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Using Qualitative Data to Test Theories

The Swine Flu Affair: Decision Making on a Slippery Disease. by Richard Neustadt; Harvey V. Fineberg

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**The Swine Flu Affair: Decision Making on a Slippery Disease.**

Richard Neustadt and Harvey V. Fineberg. Washington: U.S. Department of Health, Education, and Welfare, 1978. 189 pp. \$3.00.

**USING QUALITATIVE DATA TO TEST THEORIES**

Qualitative data may be defined as those (1) whose meanings are subjective, (2) whose logic is implicit, which are therefore (3) rarely quantifiable, and hence (4) difficult to use to create trends or to make comparisons that are quantitative. Because of these features, qualitative data have been assumed to be less desirable in research that aspires to explain human behavior through generalizations that specify the invariant relationships among the variables.

The purpose of this paper is to illustrate how qualitative data organized by appropriate theory may meet the requirements of refutability, causality, and elegance (the minimal set of concepts and axioms with maximal scope of comprehensiveness) and hence lead to propositions about the invariant relationships among variables.

**The Importance of the Action Context**

An action context may be said to exist where people may be observed talking and dealing with each other in order to achieve their purposes. The domain not only includes the face-to-face interaction but it includes contextual factors such as policies, bureaucratic games, group dynamics, and intergroup relations.

The action context is an environment of extreme complexity. Its complexity can rarely be attended to as a whole by human beings (Simon, 1969). To make sense out of the action context, we must extract from it information that we can organize into a pattern. The pattern itself is an act of deliberate design and typically requires abstraction. Hence, to deal with the action context we must create some distance from it. But the key requirement is that we must eventually be able to return to the complexity of the action context and take action.

**Requirements for Understanding the Action Context with a Quantitative Approach**

In research with a quantitative approach, the rules for creating distance from the action context are those that satisfy the requirements of high precision that is reliably and easily replicable. This may mean that variables that are naturally coupled are decoupled and variables that are naturally uncoupled are coupled. The result may be that it is difficult to return to the action context and take action. Hence, the knowledge is not usable by humans performing one of the most basic activities of everyday life. The knowledge people can use to take action may adhere to the requirements of refutability, causality, and elegance, but not to high precision. It is the requirement for high precision that makes knowledge unusable. If the knowledge is usable, it is so because of unusual conditions such as the user having a dominating, authoritarian relationship over others (Argyris, 1980).

## Review Essay

Part of the implicit theory of usable knowledge embedded in the quantitative perspective is that understanding occurs if generalizations may be made of the type that  $X$  is a function of  $Y$ . The ultimate aim is to specify these quantitatively in the form of some kind of relationship (e.g., curvilinear). Even if these generalizations accounted for all the nonrandom variance, it appears that if one tries to use them in the action context, one might become immobilized.

### Requirements for Understanding the Action Context: A Cognitive Constructionist Approach

Whereas the quantitative research perspective depends upon variance, a new action perspective has been developing which is more interested in the constancy that exists given all the complexities of the action context. This approach also assumes that humans must also create distance from the action context. But they do it in order to act, not simply to understand and predict. Hence, the interesting question is to understand the processes by which actors distance themselves from the action context in order to return to it.

A second feature underlying the new perspective is its cognitive emphasis. The focus is on such concepts as maps, schemata, personal constructs, codes, and theories of action. The fundamental assumption is that causality may be understood by explaining how people construe or enact their environment. The assumption is that they do it through the use of these maps, schemata, or theories of action. This stance assumes (1) that humans design their actions as well as the taking of action and (2) the designs are culturally taught yet individually interpreted.

If behavior with meaning (which may be defined as action) is designed, then every act or conversation stems from the design and hence may be used as a test of the design. It may be used as a test because an axiom of this approach is that actors are not able to design and execute actions that are different from the designs in their heads. Hence, if actors can be shown to have design A, then they should never be observed producing actions that are contrary to that design.

Even though designs are culturally validated and taught through socialization, they can never be adequate to a given context of action. It is simply not possible to know everything about a situation before one enters it. And, again, unless one is in a position of being a dictator (and even they have these difficulties), it is unlikely that one can slow down the action in a given context to learn everything. Indeed, the very ability to slow down life may influence others to distort the information that they provide. People therefore must have capacities for iterative learning.

