Application of qualitative research in management (why, when and how)

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Abstract

Qualitative research has been increasingly used in all sciences. In this paper we will discuss about the applications of qualitative research methods in management sciences. The differences between quantitative and qualitative researches will be clarified and the statistical methods which are suitable for such researches will be explored.

Key words: applications, qualitative, quantitative, management studies, statistical methods.

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Introduction

Qualitative research is a class of research methods in which the investigator takes an active role in interacting with the participants he or she wishes to study (Muchinsky, 2003). Shaughnessy, Zechmeister, and Zechmeister (2003) see qualitative research as a method which produces verbal summaries of research findings with no statistical summaries or analysis. Quantitative methods, on the other hand, rely heavily on tests, rating scales, questionnaires, and physiological measures (Stone-Romero, 2002). Qualitative researchers are interested in answering those why questions that con not be simply carried out by the quantitative answers. What is important with qualitative research, as opposed to quantitative research methods, is that it requires the researcher to become more personally involved in the entire research process, as opposed to being just a detached, objective researcher (Spector, 2005). In Iran some researchers have used qualitative research in their studies. These reseaches have been mainly in the area of health sciences. For example Razzaghi et al(2006) studied the injecting drug users in Tehran in a qualitative study. Tavakol et al.(2006) discussed about the application of Grounded Theory in medical education research. Rahimi Movaghar et al.(2005) investigated the change of demand and supply of drugs using a qualitative study. Mehralizadeh et al(2004) used a mixed method of qualitative and quantitative approach to study the globalization and decentralization of management in Iranian schools. In the field of organizational research the researcher has to face the use of language. Through the talk, discourses, narratives gathered during his interviews he can access to the motivations and values of the workers or decision makers. Some qualitative research methods reported in the literature (e.g., Landy & Conte, 2004; McBride & Schostak, 2004; Muchinsky, 2003; Spector, 2005) that are adaptable to organizational research include observation, ethnography, interview, focus group discussions, and projective techniques. These research methods are useful in answering questions on why employees behave the way they do in organizations (Ehigie B.O. and Ehigie R.I. 2005). In this paper we investigate the key differences between qualitative and quantitative researches and then we discuss about the reliability and validity in qualitative research. The method of data analysis in qualitative research is an important issue which we discuss about this issue. The possible statistical methods which can be used in analyzing qualitative data will be explored.

2. Comparing quantitative and qualitative research

What are the basic differences between quantitative and qualitative research methods? Quantitative and qualitative research methods differ primarily in their analytical objectives, the types of questions they pose, the types of data collection instruments they use, the forms of data they produce and the degree of flexibility built into study design. Table 1 briefly outlines these major differences. As can be seen from Table 1, these two methods of research differ significantly in their main characteristics. Figure 1. shows a schematic view of the type of reseach and research goals.
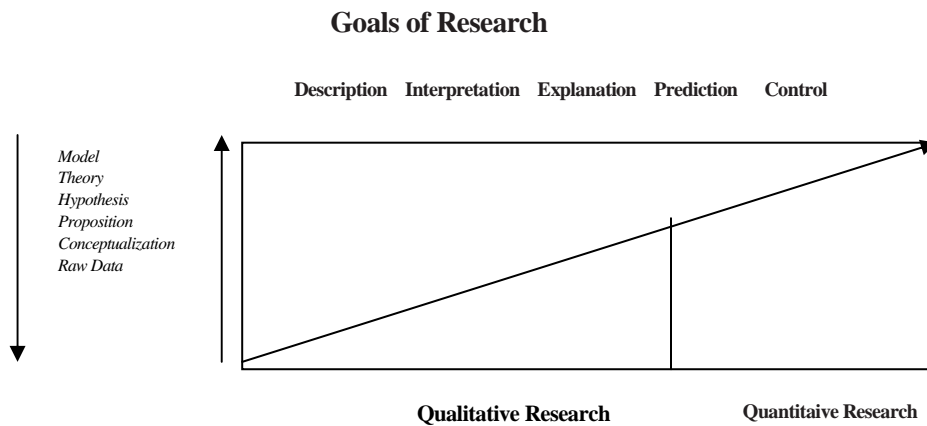
Goals of Research

Description   Interpretation   Explanation   Prediction   Control

Model
Theory
Hypothesis
Proposition
Conceptualization
Raw Data

Qualitative Research   Quantitaive Research

Figure1. Schematic view of the type of research and research goals

3. Types of qualitative research methods applied in management

As mentioned in section 1, some qualitative methods are adaptable to organizational research include observation, ethnography, interview, focus group discussions, and projective techniques. Here, we discuss each of these methods in brief.

