Integrating Qualitative and
Quantitative Research in Organizations

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This paper first identifies the differing assumptions and perspectives of management practitioners, qualitative researchers, and quantitative researchers. Special attention is given to the question of "research for what?" and "what should the output of research be?" Next, the major differences between qualitative and quantitative approaches are highlighted and some mutually beneficial designs, perspectives and philosophies for these differences to be resolved and integrated are suggested. Finally, a specific example is used to show that an integrated approach can be effective.

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Abstract

This paper first identifies the differing assumptions and perspectives

of management practitioners, qualitative researchers, and quantitative

researchers. Special attention is given to the questions of "research for what?"

and "what should the output of research be?" Next, the major differences

between qualitative and quantitative approaches are highlighted and some

mutually beneficial designs, perspectives and philosophies for these differences

to be resolved and integrated are suggested. Finally, a specific example drawn

from qualitatively-based ethnographic research and quantitatively-based

cognitive-behavioral research is used to demonstrate that an integrated approach

can be effectively used in organization and managerial research.

Integrating Qualitative and
Quantitative Research in Organizations

As suggested by academic conferences and the current literature,

organizational and managerial research is currently undergoing serious

reappraisal of its purposes and methods. There is growing interest in the

different underlying views of philosophies of science (Behling, 1978; Motamedi,

1978) and epistomologies (Morgan and Smircich, 1980) or organizational enquiry.

A major issue presently under debate is whether quantitative research largely

based on the natural science model is adequate to the task of explicating

organizational and managerial processes or whether qualitative research is

needed to replace or supplement this approach. For example, Behling (1980)

has recently argued in favor of quantitative research based on the natural

science model while Susman and Evered (1978) have argued against the natural

science approach in favor of qualitative research based on alternative assumptions

of organizational enquiry. Morgan and Smircich (1980) have included both

approaches in their continuum of research methods and underlying philosophical

assumptions in organizational enquiry. They place quantitative research based

on the natural science model at the extreme positivist (objective) end of the

continuum and qualitative research based on phenomenological approaches at the

subjective end of the continuum. A few researchers have suggested ways in

which quantitative and qualitative methods may be integrated. For example,

McClintock, Brannon and Maynard-Moody (1979) have described how quantitative

survey research may be applied to qualitative case studies. Jick (1979) has

discussed strategies for triangulation in organizational research which

mixes qualitative and quantitative methods. Yin (1981), building on an

article by Miles (1979) that dealt with the difficulties of integrating

qualitative and quantitative data in field studies, suggests ways of bringing intensive single case and single case comparisons closer into line with more accepted approaches to scientific research.

A problem creating difficulties in deciding whether quantitative and qualitative research can and should be integrated is that most discussion either takes place on a philosophical level comparing and contrasting the different epistemological bases of organizational enquiry or on a methodological level comparing, for instance, using surveys with observational methods or interviews with unobtrusive measures. What is frequently overlooked is that different philosophical orientations tend to predispose the use of particular research methods and different research methods tend to be justified on the basis of particular philosophical orientations. These issues are rarely discussed in a comprehensive manner and usually no specific examples are provided of how qualitative and quantitative approaches might be integrated with existing programs of research and, at least in the final analysis, the improved practice of management.

In this paper, we begin by tracing some of the origins of organization and management research and examining some basic differences in the purposes and orienting assumptions of the management practitioner, the qualitative re-searcher, and the quantitative researcher. We then discuss some major problems that need to be overcome in order to successfully integrate qualitative and quantitative research. The paper concludes by proposing a specific example that contains some specific points of commonality that demonstrates how the integration of qualitative and quantitative approaches can actually be accomplished.

RESEARCH FOR WHAT?

Questions concerning the real purpose of research have been a frequent

source of disagreement among social scientists over the years (Frank, 1957;

Lindblom and Cohen, 1979; Lynd, 1939; Phillips, 1971). Answers tend to vary

from an extreme applied orientation in which research is intended to serve

society by prescribing ways and means of dealing with social problems to a

non-applied orientation in which research is not concerned with solving

social problems but instead with building descriptive theories and modeling

social phenomena. These differing views have led to clashes over what

constitutes an appropriate knowledge base for each discipline and what

research methods should be used to obtain this knowledge. Conflicts over

these issues are evident in sociology (Gray, 1979; Gross, 1967), anthropology

(Leach, 1961; Rohner, 1977), and psychology (Gergen, 1973; Hebb, 1974).

In the field of organization and management, disagreements over the

purposes of research, the choice of methods, and what constitutes "valid

knowledge" can be broadly summarized into three discernible groups: prac-

titioners, qualitative researchers, and quantitative researchers. By prac-

titioners, we mean managers and consultants who may carry out no systematic

research but who contribute frequent articles on different aspects of organiza-

tion and managerial work. Pure qualitative researchers consist of behavioral

science researchers who rely on the written word to develop theories and

explanations of organizational and management processes usually drawing on

the descriptive methods and techniques of anthropology. Pure quantitative

researchers include two types: management scientists, who develop models

and simulations of organizational systems, and behavioral science researchers

who develop theories and models of organizational behavior with the use of

quantitative data (mainly derived through questionnaires) and statistical

techniques. All three types--practitioners, qualitative researchers, and

quantitative researchers--tend to judge each other's work by different criteria of what is acceptable knowledge. The points of view of each needs to be given more detailed consideration before one can meaningfully examine the purposes of research and then suggest integrative methods suitable to all.