One of the implications of the action approach is that understanding begins with directly observable data (such as conversations) and the meanings embedded in them. Conversations and actions usually contain subjective meanings that are redundant and whose logic is rarely explicit. In order to organize and explain these types of data, we must focus on the maps, schemata, or theories of action that people

use to produce the qualitative data. The first task therefore is to discover the appropriate design theory people use in their everyday lives. This theory will not be a design for a particular context. It will be a theory of design that will in turn be a design to produce situational designs.

### **The Swine Flu Affair: An Illustration**

An illustration of the advantages of the qualitative research approach is Neustadt and Fineberg's comprehensive study of the decision-making processes that led President Ford to order the production of vaccine against swine flu. They interviewed all the relevant actors and examined many files and documents. They organized their data in the form of a case study with an emphasis on (1) describing the events (the action context), (2) using recollected conversation or documented actions as their major data, and (3) reconstructing the history of the entire affair.

Neustadt and Fineberg (p. 142) identified seven primary factors of ineffective decision making for the swine flu program. Six of them are relevant to this analysis (the seventh is related to the news media).

1. Overconfidence by specialists in incompletely validated theories about influenza and influenza epidemics.
2. Advocating ideas based upon personal agendas and acting as if this were not the case.
3. Subordinates manipulating superiors to perform as the former believed was correct.
4. Premature commitment to unnecessarily early decisions.
5. Addressing uncertainties in ways that made their reconsideration unlikely.
6. Insufficient questioning of implementation prospects.

These causes are interdependent. Hence, overconfident subordinates or superiors advocating personal agendas made it more likely that issues would be discussed in ways that would make confrontation and reconsideration less likely.

### **Reexamining the Diagnosis**

The first feature of this list is that it focuses on directly observable data. Although no data in this case are literally directly observable, the bias in this study was to minimize the degree of inference and keep the constructs as closely connected to the action context as possible. This makes the study more easily refutable by the actors. The choice also makes it more likely that the lessons inferred would be usable by actors to design their future actions.

The second feature of the causal factors is that the factors are behavioral, that is, such factors as overconfidence, strong advocacy of personal agendas, zeal to manipulate superiors, and premature commitments belong to the domain of interpersonal relations, group and intergroup dynamics, and organizational norms. Such formal structural factors as the chain of command, the organization of groups, the policies regarding who should meet whom, the financial rewards, and the formal evaluation schemes were not key causal factors.

The behavioral factors identified above have structural features in the sense that they represent patterns of interper-

## Review Essay

sonal relations, of group dynamics, and intergroup dynamics. They could not exist in organizations over time without creating structures of relationships and expectations that profoundly affect decision making.

The third feature of the causal factors is that they appear to me as being valid beyond this case. Neustadt and Fineberg's rich illustrations of such variables as overconfidence in under-tested theories, zeal to make lay superiors do right, and premature commitment, the win-lose interpersonal relation among the actors within and between groups, and the political and administrative games that people played appear to exist in many different kinds of organizations (Argyris, 1962, 1970, 1971; Argyris and Schön, 1978).

The question arises as to why these findings and not others were observed. For example, why Neustadt and Fineberg did not find the specialists who would have questioned the incompletely validated theories; who presented their personal agendas openly, or refused to camouflage their personal agendas, or did not subtly manipulate their superiors; who made commitments that were not premature; or who questioned the implementation processes sufficiently.

To answer these questions, we must begin with the proposition that all this behavior was designed, skilled, and hence, automatic. Next, we must specify the nature of the design from a particular constructionist perspective.

### The Theory of Action Perspective

The concepts of the theory of action approach have been outlined in a previous article in Argyris (1976c) as well as elsewhere. Briefly, in the theory of action (Argyris and Schön, 1974, 1978; Argyris, 1966, 1969, 1976a, 1976b, 1976c, 1979), most people hold Model I theories-in-use, whose two basic action strategies are (1) to advocate one's position and simultaneously control others in order to win and not lose, and (2) unilaterally and covertly save one's own and others' face in order to minimize the expression of negative feelings and interpersonal rejection. People following Model I theories-in-use create learning systems within their organizations that are dominated by competitive win-lose group and intergroup dynamics, by political games, by camouflaging of the games, and by camouflaging the camouflaging. These are called O-I learning systems.

