider participation, (b) explicit linkage of agreements to key performance indicators and (c) initiation of monitoring systems to make mid-course corrections. But these were not diffused to other parts of the organization.</li> </ul>	<ul style="list-style-type: none"> <li>- Attention restricted to obvious issues. Ambiguity inherent in change ignored. Assumptions not questioned.</li> <li>- No adaptation of change to fit specific requirements. Scant attention to details.</li> <li>- Excessive reliance on formal arrangements, hierarchical referral, signed agreements.</li> <li>- Change agenda seen as preparing "summit agreements".</li> </ul>
2	<ul style="list-style-type: none"> <li>- Exercise restricted to the departmental heads and a few other key personnel.</li> <li>- After preliminary bilateral discussions, key managers met in the ED's office to arrive at the final decision. There were four factors that kept the level of differences low. (1) Customer kept their expectations/ demands low keeping in mind supplier department's weaknesses and problems. (2) The directive to reach agreement was taken as a signal to compromise. (3) Departmental heads wished to avoid 'unpleasantness' in front of the ED. (4) Deliberations were kept at a general and conceptual level, and the difficulties in translating principles to practices were avoided.</li> <li>- Service departments were involved only when it was considered necessary. They exercised little or no influence.</li> <li>- Decisions written up as minutes of the meeting and circulated only to key managers. The other managers had no idea of what was discussed and agreed upon.</li> </ul>	<ul style="list-style-type: none"> <li>- Change program seen as mechanism to reach agreements on inter-functional issues. The idea was to try whatever was possible, without pushing too hard. So demands were left at a general level. It was left to the key managers to follow up in a manner that they considered appropriate.</li> <li>- Articulation of demands/ expectations, communication of change, formulation of action plans and monitoring were all done informally.</li> <li>- Change agenda intended to be a "painless process".</li> </ul>
3	<ul style="list-style-type: none"> <li>- Managers with good process skills and credible image appointed as change facilitators.</li> <li>- A staff department was asked to prepare guidelines and formats, agenda to be covered during negotiation, aspects to be covered in presentations, nature of action planning process to follow, etc. Model recommended by the headquarters was extended and modified. Inputs from line departments were sought during this process.</li> <li>- Service departments and people at operations level were actively involved.</li> <li>- ED chaired the initial meetings with process facilitators and key managers to discuss overall priorities. There were also monthly review meetings for monitoring and mid-course corrections.</li> <li>- Final action plans were widely circulated. A few departments obtained external help to sort out some persistent problems. The exercise led to some dramatic improvements.</li> </ul>	<ul style="list-style-type: none"> <li>- The approach recognized the need to adapt change to plant's requirements and considered systematic reflection was necessary for the purpose.</li> <li>- Designs and processes were instituted to deal with ambiguity and uncertainty posed by change. Demands of the change were understood, and individuals and groups with relevant expertise were involved. Willingness to receive help indicated positive attitude to change.</li> <li>- Change agenda seen as "opportunity for improvement and innovation"</li> </ul>
4	<ul style="list-style-type: none"> <li>- The change program was first discussed in the meeting of the heads of departments. There was confusion in formally defining "customers" and "suppliers". It was felt that every department</li> </ul>	<ul style="list-style-type: none"> <li>- The approach ignored the inherent ambiguity and arrived at a superficial definition of change agenda.</li> </ul>

	<p>was both a supplier and a customer in some sense. So it was finally decided to have a multi-lateral negotiation of all the departments in one forum.</p> <ul style="list-style-type: none"> <li>- As the annual planning cycle had been completed, decision was taken not to re-open quantity and quality issues. The ED proposed that the group attend to cost reduction issues, and this theme was accepted.</li> <li>- Two meetings of all the departmental heads were held, and some points were discussed for cost reduction. As the ICS guidelines prescribed the involvement of people at operational level, there was a large gathering of 200 people when a few departmental heads presented these points. There was no discussion after the presentations. Most of the people who attended the meeting considered it as "just another routine affair".</li> <li>- Copies of the transparencies used for presentation were sent to the headquarters as outcome of the ICS exercise. There was no follow-up afterwards.</li> </ul>	<ul style="list-style-type: none"> <li>- The plant leadership used the 'ICS' label, but pursued another goal that it considered worthwhile. The process followed had none of the features of the ICS model.</li> <li>- A "work-to-rule" approach was followed in implementing change. Work-to-rule conforms to the letter of the law, but destroys the spirit, and thus derails the process.</li> <li>- The meeting of change agenda that emerged was that it was just a "<i>label to fit an available solution</i>".</li> </ul>
5	<ul style="list-style-type: none"> <li>- The plant faced some serious business problems. There was a major resource crunch, and a number of projects and activities had been put on hold. So there was no enthusiasm for the change program.</li> <li>- In the initial discussion, a member proposed that supplier departments could only give "conditional commitment" as necessary resources may not be made available to the concerned supplier department. The ED accepted this.</li> <li>- As all the supplier departments faced problems of resource crunch and indicated that they could only give conditional commitment, no meaningful negotiations took place between departments.</li> <li>- The final document was compiled by a staff department which listed all the requirements of the customer departments and the resource requirements of the supplier departments. There was nothing new in the document. It was sent to the headquarters and the chapter was closed.</li> <li>- A manager's comment captured the underlying sentiment: "How can we talk of responsiveness to internal customers when we don't even know whether the unit is going to survive tomorrow?"</li> </ul>	<ul style="list-style-type: none"> <li>- As the plant was going through a struggle for survival, the main concern of the decision makers was to avoid being on the receiving end of criticism for not taking up improvement opportunities.</li> <li>- The key managers did not see any relevance of the change program, but did not want to voice their opinion openly. There was no ownership of change. The idea of "conditional commitment" was discovered to get over the exercise quickly.</li> <li>- The change program was seen as another hurdle to be dealt with. The meaning was that it was a "<i>senseless ritual</i>" that had been imposed by the corporate office.</li> </ul>