The Practitioner

One often overlooked but seemingly important way to learn about organizations and management is through being a practicing manager. The field of management tends to differ from other social science disciplines in that, it is not just an academic speciality, it is also a general practice--something that real people do in real organizations. Practicing managers such as Frederick W. Taylor, Henri Fayol and Chester Barnard were among the earliest and most important contributors to organization and management thought. Also, many academics have distinguished themselves more for their practical writing, conceptual ideas, and work as consultants than they have for their empirical research on management (probably the best examples would be Peter Drucker and Douglas McGregor). There is a constant pressure coming from practitioners/ writers not just to describe management but to try to improve it. Practical writing and empirical research have become so intertwined in this literature that it is often difficult to tell where one leaves off and the other begins.

The working manager's orientation toward knowledge is frequently quite different and even the opposite to that of the researcher's (Grayson, 1973; Haire, 1964; Ryan, 1977). For the practitioner, organization and management is an applied field. To be useful, new knowledge needs to improve the practice of management. There is little or no interest in detached, descriptive enquiry. The quantitative researcher's tendency to study two or three variables at a time is accused of being overly simplistic and does not seem to take into consideration the complexity of the world the working manager must cope with (Grayson, 1973). Management scientists and behavioral scientists are seen to

be working on their own definitions of problems, not the problems identified

by practicing managers as being worth addressing (Sprague and Sprague, 1976).

Researchers are viewed as writing for one another and publishing their work

in journals that are never read by practitioners let alone ever applied by

practicing managers. Much of this work is viewed as irrelevant both to the

practice of management and to the education of managers (Badawy, 1976;

Culbert, 1977; Livingston, 1971).

To the practitioner, the researcher's emphasis is unnecessarily narrow.

Practitioners and consultants are interested in more than just research findings

relating a limited number of variables. Managers are interested in ideas,

choices, new ways of thinking about what they do, and alternative ways of

behaving. This kind of insight is often discouraged by the research community

because it means making provocative statements that cannot be substantiated.

As Cherns (1974) has noted: new concepts are frequently more important to the

practitioner than theories. The actual findings of research are rarely applied

or remembered by practitioners but concepts can sometimes catch on and get used

by managers in highly individualized ways.

Whereas the researcher is often more concerned about dealing with behavior

at a level of abstraction where generalizable relations can be detected,

practitioners want specific answers to specific problems. Researchers

interest in the general and the practitioners interest in the specific often

mean that the researcher's general findings seem superficial to the practitioner

whereas the practitioner's specific problems seem idiosyncratic or petty

to the researcher.

The Qualitative Researcher

Qualitative research using the traditional case study was the most popular

method during the early empirical investigations of organizational and managerial

processes. The approach was based on the premise that the best method of study

was to enter real organizations and observe what real people did and what
actually happened. The use of the term case study in this context neither
refers to a single method nor to a strictly qualitative approach. The early
case studies exhibited considerable variation. Some were descriptive,
quantitative studies like the diary studies of managerial behavior (Burns,
1954; Carlson, 1951) in which frequency counts of designated behaviors were
recorded by the researcher or a coopted organizational member. Other studies
were strictly qualitative consisting of narrative accounts in which the
researcher as participant or nonparticipant observer described what took
place and interpreted why events took place as they did (Dalton, 1959; Roy,
1959).

During the early sixties, the use of the case study approach began to
decline and the questionnaire became the main data gathering method in field
research. Case studies were relegated to preliminary exploration work and
generating testable hypotheses (Campbell and Stanley, 1966). More rigorous
quantitative methods were needed to test the propositions and develop theories
of organization and management. More recently, there has been a resurgence
of interest in case studies and what is now known as qualitative methods (Van
Maanen, 1979). Some researchers have recently argued that restricting case
studies to exploratory work and initial hypothesis generation is far too limiting
(Susman and Evered, 1978; Whyte, 1976). They are questioning the epistomological
assumptions underlying the quantitative research approach that dominated the
field during the 1960's and 1970's and are arguing for a much broader inter-
pretation of organizational and managerial science (Frost, 1980; Morgan, 1980;
Pondy, 1978).

Some of the key terms and underlying assumptions of modern qualitative
research require detailed explanation. The term qualitative research currently
has no precise meaning, but instead generally refers to a diverse potpourri
of participant and nonparticipant approaches to observation. Modern qualitative

methodology has been influenced by interpretive sociology (Lofland, 1976), symbolic interactionism (Blumer, 1969), ethnomethodology (Turner, 1974), existentialism (Douglas & Johnson, 1977), and phenomenology (Psathas, 1973). Morgan and Smircich (1980) have clearly laid out some of the main approaches to qualitative research and the philosophical perspectives that underlie their use. The term, ethnography, for example, is a more restricted term used by anthropologists to refer to the work of describing a culture from the native's point of view. The process of doing ethnography has been out-lined by Spradley (1979, 1980) and Van Maanen (1979) and some of the major methodological differences in ethnography have been reviewed by Sanday (1979). While some qualitative researchers may follow an approach influenced greatly by this ethnomethodology or perhaps symbolic interactionism, many others will have been influenced by a variety of the other orienting perspectives.

Although most qualitative research will use some form of participant observation, those taking a phenomenological approach which focuses strictly on the "experiencing self" will not. The approach based on phenomenological epistomology does not require the researcher to enter the organization and study the particular problem situation. As explained by Bruyn (1967), the phenomenologist studies symbolic meanings as they constitute themselves in human consciousness. Personal involvement with cultural symbols is not necessary. Both phenomenology and existentialism are highly subjective approaches when judged in contrast to natural science research. However, they are based on different philosophical premises of what is "valid" knowledge. Their influence on behavioral science research has, as yet, been relatively limited. Most of the later discussion on qualitative research will focus on approaches that do use participant observation.