3.1 Observation

Observation is a type of research method in which the researcher observes participants for the purpose of understanding their behaviors and culture. By this research method, researchers are not expected to talk to the employees during the research, because this may interfere with the normal work schedule of the worker. In the organizational setting, personnel who could use the observational method include supervisors, human resources

experts, or consultants(Krumm, 2001). However, the literature reports (e.g., Muchinsky, 2003; Sackett & Larsen, 1990) that observation is not frequently used in   industrial/organizational psychology primarily because it requires substantial amounts of time and energy.

3.2 Ethnography

Ethnography is a research method that utilizes qualitative, field observation methods of assessing behavior to study a society's culture. Fetterman (1998) describes it as the art and science of describing a group or culture. Such a group can be a work group, or an organization, and the culture could be the organizational culture. Researchers conducting ethnographic assessment of organizational culture do so by observing and recording behaviors in an organization, for an extended period of time (Jex, 2002). Two concepts *emic* and *etic* are used to describe this research method. *Emic* is an approach to research phenomenon that emphasizes knowledge derived from the participants understanding of their own culture, while *etic* emphasizes knowledge derived from the objective perspective of the researcher in understanding a culture.

Assumption behind the use of ethnography is that both the group members perspective and the external researcher's perspective of what is happening can be put together to present a more meaningful picture of the group. In organizational settings, consultants could serve as ethnographers in studying the culture of an organization, with aim of presenting an objective view of the organizational culture to the management.

3.3 The In-Depth Interview

Generally, an interview is described as the favored digging tool of social sciences (Kvale, 1996). Interviewing in organizational settings simply requires verbal accounts to learn about the social life of workers. Interviewing could be structured, unstructured, or semi-structured. In most cases, however, these are combined for more informative data gathering. For qualitative research, interviewing is flexible and dynamic, and is therefore described as in-depth interviewing (Taylor & Bogdan, 1998). The in-depth interview is used to explore in detail the latent attitudes and feelings of respondents. In-depth interviews can be conducted in person or through telephone and e-mails. In conducting oral interviews, audio tapes and video-tapes may be used, with the permission of the respondent in order to facilitate record keeping. The interviewer must be very experienced or

skilled, as it is expected that he or she establishes rapport with the respondent and therefore adapt quickly to the personality and mood of the person being interviewed.

3.4 The Focus Group

Focus group discussion (FGD) is a type of group in-depth interview. It involves interaction among a small group of people, between 6 and 12, with common identifiable characteristics, who respond to and build on what others in the group have said. The characteristics must be related to the topic of study, and can consist of demographic characteristics as well as knowledge based on familiarity with the topic of interest. Focus group discussions function better with certain type of participants, like extraverts (Steward & Shamdasani, 1990). The idea is that FGD encourages participants to give more candid answers and the approach generates more insightful information. Focus group discussion is quite useful in organizational development (OD) programs. OD is the process of assisting organizations in preparing for and managing change. Riggio (2003) explains that many OD programs use team approaches to deal with problems at the group or organizational level, rather than focusing on problems associated with individual workers.

3.5 The Nominal Group Technique

According to Joppe (2004), this technique was originally developed by Delbecq, Van de Ven, and Gustafson in 1971 as an organizational planning technique. It is applied as a consensus planning tool that helps prioritize management issues in organizations. Participants are brought together for a discussion session that is led by a moderator, who presents the topic to the session participants. Participants have the opportunity to ask questions and briefly discuss the scope of the topic under discourse: Thereafter, they are asked to take a few minutes to think about the issues and write down their responses in narrative forms. Their responses are recorded on a flipchart. Once everyone has given a response, participants are asked for a second or third response until all their answers have been noted on flipchart sheets available around the room. Following this, the researcher screens all responses to avoid duplication. Then each response is assigned a letter or number. Participants are asked to choose a letter or number and rank it.

3.6 Delphi Method

The Delphi Method (Joppe, 2004) is a group decision process about the likelihood that certain event will occur. In this method, the researcher brings together a panel of experts in the area of the research. The panel members are presented with a management issue for discussion and provided with a series of open-ended questionnaires for their anonymous responses. The Delphi technique is used as an alternative to board or management meetings that require the views of all members in decision making.

3.7 Projective Techniques

These techniques aim to explore some deep attitudes and motivations that would often not be said by respondents. The respondent's feelings are inferred form what they say. Projective techniques are useful for small groups. Word association, Sentence completion test, Thematic appreciation test, and the third person technique are the projection methods.

3.7.1. Word association

A list of words in a random order is presented to the respondents and they are requested to state or write some word or phrases that comes into their minds.

3.7.2. Sentence completion test

 Some incomplete sentences are given to respondents and they are asked to complete. For example :
The happiest time on this job is……………..
Most employees of this organization like………….