## Discussion and Conclusions

### *Factors Influencing Connotative Meanings*

While ICS program had certain purposes and explicit meanings for those initiating the change agenda, it had inherent complexities and ambiguities for the plant decision-makers. A problem has a number of subordinate problems. For example, the problem of ICS program implementation has the subordinate problems of determining the scope of the program in a unit faced with severe business constraints, deciding on the appropriate mechanisms for involving people at operational level, or creating shared need for change among key actors. Each of these subordinate problems required a thoughtful interpretation and response.

Faced with the ambiguities and complexities of the change program, decision-makers in plants tend to arrive at different meanings based on three sets of factors. (1) To which field their vision was limited; (2) Which phenomena included in the field were actually perceived; and (3) Through which filter woven by cognitive base and values, are bits of information selected put through? (Hambrick & Mason, 1984). We may refer to these three factors as the mindset of the key managers, their control panel, and their processes. We discuss these aspects below.

*Mindset of Key Managers.* The mindset determines how attention is allocated. Plant 3 took efforts to ensure that it focused its energies on the appropriate fields of endeavor, and it planned to continue to focus on those aspects over time. But there was no such clear focus in Plants 1, 2 and 4, which exhibited low capacity to tolerate uncertainty. By restricting the exercise to certain levels and departments, these plants made it difficult for certain issues and concerns to receive attention.

*Control Panel of Managers.* The decision-makers seem to work with a 'control panel' with a number of dials, each providing signals from the system about developments in a given area (Ramnarayan, Strohschneider and Schaub, 1997). The control panel helps decision-makers in efficiently keeping track of different aspects. But once the control panel is in place, it influences not only what the group consistently pays attention to, but what it also consistently ignores. For example different plants considered different aspects of the system in their decision-making process. While ICS program was reduced to a multilateral negotiation on cost reduction in Plant 4, Plant 3 paid attention to the agenda to be covered, guidelines and formats, nature of action plans to be worked out, facilitation of meetings, monitoring, and so on.

*Decision-making Processes.* Decision-makers also differ in the ways that they deal with the signals that they pick up. Each unit develops its own decision making processes, and so differences develop, for example, in choosing actions or making mid-course corrections. Some decision-makers took different aspects of the change agenda at their face value. They asked very few 'why' questions to find out the causal links behind events. For example, the issue of including or excluding service or operations people was treated as a choice that was independent of other aspects of the change program. On the other hand, Plant 3 had a task force to prepare a rough blueprint for implementation, and discussed the key choice points in meetings. The task force was asked to propose some concrete measures, and the meetings explored the fit between these concrete measures and the abstract ideals of the ICS model.

A change agenda with inherent complexities and ambiguities, offers multiple pathways. Decision-makers with different mindsets, control-panels, and processes pursue their own unique run through the maze. Depending on the choices made and path traversed, decision-makers develop a sense of what the journey is about. Thus different connotative meanings emerge, and the meanings influence further behavior patterns. We can, therefore, conclude as follows:

*The connotative meaning/s of a change agenda is contingent on the specific manner in which the central actors respond to ambiguities and complexities posed by the change.*

#### *Connotative Meanings and Effectiveness of Change Implementation*

When the meaning develops, it structures the change agenda and reduces the ambiguity for decision-makers. Decision-makers are motivated to invest time, energy, and effort to search for information when the marginal utility of additional unit of information is greater than the marginal cost of gaining that information (Stigler, 1961). When there is image of certainty, the perceived marginal utility goes down substantially, and this introduces a severe disincentive for the search process.

In the following paragraphs, an attempt is made to trace the behavior patterns underlying change implementation in four of the five plants that ignored ambiguity and uncertainty inherent in the situation. This has been done to examine how meanings attributed to the change agenda influence the change implementation process. This is presented as a rough sequence of steps for ease of explanation.