Overall, qualitative researchers tend to differ in their orientation from quantitative researchers in a number of important ways. Generally, quantitative researchers try to separate themselves from their subject matter in order to

avoid influencing the phenomena under investigation. Most qualitative researchers, on the other hand, try to get as close as possible to the subject under investigation and attempt to see and experience the situation from the perspectives of the organization members being studied. Another important distinction is that the quantitative researcher breaks down the research problem into a limited number of isolated variables, but the qualitative researcher tries to provide holistic accounts of events giving detailed descriptions of the participants, the observed behavior, and the environmental context in which the action takes place. Finally, in contrast to the hypothetico-deductive approach to accruing new knowledge used by the quantitative researcher, many qualitative researchers take an inductive, grounded theory approach to generating knowledge (Glaser and Strauss, 1967; Smith and Pohland, 1976). Whereas the quantitative researcher is concerned with testing hypotheses and inserting each piece of new knowledge into "objective" theoretical models of behavior (Lundberg, 1976), the qualitative researcher is less interested in testing hypotheses and proving theories in any absolute sense than with revealing the varied symbolic interpretations of events held by the organization members that provide multiple theoretical explanations of organizational events.

The Quantitative Researcher

Quantitative research became firmly entrenched in order to oppose armchair speculation and early quasi-scientific qualitative studies. The intent was to replace subjective judgment with objective knowledge. Traditional case studies appeared to offer little hope for advancing the field beyond a series of unique glimpses of organizational life. Researchers were becoming increasingly concerned about the need to generalize the findings of their research (Blau, 1965). A research method was needed that allowed systematic comparisons to be made between organizations (Burns, 1967). Research using group comparison designs, questionnaire methods of measurement and inferential statistic analysis of results appeared to be a much more scientific, objective approach to studying organizational and management processes.

The resulting quantitative approach was heavily influenced by the natural science model (Hempel, 1966) the statistical tradition of R.A. Fisher (Nunnally, 1967), and the research design criteria of Campbell and Stanley (1966). The main goals of the quantitative researcher became the development of propositions, theories, and laws for the prediction, explanation, and control of behavior (Kerlinger, 1973). The preferred method of achieving these goals was to divide up the research problem into numerous variables and to define and measure the relationships between these variables in vast numbers of separate studies. Whereas management science has taken more of an engineering orientation and tended to focus on the modeling of material flow and information systems variables, behavioral science research has taken more of a theoretical orientation and tended to focus on variables and models dealing with managing people and organizations. The quantitative approach has focused on the usefulness of measurement and systematic evaluation; the hypothetico-deductive approach to testing research questions; and, in general, have forced the investigator to consider many of the criteria that may invalidate the findings of his/her research (Campbell and Stanley, 1966; Cook and Campbell, 1979).

The Interface Between Practitioners, Qualitative Researchers and Quantitative Researchers

It is evident from the foregoing that major differences exist between practitioners, qualitative researchers, and quantitative researchers over what the study of organization and management is and should be all about and what methods can and should be used to obtain and advance knowledge. These differences do not just involve disagreements on a limited number of points but basic differences on what the fundamental issues of the discipline are and should be.

Practitioners consider management to be an applied field. They want ideas that they can use. They do not weigh the researcher's findings objectively

but tend to judge these findings intuitively for their fit with the real world and for potential application to their jobs (Isaack, 1978; Robbins, 1976). Little effort has been expended by researchers finding out what the practitioners are really interested in and would use. It is automatically assumed that the findings of research have value to the practitioner. At least in the currently entrenched quantitative approach, managers and organization members are usually not even involved in the research process. They are rarely consulted or make an input into the types of problems that concern them (Boehm, 1980). Some managers argue that most organizational systems in use today were developed by practitioners and question whether academic research has had any impact on the actual practice of management (Grayson, 1973). The issue here is not the discovery of new knowledge per se but the application of the researcher's findings by the practitioner. If the research findings are not adapted to the needs of the practitioner, they are unlikely to be implemented and to make any difference to the practice of management.

In contrast to this, many researchers dismiss the practitioner's view and published works as purely anecdotal and would prefer to exclude the practitioner's point of view from all discussions of research. To many researchers, the practitioner's point of view is naive. There is the feeling that a separation is necessary between those that practice management and those that do research on management and that meaningful guidelines for the practice of management cannot be laid down until the field has been adequately explored through research. Basic research is required. Quantitative researchers are concerned about setting up controlled experiments with valid, reliable measurement so that propositions about management can be treated adequately. Their major objective is accurate description based on their operational definitions of the research problem.

The qualitative researcher also reserves the right to carry out basic research but, generally, differs from the quantitative researcher in that their approach requires the development of a much closer relationship between researcher and practitioner. Qualitative researchers are usually not concerned with setting up controlled experiments but with studying behavior naturalistically. They set out to observe what people actually do on the job, the language they use, and the meanings they ascribe to situations (Lofland, 1976). The aim of the qualitative researcher is to describe and interpret the phenomenal orientations of the actors in order to develop overall understandings of why the people sharing a given social situation behave as they do. Like quantitative researchers, however, qualitative researchers frequently do not share the practitioner's concern for improving the management of an organization. They are more concerned with what is going on in the organization or revealing the alternative views held by the organization members than improving bottom line effectiveness. However, qualitative researchers tend to disagree with the quantitative researcher that their operational definitions of the practitioner's problems are appropriate or accurate. The qualitative researcher prefers to develop their definitions of the problem through a lengthy process of observation and consultation with the practitioner (Van Maanen, 1979).

