# POST-OCCUPANCY EVALUATION AND IMPLICIT THEORIES OF ORGANIZATIONAL DECISION-MAKING [1]

Craig M. Zimring

College of Architecture, Georgia Institute of Technology

## ABSTRACT

In this paper it is argued that the technical model adopted in many post-occupancy evaluations involves implicit theories of organizational decision-making. Whereas these theories seem to be appropriate in some situations--where objectives and values remain relatively stable and decisions are made by well-defined groups with clear authority, for example--the theories are incomplete or inaccurate in more complex and changeable situations. A POE program by the California Department of Corrections is discussed and some implications for other POE programs are suggested.

## INTRODUCTION

I have been given the task of addressing the relationship of theory to Post-Occupancy Evaluation (POE). In this paper I will use "theory" in a special way. Rather than focusing on theories of user behavior or building functioning, I will discuss some of the "implicit theories" of organizational decision-making (March and Olsen, 1982) that have been fundamental to the way I, and others, have conducted POE.

POEs are applied studies intended to affect decisions about how buildings are planned, programmed, designed, built, managed and maintained. Evaluators often try to be effective by adopting a "technical expert" role (Saegert, 1987). In this role the evaluator does such things as develop evaluation criteria from the client's goals or some other source, develop methods that objectively test the fit between the criteria and performance of the building, and provide suggestions for improving this fit (Friedmann, Zimring & Zube, 1978; Preiser, Rabinowitz & White, 1988).

This technical role assumes that organizational decision-making is based on the rational setting and pursuit of goals and objectives, and attempts to support this process. Specifically, the organization presumably surveys and assigns clear priorities to objectives, assesses the range of available actions, and makes decisions that optimize or satisfice outcomes with respect to the objectives (Morgan, 1986). Indeed, my experience suggests that the technical role can be effective in supporting decisions where decision-making is consolidated and decision-makers make decisions based on stable and widely agreed-upon objectives. Where decision-making is dispersed, or values are changing or in conflict, this role has less impact. These points will be clearer if we compare the impact of results of two recent POEs. Both are part of the current California Department of Corrections/ Kitchell Capitol Expenditure POE program.

## THE CALIFORNIA DEPARTMENT OF CORRECTIONS/ KITCHELL CAPITAL EXPENDITURE MANAGERS POST-OCCUPANCY EVALUATION PROGRAM

In 1980, in response to seriously overcrowded prisons and burgeoning state population growth, the California Department of Corrections (CDC) initiated a prison construction program to more than double California's prison capacity by 1991. At a cost that is expected to exceed $4.5 billion, this is one of the world's largest public construction programs. In order to provide a large number of prisons quickly, the CDC and their program planner Kitchell Capital Expenditure Managers (Kitchell CEM) developed a prototype system where standard building designs and building components would be refined and repeated up to 100 times around California.

In 1983 the CDC and Kitchell CEM initiated a POE program to learn about the performance of entire prisons and of prison components. It was intended that this would serve as input into the programs and designs of future prisons and as an aid to fitting out new prisons as they were finished. The program is jointly conducted by planners from Kitchell CEM and correctional administrators from the CDC; data is collected by both organizations as well as by staff of the facility being evaluated.

A broad range of issues has been studied in POEs of several California prisons, such as communications between inmates and officers, control room functioning, durability and safety of cell furnishings, kitchen operations, and use of common dayroom space. This program has evolved into a multi-level program that includes: "profile assessments," rapid overviews of operating facilities; "issues studies," that focus on particular concerns of decision makers; and, "comprehensive studies," that examine the interrelated functioning of multiple departments in a prison. (This division is similar to that used in the Public Works Canada POE program and others; Harvey & Zeisel, 1987.)

A typical study begins by attempting to develop evaluation criteria based on available programs and policy documents and by interviews with decision-makers. Data-gathering methods include structured methods based on these criteria such as questionnaires with inmates and staff, direct observation of inmate and staff activity, analysis of disciplinary reports, complaints and other records, and measurement of ambient conditions. More flexible participatory methods are usually also included; these allow the viewpoints of

participants in the setting to emerge. Such participatory methods include interviews and walkthroughs with administrators, staff, and inmates. The program has been quite well accepted by the CDC and Kitchell CEM. Its scale and complexity has increased and Kitchell's Director of Planning and Programming, Mark Goldman, has identified over 100 specific programmatic and design changes that can be directly traced to POE recommendations.

## THE ROLE OF IMPLICIT THEORIES OF ORGANIZATIONAL DECISION-MAKING IN POE

We have adopted a technical role in the CDC POE program that includes both rules about how we should behave and implicit theoretical notions about how organizations make decisions. We have generally seen our role as supporting decision makers in making better, more rational decisions by objectively studying how well completed prisons fit the expressed goals of decision-makers and by suggesting solutions to improve this fit.