The following propositions from the theory of action perspective are relevant for this analysis:

1. People with Model I theories-in-use will create an environment where information that may be taken as personally attacking others will rarely be communicated to others. Examples of such information would be the six causes Neustadt and Fineberg identified.
2. People will act as if they are not holding back information by focusing vigorously on substantive issues. The focus on the substantive discussion will be used to hide the features not to be discussed such as those identified by Neustadt and Fineberg.
3. Trust will tend to be low because (a) people will not tend to take risks under the conditions in points 1 and 2, (b) the

actors know that they are covertly mistrusting others and hence withholding information, and (c) the actors believe that others may play the same Model I game with them, and (d) all keep this knowledge covert. (I know you are withholding information, you know that I am doing the same, and we both know that this is not to be discussed.)

These conditions combine (a) to create doubt in the minds of the participants about the validity of the data that they are receiving, (b) to create further covert censorship and enhance indirect dialogue which leads to (c) the reinforcement of the conditions for producing error (i.e., information is ambiguous, inconsistent, and incongruent) *and* simultaneously the reinforcement of not being able to discuss errors and their conditions.

All the conditions combine not only to create error but to enhance and escalate error.

### **Reexamining the Case Study**

What does this theory add to the analysis? First, it provides an explanation for the individual maneuvering, defenses, actions, games, and camouflages. Second, it provides an individual (Model I) and an organizational (Model O-I) explanation for why the six causal factors identified by Neustadt and Fineberg were omnipresent yet not to be discussed. It would have violated Model I governing values to discuss these issues because they could be seen as personal attacks and hence leading to emotionality and interpersonal rejection. It would have violated Model O-I because politicizing, manipulation of superiors, covering one's ass, and so on, played in organizational contexts, are not to be discussed for the purpose of correction.

Third, the theory predicts that, given that the conditions identified by the authors are created by conditions consistent with Models I and O-I, then there will always be a predisposition to enhance the conditions for error when the problems or issues are serious and when there is a crisis. The reasoning underlying the prediction is that Model O-I shows that the probability for error enhancement increases as information about an issue takes on such features as being ambiguous, scattered, inconsistent, and incongruent. Neustadt and Fineberg have documented how different memoranda were used to polarize the situation, how each actor emphasized certain features when reporting to his superior, and how group members chose to ignore important admonitions and questions raised by a minority of their members. All these conditions increase the probability that actors will experience different aspects of the problem as ambiguous, scattered, inconsistent, and incongruent.

The predictions above hold if it can be shown that the actors in this case utilize Model I (or the opposite to I) theories-in-use and are embedded in an O-I learning system.

Admittedly, it would have been preferable to have data to make inferences about the actors' theories-in-use. Unfortunately, none were collected. However, the assumption that the actors do hold Model I theories-in-use may not be unfair because over 95 percent of the administrators studied in all types of governmental and private organizations (over 3,000)



## Review Essay

utilize a Model I theory-in-use. Second, the conditions that Neustadt and Fineberg describe related to the swine flu program are consistent with Models I and O-I. Thus, the theory of action perspective predicts the conclusions found by Neustadt and Fineberg: People utilizing Model I theories-in-use and embedded in O-I learning systems should never be observed dealing directly and openly with the causal variables that were identified by Neustadt and Fineberg.

There are two implicit assumptions embedded in the analyses above that are relevant to scholars and practitioners. The first is that the case method may now be translated into a vehicle for generalization and hypothesis refutation. The features identified by Neustadt and Fineberg are predictable from Models I and O-I. Moreover, it is predicted that these features, plus their unintended consequences, could never have been discussed while they were occurring. Neustadt and Fineberg should not have found such actions, or if they did, those that created them or thought of creating them should have seen them as deviant activities. In other words, one or two instances of consciously planned and executed double-loop learning, under the above conditions, would be adequate to refute the theory. This is not, I suggest, a trivial test.

But there is an even tougher test. Let us imagine that the actors in the drama had not changed. The theory would predict that they would not deal with threatening double-loop issues in ways that were incongruent with Models I and O-I. In other words, they should repeat these or similar errors. The hypothesis should not be disconfirmed even if the actors wished this to be the case. A second and equally, I believe, tough test is the following. If the new team that is in place is also programmed with Model I and embedded in an O-I learning system, they should have the same difficulties. Since, empirically speaking, over 95 percent of the people studied so far are programmed only with Model I (or the opposite to Model I), then this hypothesis should hold even though the team has read the study, even if it agreed with it, and even if they are, as Neustadt and Fineberg imply, more open and candid.