3.7.3 Thematic appreciation test

In this method, one or more pictures are shown to the respondents and they are asked to create some stories about the relationships or social situations suggested by the pictures.

3.7.4 The third person technique

In this method we let respondents to talk about someone else such as a neighbor, relative friend or co-worker to reflect their personal hidden emotions (Jopp, 2004).

Table 1: Comparison of Quantitative and Qualitative reseaches

	Quantitative	Qualitative
General framework	1. Seek to confirm hypotheses about phenomena 2. Instruments use more rigid style of eliciting and categorizing responses to questions 3. Use highly structured methods such as questionnaires, surveys, and structured observation	1. Seek to explore phenomena 2. Instruments use more flexible, iterative style of eliciting and categorizing responses to questions 3. Use semi-structured methods such as in-depth interviews, focus groups, and participant observation
Analytical objectives	1. To quantify variation 2. To predict causal relationships 3. To describe characteristics of a population	1. To describe variation 2. To describe and explain relationships 3. To describe individual experiences 4. To describe group norms
Question format	Closed-ended	Open-ended
Data format	Numerical (obtained by assigning numerical values to responses)	Textual (obtained from audiotapes, videotapes, and field notes)
Flexibility in study design	1. Study design is stable from beginning to end 2. Participant responses do not influence or determine how and which questions researchers ask next 3. Study design is subject to statistical assumptions and conditions	1. Some aspects of the study are flexible (for example, the addition, exclusion, or wording of particular interview questions) 2. Participant responses affect how and which questions researchers ask next 3. Study design is iterative, that is, data collection and research questions are adjusted according to what is learned

4. Reliability and Validity

Researchers performing analysis on either quantitative or qualitative analyses should be aware of challenges to reliability and validity. For example, in the area of content analysis, Gottschalk (1995) identifies three factors that can affect the reliability of analyzed data:

- stability , or the tendency for coders to consistently re-code the same data in the same way over a period of time
- reproducibility , or the tendency for a group of coders to classify categories membership in the same way
- accuracy , or the extent to which the classification of a text corresponds to a standard or norm statistically

The potential for compromising data integrity arises when researchers cannot consistently demonstrate stability, reproducibility, or accuracy of data analysis .According Gottschalk, (1995), the validity of a content analysis study refers to the correspondence of the categories (the classification that raters' assigned to text content) to the conclusions, and the generalizability of results to a theory (did the categories support the study's conclusion, and was the finding adequately robust to support or be applied to a selected theoretical rationale?).Although the term *Reliability* is a concept used for testing or evaluating quantitative research, the idea is most often used in all kinds of research. If we see the idea of testing as a way of information elicitation then the most important test of any qualitative study is its quality. A good qualitative study can help us understand a situation that would otherwise be enigmatic or confusing (Eisner, 1991). This relates to the concept of a good quality research when reliability is a concept to evaluate quality in quantitative study with a purpose of explaining while quality concept in qualitative study has the purpose of generating understanding (Stenbacka, 2001). The difference in purposes of evaluating the quality of studies in quantitative and quantitative research is one of the reasons that the concept of reliability is irrelevant in qualitative research. According to Stenbacka, (2001) the concept of reliability is even misleading in qualitative research. If a qualitative study is discussed with reliability as a criterion, the consequence is rather that the study is no good (Stenbacka, 2001).

The concept of validity is described by a wide range of terms in qualitative studies. This concept is not a single, fixed or universal concept, but rather a contingent construct, inescapably grounded in the processes and intentions of particular research methodologies and projects (Winter, 2000).

Although some qualitative researchers have argued that the term validity is not applicable to qualitative research, but at the same time, they have realised the need for some kind of qualifying check or measure for their research (Golfeshani 2003). For example, Creswell & Miller (2000) suggest that the validity is affected by the researcher's perception of validity in the study and his/her choice of paradigm assumption. As a result, many researchers have developed their own concepts of validity and have often generated or adopted what they consider to be more appropriate terms, such as, quality, rigor and trustworthiness (Davies & Dodd, 2002; Lincoln & Guba, 1985; Seale, 1999; Stenbacka, 2001). The discussion of quality in qualitative research initiated from the concerns about validity and reliability in quantitative tradition which _involved substituting new term for words such as validity and reliability to reflect interpretivist [qualitative] conceptions (Seale, 1999).

5. Data analysis in qualitative research

Data Analysis is the process of systematically applying statistical and or logical techniques to describe, illustrate, condense and recap, and evaluate data. According to Shamoo and Resnik (2003) various analytic procedures "provide a way of drawing inductive inferences from data and distinguishing the signal (the phenomenon of interest) from the noise (statistical fluctuations) present in the data"..