Practitioners, quantitative researchers, and qualitative researchers all tend to write and do research for separate audiences. The findings of each group tend to be subjectively merged in the textbooks aimed at college students. No systematic means exists for integrating the contributions of each in the literature. On one hand, it is probably desirable that there should be a separation between those who practice management and those who do research. Practitioners should not be able to control those areas in which research is done. On the other hand, the wide differences, the basic differences in orientation between practitioners, quantitative researchers, and now qualitative

researchers does seem to be a cause for major concern. We believe that
some effort needs to be made at closing the gap and integrating the approaches
for advancement of the field.

QUALITATIVE AND QUANTITATIVE RESEARCH: SOME MAJOR DIFFERENCES

In order to integrate qualitative and quantitative research approaches,
three major differences must be recognized: first, the majority of quantitative
research is group-centered or nomothetic while most qualitative research tends
to be more individual-centered or idiographic; second, most quantitative
research consists of dividing the research problem into a small number of
separate isolated variables while most qualitative research consists of examining
the research problem holistically; third, most quantitative research is based
on a natural science epistomology whereas qualitative research is based on a
variety of epistomologies. In dealing with these differences and attempting
to integrate them, the point of view of the practitioner becomes equally
important to that of the researcher.

The Idiographic Versus Nomothetic Distinction

The idiographic versus nomothetic distinction in research was introduced
by the pioneering psychologist Gordon Allport (1937). He argued that idiographic
research that sets out to distinguish the patterns and uniformities in the
behavior of the individual case is as worthy of study as the more common nomothe-
tic research that sets out to find general laws of behavior common to an
entire population. He contrasted nomothetic research, which attempts to gen-
eralize broad tendencies across groups of subjects, with idiographic research,
which attempts to predict and explain behavior in the particular case. Allport
was critical of nomothetic research in psychology saying that it dealt with
vague abstractions that could rarely be translated into useful predictions about
behavior in particular situations. He called for the development of

idiographic approaches that examined behavior intensively and provided more complete explanations of individual differences in behavior.

One of the difficulties in closing the gap between the qualitative and quantitative researcher is that the research designs of the nomothetic approach tend to be incommensurate with the intensive study of single cases. Such requirements as equivalent comparison groups to serve as controls, the need for large enough "N"s to generate sufficient statistical power, and the use of summary data that averages individual responses across groups are practices that are incompatible with the intensive study of single cases. While ethnographers and interpretive sociologists have for many years carried out case studies without any need for quantification and controlled experimentation, the problem has been that no idiographic research designs and methods were available to those researchers who wished to combine quantification and controlled experimentation in their field work.

This situation has now changed with the advent of single case experimental designs (reversals or ABAB and multiple baselines) that have been expressly devised to evaluate idiographic research in applied settings (Hersen & Barlow, 1976). These designs derive from a long tradition of behavioral research with single cases (Baer, Wolf, & Risley, 1968; Sidman, 1960; Skinner, 1953) and have been demonstrated to hold up quite well to the threats of internal (Komacki, 1977) and external (Kennedy 1979) validities as put forth by Campbell and Stanley (1966). Most qualitative researchers terminate the research process when they have developed categories and propositions of the subject matter. This is acceptable if the purpose of the study is to provide new awareness and insight of some aspect of organizational or management processes. However, many researchers may wish to go beyond this and set up an experiment that demonstrates the utility or causal nature of the concepts and propositions

under study that can then be effectively used as a tool or technique by management practitioners. The single case experimental design would help solve the dilemma and provide a common method for both qualitative and quantitative researchers.

Isolated Variables Versus Holistic Views

Almost fifty years ago Kurt Lewin (1935) wrote a criticism of the philosophy of science assumptions underlying research in psychology. At that time, he contended that psychology had adopted the "Aristotelian" mode of explanation in which causal properties are assumed to be found "in" people and "in" situations. Research in psychology consisted of isolating attributes of people and/or situations and attempting to find causal relations between these properties. These properties were assumed to be constant or static since only one reading of the variable was usually taken. This he contrasted with the "Galilean" mode of explanation in which causal properties were assumed to be interactively determined in the relationships between these elements. Lewin's (1951) well known $B = f(P,E)$ or behavior is a function of person and environment and his approach to gestalt psychology explicitly recognize the importance of studying behavior holistically and interactively rather than breaking behavior down into variables, treating them as constants, and studying these variables in isolation from the social setting.

Lewin's emphasis on studying behavior holistically and interactively has influenced psychology (Bowers, 1973; Sarason, Smith & Diener, 1975) as well as management (Campbell, Dunnette, Lawler & Weick, 1970) and organizational behavior (Terborg, Richardson & Pritchard, 1980). Campbell et al's extensive review of studies related to managerial behavior and performance criticized the overwhelming tendency to divide the research problem into separate person, behavior, environment, or outcome variables. They emphasized the importance of studying organizational and managerial processes interactively.

> It should now be abundantly clear that it is incomplete
> to talk only about personal traits leading to managerial
> success or only about the way good managers manage or only
> about the products or results of good managing. All three
> must be considered concurrently, and the effects and
> moderating influences of different organizational
> environments must be included as well (Campbell et al,
> 1970, p. 12).