Difficult to believe as these hypotheses may appear, they are empirically refutable. The predictions assert that difficult problems under crisis situations will be handled in ways that escalate the conditions for error. Does that mean that, in the future, people will behave in ways that they manifest overconfidence in undertested theories, that conviction is fueled by personal agendas, that subordinates will manipulate superiors, and that there will exist competitive win-lose groups and intergroup dynamics? Yes.

Does this mean that the actors will produce the same substantive errors? Yes and no. Errors can be reduced by making it mandatory for the actors to go through tougher reasoning processes. This is precisely the thrust of the Neustadt and Fineberg recommendations. They want to institutionalize analytic toughness in the organization. In that spirit, they make specific recommendations about how people must be required to back up their generalizations with specific details, how groups should be required to ex-

plore the minority views, etc. For example, this can be seen in: (a) a tracing of relationships between deadlines and each decision; (b) an explicit statement of assumptions underlying each decision; (c) an awareness that an early memorandum, with its two-week go or no-go, actually obscured, not clarified, relationships between deadlines and individual decisions; (d) the decision to begin manufacturing and the decision to institute a mass immunization program should have been kept separate; (e) explicit and detailed analyses of key action memoranda, either in probabilistic terms or in terms of what evidence would falsify the logic and actions planned; and (f) a forced systematic and detailed airing of views on each separate question (pp. 87–89).

There are two problems with these recommendations. First, the relationship between the causal factors identified by the authors and their recommendations is complex. For example, most of the recommendations require actors to tighten their thinking, to make their reasoning more confrontable, to explore perspectives that are counter to the trends they develop. But what is the probability that the actors will perform these requirements effectively if their purpose is to win and not lose, to manipulate superiors, and to unilaterally control others?

I believe there is empirical research to suggest that the recommendations made will have, at best, moderate impact upon reducing the causes. The reason is that the recommendations do not deal directly with the causes or with the strictures against discussion. In this sense, Neustadt and Fineberg adopt the very constraints that the actors adopted in real life.

The fundamental thrust of the recommendations is to control error by making the logic in actors' heads more public and hopefully more influenceable. This thrust will work especially if it is supported by sanctions from the superior. But what will also occur is that people will not forget their personal games, competitiveness, and so on. They will develop new ways to use them and to camouflage the fact that they are doing so.

In another set of recommendations, the authors state that the actors should do much more thinking about doing (before and after a decision is made, p. 91 ff.). The difficulty with this set of recommendations is that it does not take into account that people who are overconfident, selling personal agendas, and manipulating people may unconsciously subvert the recommendations.

In all these recommendations there is an implicit assumption that the causes for error identified by Neustadt and Fineberg can be reduced by requiring the actors to follow a more explicitly rational decision-making process. The recommendations therefore may unintentionally reinforce the conditions that created the problems in the first place. They may also provide subordinates with a rationale as to why they must go even further underground with some of their tactics. Going even further underground means that they run a greater risk if they are caught. This, in turn, may lead to more frequent "dry runs," self-protective memos on file, and deeper layers of camouflage. These reactions, in turn,



## Review Essay

would lead actors to feel even less optimistic that governmental systems are for double-loop learning. Consequently, they will have established new, more hidden self-sealing activities to inhibit double-loop learning.

## CONCLUSION

The purpose of the Neustadt and Fineberg case analysis was to help a busy Secretary of HEW and his colleagues reflect on the events of the swine flu program in order to make future decision making more effective. The case study was not designed primarily as a contribution to theory.

This separation between theory and practice may be counterproductive to progress for both. For example, there is the danger that practitioners may focus their attention upon advice that, in the short run may resolve some of the problems but, in the long run, drives the basic causes even further underground. This may result in legacies about organizational, political, and interpersonal activities that become more inbred and camouflaged.

By seeking to make the case analysis useful in the long and short run, we have exposed some interesting theoretical limits. For example, the case study, as Fineberg suggests (1979), has an implicit theoretical perspective that is congruent with Allison's (1971) Level III (personal, interpersonal, and political activities within the organization). It appears, however, that Allison's modeling of Level III includes little about how to alter the dysfunctional aspects of these activities (Argyris, 1973). Allison would maintain, I believe, that this is the case because his model is descriptive and explanatory. But that leaves us with the puzzle that explanatory models can not be used to alter the variables whose relationships they describe. Is this not like maintaining that a model that explains cancer can not be used to design its cure (Argyris, 1979)? Theoretical models for informing practice must be designed, I believe, to make implementation the ultimate, and explanation the penultimate, objectives.

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