1. Immediate issues defined the terms of the problem. At different points of time, though decision-makers confronted a range of issues, the immediate issues, often, tended to grab the attention. For example, involvement of operational levels was perceived in limited terms of merely conveying certain information. As such immediate issues took the center stage, the larger problem of mobilizing and energizing the skills and commitment of dispersed and diverse elements on interface issues faded into the background.
2. There was an implicit expectation that an immediate solution was possible for the problem, and this should be put in place. There was little or no exploration of choices with regard to identification of internal customers, mechanisms for interface management or monitoring.
3. With the above two behavior patterns, the scope of the problem was narrowed, and the temporal alignment of the problem and solution was ignored. For example, the objective of interface management was reduced to the task of arriving at a memorandum of understanding.
4. There was a tendency to focus on problems that could be solved, not the ones that need to be understood and then hopefully solved. Different plants concerned themselves with the task of having meetings of departmental heads or compiling lists of resource requirements without worrying about the long-term goals of the change agenda. The nature of

accountability was experienced only for completing specific tasks or obtaining discrete outcomes, not for achievement of the overall objective. There was little or no reflection on how these tasks contributed to the strengthening of internal customer orientation.

5. The behavior patterns discussed above led to ritualization, and this pushed down the excitement for inquiry and action. When the approaches of problem solving and working together leaves the key actors with no sense of enthusiasm and motivation, the effectiveness of change implementation suffers. So we may conclude:

*The meaning/s attributed to the change agenda determines the degree to which change implementation becomes effective.*

#### *Influence of Rule Based Decision-making on Connotative Meanings*

March (1988) states that decisions can be viewed as choice-based or rule-based. When it is choice-based, actors examine the logic of consequence, making choices among alternatives by evaluating their consequences in terms of prior preferences. When it is rule-based, actors look at the logic of appropriateness. They fulfil their roles by recognizing situations and searching for precedents or rules that match appropriate behavior to the situation they encounter.

There were some interesting patterns in the rule-based decision making that was followed in four of the five plants. These behaviors lent stability to the process. After initiating actions, decision-makers avoided taking stock of the consequences of these actions. This helped them maintain a pseudo sense of control and effectiveness. There was unwillingness to accept fail points. At no point of time, decision-makers examined the possible limitations of their approaches. Finally, there were unrealistic assumptions made: for example, all expertise can be brought to bear immediately; or there is no inertia, and things would take effect instantaneously. For instance, it was conveniently assumed in Plant 1 that once a memorandum of understanding has been worked out between departmental heads, changes would unfold and internal customer satisfaction would be achieved. By providing an image of certainty and control, rule-based decision-making prevented investments being made in the search process for understanding the problem complexity, and generating creative solutions. So we conclude:

*The more rule-centric the decision-makers are, the less they capture the richness in meanings that ambiguities inhere.*

#### *Influence of Rule Based Decision-making on Ownership of Change*

As noted earlier, rule-based logic inhibits the search process. Denial of inherent ambiguities and uncertainties blocks exploration of questions and dilemmas. Justifications tend to emerge for the approach chosen, and outcomes are not specifically related to actions. Organizational actors experience ownership of problems only when four inter-related conditions occur. (1) They see a crisis or opportunity; (2) They experience a sense of control over the situation or event; (c) They feel interested in doing something and committing resources; and (d) They believe that no ready-made solutions are known and that systematic reflection is necessary (Landry, 1995).

When rule-based approach is adopted in the early stages of change implementation, the likelihood of perceiving crisis or opportunity, experiencing control over the situation, and being interested in committing resources for problem solving, all go down substantially. These would require breaking the existing decision frameworks with the attendant risks. On the other hand, choice based decision making and logic of consequence followed in Plant 3 made it more likely for people at operational levels to perceive crisis or opportunity within the larger framework of choices made, experiencing control, and committing resources to problem solving. Logic of consequence makes case for systematic reflection, as ready-made solutions are not believed to be available. Thus ownership of problem at operational levels was more likely in Plant 3 situation.

In other words, with rule-based approach, organizational actors down the line are unlikely to perceive a problem or engage with it. So, no energy or effort is directed to problem solving. This is expressed below as our final conclusion:

*Rule-based decision making in the early stages of change tends to lock the organization in rule-based approach in subsequent stages, and pushes down ownership of change.*

The tentative conclusions of the present exploratory research need to be tested in future research programs to determine their validity and general application.

The age-old parable of the elephant and four blind men illustrates how different individuals derive connotative meanings of the elephant being a pillar, rope, wall, or snake. Organizational actors develop similar connotative meanings of a change agenda. It is important to understand how these meanings emerge, and how they influence behavior so that we can explore what can be done to influence the process of meaning making in organizations to achieve effective change implementation.

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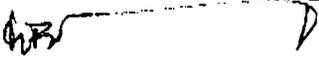
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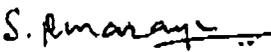
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