Despite this considerable effort to emphasize the interactive viewpoint,

most quantitative researchers continue to focus on the study of a limited number

of variables abstracted from the organizational situation. Most of the popular

models either take an internal cognitive approach (Locke, 1968; Maslow, 1943;

Oldham, 1976) to explaining behavior or, alternatively, an external, environ-

mental approach (Jablonsky & DeVries, 1972; Nord, 1969). Qualitative

researchers, on the other hand, attempt to study research questions more

holistically. For example, they study the organization members' cognitive

accounts of events, observe what they do on the job, and examine the influence

of the particular organizational setting. While this is different from most

approaches to studying behavior in organizational psychology, it is not

incompatible with other subdisciplines in psychology. For example, environ-

mental psychologists (Proshansky, Ittelson & Rinlin, 1976), ecological

psychologists (Bronfenbrenner, 1977; Wicker, 1979) and human ethologists

(Charlesworth, 1976) view behavior as being interactively determined in the

social setting. In addition, the study of personality (Fiske, 1977) and

intelligence (Resnick, 1976) that have for years been regarded as trait

variables are now being studied "interactionally." The social learning

theorists (Bandura, 1977, 1978; Mahoney, 1977, Mischel, 1977) also view

cognitions and behavior as being interactively determined in different social

settings.

Importantly, although these approaches mainly take a quantitative approach

to studying behavior, they are also very much dependent upon a qualitative

approach in studying interactions. Unlike sociology or especially anthropology,

the term "qualitative research" is rarely used in psychology. We believe

that there is much to be gained by recognizing the parc that is and can be

played by qualitative research in studying interactional processes. The

last part of the paper will suggest some of the main points of compatibility

between a cognitive-behavioral perspective and qualitative research.

Underlying Differences in Philosophy of Science

As has been brought out previously, the quantitative research approach

mainly stems from a natural science epistomology. Under this philosophy the

purpose of research is to describe the phenomena of study "objectively" and

to develop causal theories leading to prediction and control. Quantitative

researchers generally predetermine the concepts that will be studied, predefine

their meanings, and decide in advance how these terms will be measured. The

decision concerning what will be described and how it will be described is

therefore made prior to carrying out the study. Quantitative researchers

assume, for example, that they know what managerial behavior is(e.g. leader-

ship or motivation); the problem is merely one of measuring it accurately.

In contrast to this philosophy of science underlying the quantitative

approach, qualitatitve research is based on a variety of philosophical orien-

tations including natural science, symbolic interactionism, and existential

phenomenology. The purpose of qualitative research is less easy to define

but, generally, involves an attempt by the researcher to describe behavior

and events from the points of view of the participants (McHugh, 1968). The

accounts provided by the researcher may vary from an "objective" description

of the external appearances of observed events based on a natural science

orientation to a subjective interpretation of the internal experiences of the

participants based on an existential or phenomenological orientation. Generally,

qualitative researchers differ from quantitative researchers in that the major

goal of the research process is to discover what is actually taking place in

organizations. In order to obtain this knowledge of what is taking place, the

researcher must rely on the organization members to provide their descriptions of the process under study. Unlike their quantitative counterparts, qualitative researchers do not assume beforehand that they know, for example, what managerial behavior is or if anything actually gets managed in organizations. Instead, they find out what really takes place by observing and listening. Under this approach, the important thing is not the researcher's predefined ideas about the process under study but the symbolic meanings attached to it by the organization members. It is the organization members that determine how the process is labeled and the significance that is attributed to it.

To the qualitative researcher, quantitative research is usually considered positivistic and "method driven." To the quantitative researcher, qualitative research is metaphysical and lacking in any scientific validation. The calling of one approach positivist and the other subjective is, like other dualism debates in science, an oversimplification that merely intensifies the conflict between quantitative and qualitative researchers. All researchers, quantitative and qualitative, benefit from and are guilty of positivism and subjectivity. It is impossible to describe anything without making inferences and assumptions and treating these assumptions as if they were true. If every act and every situation could be described in terms of one exact label there would be no accusations of positivism and subjectivism. The problem is that language is inexact and virtually every behavior and situation can be interpreted in a vast number of different ways. At one extreme, this can give way to a theoretical stance of solipsism--the belief that all knowledge is subjective and personal--which makes any attempt to develop a science of behavior completely futile. In this case, all interpretations of other people's behavior would be considered positivistic. At the other extreme is the view that all behavior can be understood topographically without access to the participants phenomenal world.

At some point, the quantitative and qualitative researchers have got to arrive at an acceptable compromise between these extremes of positivism and subjectivism. In our view, the quantitative researcher needs to accept the subjectivity of developing concepts and propositions from the organization member's definition of the situation and the qualitative researcher has to accept that once categories have been developed, the quantitative researcher must "objectify" them in order to measure them.

The real problem is that the qualitative and quantitative approaches are based on different epistomologies--different ideas of what constitutes appropriate knowledge of organizational and managerial processes. The qualitative researcher seeks knowledge through internally oriented description, the quantitative researcher seeks knowledge through externally oriented description. Yet, the position taken here and a growing number of management and organizational scholars (Jick, 1979; Louis, 1980; Van Maanen, 1980) that both approaches deserve recognition and need to be used in obtaining knowledge of organizational and managerial processes.

AN EXAMPLE OF INTEGRATING QUANTITATIVE AND QUALITATIVE RESEARCH

The distinctions outlined in the last section between quantitative and qualitative approaches are usually all that is recognized and given attention. To build an effective case for integration the commonalities must also be recognized and demonstrated. While it is probably true that research can be wholly qualitative; it must be recognized that research can never entirely quantitative. Qualitative judgments are always involved in, among other things, the definition of the research problem, the choice of variables, the selection of measures, and in the interpretation of findings. Quantitative data originates from and ends in the language world. Quantification permits qualitative statements to be studied with greater precision and objectivity.