In one POE, for example, it was discovered that epoxy paint is not a good surface for shower room walls and floors; although initially less expensive than ceramic tile, epoxy paint requires frequent repainting and has a much higher long-term cost. Specification of shower surface material was clearly within the authority of a group of prison construction program managers from Kitchell and the CDC, who met weekly to decide such issues. Moreover, this finding raised little controversy about values. There was general agreement among decision-makers that showers should be reasonably clean and pleasant and that life-cycle costs should be reduced (where initial cost is not too much higher). The POE recommendation was adopted immediately in a single meeting; all new prisons in California will have ceramic tile showers.

However, sometimes the decision-making process has been more dispersed and changing. Some decisions have been made by several groups or actors with different goals. In addition, goals often changed, or were not widely held, or the goals that were expressed were not the goals-in-action (see Argyris & Schon, 1978, for a discussion of this distinction). This meant that we could not rely on the goals established at the beginning of the program to form the basis of evaluation criteria.

For example, many functions of California medium-security prisons are controlled by officers in a control room that is separate from the inmate area. Although the control room was originally planned to have been raised only a few feet off the day room floor and to be surrounded by bars, it was decided to glaze the windows and further raise the floor to improve surveillance and to enable the control room to be cooled by mechanical air conditioning rather than by the evaporative coolers used in the inmate areas. This allowed a further set of possibilities: the control room could be darkened so that inmates could not easily see in from the dayroom and tell what the officers were doing.

Because of the role of the control room in the prison design, these changes represented a very complex decision-making process, with several different groups making decisions. Top corrections department decision-makers had a role in deciding the general concept of the control room, which dictated that some officers should be partially separated from inmates and placed in a control room, whereas other guards would patrol the floor of the housing unit. (This represents what the CDC views as a "mixed model" of supervision. Some officers have central control of the housing unit from a control room and other officers get to know inmates by spending time in the housing unit and hence can diffuse problems before they get serious.) Facility programmers specified the glass, mechanical systems and general control room layout; staff in the prisons reduced the lighting.

The original control room design was seen as part of a transition to a "direct supervision" model of incarceration which emphasized the role of continuous and easy interaction between inmates and officers. The final design bears a remarkable resemblance to the panopticon, Jeremy Bentham's 1794 prototypic prison design that has been used by Foucault as an example of the spatialization of power (Foucault, 1979). The control room design became a solution to the problem of how to separate inmates and officers.

This was not a conspiracy to change policy. Each group operated from premises that were reasonable given the pressures facing it. Top decision-makers set the broad policy direction, such as establishing the mixed supervision model as a transition to an approach that requires less central control. Facilities programmers raised the control room and glazed it to help make the staff more comfortable and to aid visual surveillance of the housing unit. The officers felt uncomfortably "on display" in the brightly-lit control room, so they reduced the lighting. None of these decisions involved a conscious decision to subvert the original intention to move toward more interaction between inmates and officers, but they all had that effect. Top decision-makers and some mid-level administrators had moved into their jobs from other social service programs in California, and they tended to support a model of corrections that emphasized interaction between officers and inmates and presumably supported a less separate control room. However, there seemed to be an implicit agreement by many of the other actors about the appropriate technology of control by officers (separation, distant visual supervision, a focus on aid coming from outside the housing unit, etc.).

The new solution and its assignment to new problems posed a problem for us as evaluators: We couldn't use the original goals or understanding of the problem as the basis for the evaluation. How could we have been most helpful in supporting future decisions about control rooms? Should the control room have been evaluated using the original criteria of allowing easy and immediate communication between officers and inmates? Should it have been approached from the perspective of providing as complete isolation as possible for officers? Our POE focused on

technical aspects of the control room on which there was agreement, such as that the design of the control panel should allow error-free control of cell doors. We made suggestions for improvement of the control panel, which were accepted.

The CDC/Kitchell CEM POE program is primarily staffed by mid-level managers, who did not see it within the program's purview to challenge major program directions. We very cautiously made our observations that the final control room design seemed to reflect a different policy than had been originally proposed. This observation did not figure prominently in any policy debate, and in fact the primary effect of the POE program has been on specific aspects of the design or facilities program rather than on broader policy.

In the shower tile example, the values of reasonably pleasant shower rooms and reduction of life-cycle costs were widely shared and unchanging, and decisions about the outcome was clearly assigned to one group who saw no trouble in making the decision. These seem to be the most likely circumstances under which an evaluators' technical role can influence decision-making. In the second example, decision-making was dispersed and there were at least implicit disagreements about the goals of the control room design. As a result, we evaluators had little impact on policy.

## THE ROLE OF POE IN INSTITUTIONAL LEARNING

Rather than simply supporting decision-making, much POE, including the California Department of Corrections POE program, has been justified on the basis that it provides more efficient learning processes for organizations and architects. That is, that POE not only supports decisions but it helps decisions improve over time. For example, Dennis Dunne, then California's Deputy Director of Corrections for Planning and Construction, said, "Post-Occupancy Evaluation allows us to get it right on the second or third prison rather than on the seventh or eighth." As Mark Goldman's list of 100 impacts attests, we have had a cumulative effect on California prisons. However, the technical role we have adopted is primarily directed at what has been called "single-loop learning" (Argyris, 1976), focusing on specific questions of whether outcomes achieve goals, rather than on reflective "double-loop" questions of whether goals and objectives are appropriate, or whether goals-in-action or policies-in-action fit espoused goals or policies.