Thus, there are some commonalities inherent in the two approaches. In other words, the two approaches may not be as far apart as they are sometimes portrayed.

Besides some of the basic commonalities, a specific example could be used to demonstrate how the two approaches could be integrated. Such an example could be found in integrating ethnographic research with its roots in anthropology that essentially takes a qualitative approach with applied behavioral analysis or cognitive-behavioral research with its roots in behavioral psychology that essentially takes a quantitative approach. What, at first, may seem like an unlikely attempt at integrating two radically different approaches can become feasible when points of commonality such as the following are recognized:

1. the use of idiographic research methods (intensive study of single cases)

2. a preference for "direct" methods

3. the examination of cognitions and behavior from the participants' perspective

4. a view of reality as being socially constructed and contextually defined

5. a commitment to holistic research--the study of "interactionism"

6. the acceptance of the organization member as a collaborator and contributor

7. the emphasis placed on the role of symbols and language

8. the development of theories and models based on the participants applied logic

9. a view of social science theory as metaphor

10. a joint interest in individual self-management

The Use of Idiographic Research Methods

Both approaches study behavior and social interaction through the intensive analysis of single cases. Until recently, however, the qualitative researcher had no quantitative methods and experimental procedures that were expressly adapted to idiographic research. This situation has now changed with the development of single case experimental designs (Hersen and Barlow, 1976). These designs are used extensively by cognitive-behavioral researchers. By combining the use of single case experimental designs with qualitative research, ethnographers would be able to go beyond providing purely descriptive accounts of behavior. They would be able to test the worth of their concepts or propositions as a tool to be used by management practitioners. The same would also be true for management scientists who may wish to test the usefulness of computer simulations in field settings.

A good example of the value of idiographic research is Mintzberg's (1973) study of five individual managers. Instead of studying management in terms of accepted nomothetically derived concepts such as planning, motivating, coordinating and controlling, Mintzberg decided to observe what managers actually do in natural settings. The research was intensive and holistic and based on direct observation. Mintzberg found that managers do very little planning, motivating, coordinating, or controlling. Instead, the managers in Mintzberg's study spend their day reacting and responding to others--answering phones, handling incoming mail, attending scheduled and unscheduled meetings, dealing with walk-in visitors. Other observational studies of managerial work have reported very similar findings (McCall, Morrison & Hannan, 1978). Nomothetic research that breaks down behavior into abstracted variables and studies isolated aspects of managerial work is clearly not providing as accurate a picture of managerial behavior as is the idiographic research.

A Preference for Direct Methods

Both the cognitive-behavioral researcher and the qualitative researcher share a preference for "direct methods" (Mintzberg, 1979) which bring the investigator into first hand contact with the organizational events being studied, as opposed to "remote methods," which can be defined as "any research technique that allows collection of data in an organization without requiring the presence of the researcher" (Ettlie, 1977, p. 301). Direct methods include observation, self-reports, on site interview, and unobtrusive measures; remote methods include the use of questionnaires and telephone interviews. Observation is the principle technique used by the cognitive-behavioral researcher and the ethnographer. As Kerlinger (1973, p. 554) notes, "observations must be used when the variables of research studies are interactive and interpersonal in nature." This allows the investigator to observe the actual process of a behavioral event as opposed to depending upon a limited number of crossectional data points using questionnaires to learn about the process.

The Examination of Cognitions and Behaviors from the Participant's Perspective

Silverman (1970) has noted that:

> "People act in terms of their own and not the observer's definition of the situation. The members of different organizations may attach separate meanings to what has occurred and hence react in different ways (p. 37).

Max Weber (1964) was an early proponent of studying behavior from the actor's perspective. Strangely, this has seldom been done in modern behavioral research. Most hypothico-deductive research tends to impose the researcher's categories and definitions of the problem on the organization member's behavior (Silverman, 1970). The intensive study of behavior by living with and sharing the experience

of the participants--termed the "semiotic" approach (Geertz, 1973)--lies

at the core of most ethnographic research (Saneay, 1979). Cognitive-behavioral

research shares a similar concern with the study of cognitions and behavior

from the actor's perspective. Throughout, we have stressed the importance

of working on the practitioner's perceived problems, not just on the

research community's views of their problems. We concur with the view of Boehm

(1980) and Tenopyr (1981) that the relevance and usefulness of research will

increase many fold when researchers begin to work on what the practitioners say

are their problems.

A View of Reality as Being Socially Constructed and Contextually Defined

A major point of difference exists between the cognitive-behavioral

approach to studying cognitive processes and the methods employed in a great

deal of the strictly cognitive, questionnaire-based research. The cognitive-

behaviorist examines both behavioral and cognitive processes in the context

in which they take place (Mash and Terdal, 1976). In other words, as Mischel

(1973, p. 265) notes, "measurement shifts _from_ situation free people using

broad trait terms to describe their situations _to_ analyzing the specific

interactions between situations and the cognitions and behavior of interest."

According to the social learning theory view, people do not respond to the

environment per se but to their cognitive representations of the environment.

The same physical environment can take on vastly different meaning for those

who share it.

Many organizational researchers are now viewing the meanings attributed

to behavior as being socially constructed in the setting (Benson, 1977; Brown,

1978; Louis, 1980; Salancik & Pfeffer, 1978). Much of this work has been

influenced by Schutz (1967) and Berger and Luckmann (1967). Context in

most organizational enquiry has generally been neglected. Most nomothetic studies that focus on just a few variables usually provide a very limited description of the organization context--what may be termed "thin" description. From the point of view of application, this makes it very difficult for practitioners to visualize the research situation and decide whether the study really has relevance to them. What the anthropologists term, "thick description" (Geertz, 1973), is needed to provide a more comprehensive account of the social situation.

A Commitment to Holistic Research and the Value of Interactionism

The conflicts between strictly cognitive (Locke, 1980) and strictly environmental (Komaki, 1981) models of organizational behavior still continue. There is ample evidence to suggest that integrated approaches can provide stronger, more comprehensive models for predicting and explaining behavior (Bowers, 1973; Sarason et. al, 1975). We feel that cognitive-situational approaches need to be combined in the study of management and organizational behavior. Both cognitive-behavioral researchers and qualitative researchers are committed to the study of interactionism.

Another reason for calling for more holistic research is that no means exists for integrating separate variable research in the literature. We feel that research has got to be increasingly integrated at the empirical level when the data is collected. It is here that the investigator must make sense of the situation for the consumer of his/her research. At present, it is doubtful that fragmented empiricism is leading to an additive and integrated body of knowledge.

The Acceptance of the Organization Member as Collaborator and Contributor

Qualitative researchers emphasize the importance of entering into a close, collaborative relationship with the organization member (Susman and Evered, 1978; Whyte, 1979). The cognitive-behavioral researcher also supports this

view. The social learning theorists such as Mischel (1977, p. 249)
stresses the importance of treating participants in psychological research
as "experts" and "colleagues" rather than as uninformed, passive subjects.
He emphasizes the need "to enroll them, at least sometimes, as active colleagues
who are the best experts on themselves and are eminently qualified to parti-
cipate in the development of descriptions and predictions...about themselves"
(Mischel, 1977, p. 249).

The Emphasis Placed on the Role of Language and Symbols

The role of language and symbols has generally been neglected in
organizational and management research (Daft and Wiginton, 1979). Most
research has treated language simply as a means to describe social facts
(Manning, 1979). The use of language per se as a means of construing reality
and exerting influence in organizations has not received much attention; nor
has the place of symbols in regulating thought and controlling behavior. On
the other hand, the study of meanings embedded in language has always been a
primary means of coming to understand cultures in qualitatively-oriented
anthropological research. Bandura (1977) stresses the important role symbolic
processes can play in the cognitive-behavioral approach as follows:

> The capacity to use symbols provides humans with a powerful
> means of dealing with their environment. Through verbal and
> imagined symbols people process and preserve experiences in
> representational forms that serve as guides for future behavior...
> Through the medium of symbols people can solve problems without
> having to enact all the various alternative solutions; and they
> can foresee the probable consequences of different actions and
> alter their behavior accordingly. A theory of human behavior
> therefore cannot afford to neglect symbolic activities
> (Bandura, 1977, p. 13).

The study of language and symbolic processes is a promising new area of
enquiry in organizations (Dandridge, Mitroff & Joyce, 1980; Peters, 1978;
Pfeffer, 1980) and can serve as a major point of convergence between ethnographic
and cognitive-behavioral research.

The Development of Theories and Models Based on the Participants Applied Logic

Qualitative research has a valuable role to play in studying the tools, techniques, and theories that managers actually use to guide their behavior and activities when on the job. Argyris' (1976a, 1979) distinction between "espoused theories" and "theories in use" is relevant to this point. He states:

> "If you want to motivate so and so under such and such
> conditions with such and such consequences, so they
> behave in the following way" is the kind of proposition
> contained in such researched theories, and many people
> hold to such theories with tenacity.
> Yet few people are aware that the theories they espouse
> are not the theories they use. Why should people hold
> espoused theories that are not their theories in use?
> One reason is because they are blind to the fact that
> they do not behave according to their espoused theories.
> They are blind for two reasons: First, most of us are
> programmed with theories in use that do not teach us to
> reflect accurately on our behavior and its impact,
> especially while we are interacting with others, and
> second, most of us are also programmed not to tell
> others when we experience them behaving incongruently
> with what they espouse (Argyris, 1976a, p. 639).

Researchers frequently represent behavior processes in ultra rational diagrams that depict vast numbers of variables in boxes, linked by arrows, extending across the page in linear flows. Clearly, such models are not adapted to the practitioner's applied logic. One of the reasons why the operant approach, for example, has been a relatively successful intervention strategy (Andrasik, 1979) is because is is so easy to actually use. Qualitative research that examines behavior from the participant's point of view and the cognitive-behavioral approach that provides a parsimonious approach to analyzing behavior can help develop models more adapted to the practitioner's logic in use. Also, management science models that attempt to emulate the manager's decision behavior can especially benefit from taking this approach.

A View of Social Science Theory as Metaphor

Theory development is based on the conceptual terms used to describe

real phenomena. As was noted earlier, social learning theory has been

heavily influenced by the operant approach developed by B.F. Skinner (1953).

Skinner always limited the concepts used in behaviorism to terms with precise,

operational meanings (e.g., reinforce means increase in behavioral frequency;

punish means decrease; and extinguish means cessate) that can be unambiguously

applied to analyzing behavioral events. This narrow set of explanatory terms

has frequently produced the criticism that behaviorism is a technology not

a theory of behavior. On the other hand, most theories of organizational behavior

are organized around a focal concept such as a theory of leadership or motiva-

tion. Skinner (1953; 1974) has always regarded the conceptual labeling process

that underlies these theoretical explanations of behavior as an exercise in

extrapolating metaphors or trait terms. He states:

> Trait-names usually begin as adjectives--"intelligent,"
> "aggressive," "disorganized," "angry," "introverted,"
> "ravenous," and so on--but the almost inevitable linguistic
> result is that adjectives give birth to nouns. The things
> to which these nouns refer are then taken to be the active
> causes of the aspects. We begin with "intelligent behavior"
> pass first to behavior which shows "intelligence" and then
> to "behavior which is the effect of intelligence" (Skinner,
> 1953, p. 202).