In the shower tile example, we provided information about the performance of shower surfaces with respect to management's criteria of pleasantness and low maintenance. Because there was relatively little disagreement in values, and decision-making was concentrated in one group, our results had direct impact. In the example of the control room design that apparently signalled a conflict between policy-in-action and espoused policy, we were less successful in affecting learning because at least some of the questions were reflective kinds of questions that we were not well equipped to address. I am not suggesting that environmental design consultants suddenly attempt to sell ourselves as management consultants. However, when the consultant reflects to the organization the issues that arise during the course of a POE (or programming or other activities) he or she may help the organization to function in ways that go beyond the technical questions the evaluator was originally asked to address.

For example, it may be of long term importance to the CDC to understand that the way decision-making is distributed may result in a solution that no one particularly intended to produce. In addition, there were important organizational political relationships that surfaced in the development of the control room that could help the organization manage its intergroup relationships in a positive way. For instance, because of the rapidly growing inmate population, the CDC had to open new prisons without the final security perimeter being completed. As a result they felt some special pressure to satisfy the officers' union. Although I have no direct evidence to support this contention, it seems at least possible that some people who had concerns about the directions that the control room design was going might have not pressed such concerns. The process that produced the final control design was not necessarily bad, but had we established better ways of providing such feedback, information about the role of politics in design decision-making might allow the CDC to use politics in a positive way.

Both single-loop and double-loop learning can be quite useful. As in the shower example, it is often very important to learn the consequences of decisions that are likely to be repeated with the same criteria. In this sense we have helped produce better prisons than probably would have been produced otherwise. But our theory of decision-making has been flawed, or at least incomplete, in that we have been of less help to the California Department of Corrections in helping them maintain consistent and flexible policy-in-action and to reflect on whether policies need to change to accommodate changed conditions.

## STEPS TO A REFLECTIVE POE

It seems that a new model of POE is called for that is based on a broader view of decision-making and learning. This POE must allow both technical and reflective modes of operation to be focused on both single-loop and double-loop learning.

Some steps toward a reflective POE might include:

1. **Rethinking POE as an organizational intervention rather than technical problem solving.** This shift in perspective suggests that evaluators need to ask a range of questions that are not typically addressed in the POE literature. (And there are many more than were raised in this essay.) These questions allow evaluators to be more effective in the role of supporting environmental decision-making. Some important questions include: How is decision-making distributed? What premises do the various

decision-makers use in making decisions? How have these changed over the course of the building project? What are the links between individual and organizational action? Most organizations value appearance of overall rationality, but the question is, of course: rational from whose perspective? If the evaluator tests the impact of objective-driven programming decisions, for example, whose goals should be used as the basis of evaluation criteria? (The answer to this question may strongly affect how POE information is used.) Do the results suggest new, perhaps valuable, policy directions?

2. **Rethinking the role of evaluators with respect to the client.** Robert Shibley and Linda Schneekloth (Shibley and Schneekloth, in press) have recently argued that the technical positivist approach of much of environment and behavior research provides an inappropriate basis for action. They have argued that at least part of the problem rests in communication problems between evaluators and clients due to the professional socialization of evaluators (Habermas, 1970a, 1970b). To be effective, evaluators need to adopt a more vulnerable attitude toward clients and be genuinely open to their perspectives. In a study of creative researcher/practitioners, Schneekloth and Shibley found that effective consultants attend to such things as appreciating context, conducting critical theory, creatively framing problems, determining ownership of the product, and clarifying values (Schneekloth and Shibley, 1987).

3. **Retiring the concept of POE.** I have been an avid supporter of post-occupancy evaluation, but it may be time to recall it. In any complex building process, there are values, premises, decision processes, issues and so on that change over the course of the process; the fixed notions of POE that we have adopted tend to reify values and objectives. We need a different approach to environment-behavior research that eschews the artificial compartments that we have assigned to POE, programming, and other activities. Rather than primarily focusing on post hoc analyses of buildings as input into future decisions, POE can be incorporated into a comprehensive program of managing information and learning that includes standards-writing, feasibility studies, programming, design review, and maintenance scheduling. To be useful, this program must allow for changing goals as well as the multiple perspectives of different actors in the building process.

Overall, this analysis suggests that a new body of theory is required if environmental design researchers are to be useful in supporting decisions about how buildings are planned, designed, renovated, regulated, managed, regulated and maintained. This theory recognizes both a different theory of how organizations make decisions and a new theory of action for evaluators who must see themselves as participants and decision-makers.

NOTE

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