Over forty years ago, Allport and Odbert (1936) reported that at that time

there were about 18,000 trait o traitlike terms in our language--a number

that is undoubtedly considerably greater today. This provides ample opportunity

for attributing casual properties to trait terms and developing innumerable

theories of behavior like leadership and motivation.

Many qualitative researchers share a similar view with Skinner that

most theory development in the behavioral sciences consists of looking at

behavior through alternative metaphors (Brown, 1976; Manning, 1979; Morgan, 1980).

Where qualitative researchers and social learning theorists differ from

Skinner is in treating these metaphorical terms as important. Whereas

Skinner does not feel they have any part to play in the explanation of

behavior, cognitive-behavioral and qualitative researchers study these

terms to see how they affect people's cognitive processes and their symbolic

representations of behavior. Both approaches take the position that if people

(organization members) believe that these terms refer to something real then

these cognitions will influence how people behave and what the behavior

is called.

A Joint Interest in Individual Self-Management

The study of the unique individual has been neglected in psychology

for the average individual because of the preoccupation with nomothetic

research (Cronbach, 1957; Underwood, 1975). This is evident in the disappoint-

ment of beginning psychology students who soon realize that they are not going

to learn more about their own particular behavior but instead about the

average person's behavior. Differential psychology that supposedly studies

individual differences has dealt with the individual only as far as the

individual differs from the mean on selected trait measures (Argyris, 1976b).

Analogously, the study of management has primarily been oriented to techniques

and methods that can be used to manage others. Emanating from human relations

theory in the fifties and sixties, models have frequently treated individual

behavior as a function of group processes or group norms (Cartwright and Zander,

1968). Very little emphasis has been placed on studying how organization members

think, feel, and manage themselves as individuals differentiated from the work

group.

A few organizational researchers are now beginning to focus on individual self-control processes (Brief & Aldag, 1981; Luthans & Davis, 1979; Manz & Sims, 1980). This work is being influenced by cognitive-behavioral researchers who have been studying self-control processes for some time (Bandura, 1978; Ellis, 1977; Thoresen & Mahoney, 1974; Wilson, 1979). As Mischel (1979) states: "In this work we are guided by the belief that it is worth observing what people know about themselves and their own psychological processes" (p. 749).

As indicated previously, existentialism and phenomenological approaches to qualitative research place the individual and the "experienced self" at the center of enquiry. Existentialism focuses on the alternative cognitive conceptions (definitions of reality) that people use to make sense of their worlds. One of the main suppositions of the existential approach is that each individual can choose how a situation is viewed and these choices affect how each individual thinks, feels, and behaves in the situation. A number of widely read psychologists have been influenced by existentialism (Jourard, 1971; Laing, 1960; May, 1961) and there has been some recent discussion in the psychological literature concerning the points of convergence between behavioral and existential-phenomenological approaches to studying behavior (Anderson & Saeger, 1979; Giorgi, 1975; McDowell, 1975).

Albert Ellis (1977) bases his cognitive-behavioral approach to psychotherapy on the assumption that if you can train people to view situations more existentially (i.e., attribute alternative views of reality), those people will have more choices on which to base their thoughts, feelings, and behaviors. For example, a major psychological dysfunction is the tendency to get locked into fixed ways of thinking, feeling, and behaving that are self-destructive to the person and frequently have a damaging affect on relationships with others. The ability to choose a response from a range of alternatives

which allows the person to make a positive adjustment to the situation appears
to be a distinguishing characteristic of the healthy person. The interactive-
situational approach to analyzing individual behavior is different from internal
psychodynamic or psychoanalytic conceptions for the healthy personality. These
dysfunctions may be present to some degree in organizational behavior. The
study of how organization members manage their own behavior and cognitive
processes is a neglected area of research that deserves fuller attention.

CONCLUSION

This paper started off by identifying some of the major differences in
assumptions made and perspectives taken by practitioners, qualitative researchers
and quantitative researchers. Questions of "research for what?" and "what
should the output of research be?" were given close attention because the
answers tend to dictate the type of research approach that might be usefully
employed in obtaining needed knowledge for all three groups. The integration
of qualitative and quantitative research is not simply a matter of combining
methods. The philosophical assumptions underlying these different approaches
must be integrated as well. For too long, an adversary relationship has existed
in organizational and management research: competing philosophies of science
(natural science vs. interpretive science), competing paradigms (cognitive vs.
environmental) and competing designs (case vs. experiment). We believe there
is more to be gained by entering into a collaborative integrative relationship
and taking into consideration the view of the practitioner.

We discussed those areas in which we think closer agreement is essential
if qualitative and quantitative approaches are to be effectively integrated:
the use of idiographic research, the study of interactional processes, and

a broader interpretation of the philosophy of science underlying research

in organizations and management. Finally, we demonstrated that some

points of commonality can indeed be found in a seemingly diverse example

such as integrating largely qualitatively-based ethnographic research with

largely quantitatively-based cognitive-behavioral research. Such integrative

attempts benefit both qualitative and quantitative approaches and their

combined strength should better meet the needs of researchers in advancing

knowledge and practitioners in more effective management.

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