While data analysis in qualitative research can include statistical procedures, many times analysis becomes an ongoing iterative process where data is continuously collected and analyzed almost simultaneously. Indeed, researchers generally analyze for patterns in observations through the entire data collection phase (Robinson et al. , 1996). The form of the analysis is determined by the specific qualitative approach taken (field study, ethnography content analysis, oral history, biography, unobtrusive research) and the form of the data (field notes, documents, audiotape, videotape). While methods of analysis may differ by scientific discipline, the optimal stage for determining appropriate analytic procedures occurs early in the research process and should not be an afterthought. According to Smeeton and Goda (2003), "Statistical advice should be obtained at the stage of initial planning of an investigation so that, for example, the method of sampling and design of questionnaire are appropriate".Analyses could also be influenced by the method in which data was recorded. For example, research events could be documented by:

   a. Recording audio and or video and transcribing later

   b. Either a researcher or self-administered survey

   c. Either closed ended survey or open ended survey

   d. Preparing ethnographic field notes from a participant/observer

   e. Requesting that participants themselves take notes, compile and submit them to researchers.

   While each methodology employed has rationale and advantages, issues of objectivity and subjectivity may be raised when data is analyzed. Data processing could be seen as one of the most difficult parts of qualitative research. In a hypothesis testing research, data is collected after the research is fully designed. That is, the researcher may anticipate what kind of data may come forth. It is like agriculture where one sows seeds in anticipation for crops (Parlett & Hamilton, 1972). In qualitative research, the researcher absorbs whatever comes in often in an unsystematic way. The task of the researcher is to generate from these data something meaningful, that is, a hypothesis or a theory. Again, the styles of data analysis vary, one may analyze by thinking and intuition, by systematic management of qualitative data, or by quantitative analysis of the qualitative data. The qualitative researcher's mind never stops analysing data during the process of research Goetz & LeCompte, 1984). There is no point in pretending that he/she has to wait for the flow charts, matrices or computer printouts for inspirations. Goetz & LeCompte (1984) used the term *theorising* to describe the process of thinking or intuition during a qualitative research. The first stage in theorising is *perception*, where the researcher accepts data but also gradually focuses on some analytic units for further research. The second stage comprises *comparing, contrasting, aggregating* and *ordering*. In this stage the researcher's mind organises and classifies the data so that some categories emerge. In the third stage, *speculation*, the researcher tries to conceptualise what is perceived and arrive at some initial hypotheses. The process repeats, so that the hypotheses thus generated are further refined, modified, rejected or confirmed. It is not always easy to describe the qualitative researcher's process of thinking, Goetz & LeCompte provide perhaps the best we can have. There are writers such as Miles and Huberman (1994) who tend to consider qualitative data analysis as a separate stage that starts only after data collection. They use files, matrices, flow charts and sometimes computers to manage and organise the large amount of qualitative data. **Files** are essential to *any* qualitative research. Often a case or an interview is represented by a sheet of paper or a text file in the

computer. The file which the sheet goes indicates some kind of classification. **Matrices** are a way to summarise qualitative data. The typical simplest matrix contains three columns: data, code and memos. *Data* refer to raw data (events, views, ..) which are obtained in the field. *Code* refers to descriptors that would put the data into some category. *Memos* are made by the researcher as a memo of thinking, suggestions for further action, or its relations wit **Flow charts** or **maps** help visualise relations between data. The simplest map or flow chart starts with simple lines (interrelations) between a few cases (persons or events). When the researcher proceeds, the cases grow in number and the lines increase in complexity. In some other categories. When qualitative research is applied to a large number of cases, or when the data that are obtained began to display some kind of parameter that can be applied across a large number of cases, statistics should be called in for help, and hence quantitative analysis. The crucial step is that the qualitative data need to be codified so as to turn observations into numbers (Bernard, 1988). Once the coding is complete, the quantitative techniques used should not be different from those used in quantitative analysis. There should be, however, the precaution that the coding of qualitative data usually involves significant subjective judgement. Table 2 shows a brief classification of orientation of the study in terms of application(data- analysis) and Table 2 shows a cross classification of types of the study and types of the analysis.

Table 2: Classification of the study types in terms of application

		orientation		
		Qualitative	In-Between	Quantitative
Application	Data	Text (spoken, written, etc.) Action (video) Categorical/nominal measures	Freelists Pilesorts Ordinal	Interval- & ratio- level measurements
	Analysis	intuition thinking aids display methods classification	Boolean algebra	Statistics Mathematical Modeling

Table 3: Classification of the type of analysis interms of data type

		Type of Analysis		
		Qualitative	In-Between	Quantitative
Type of Data	Qualitative	Literary criticism Interpretation Thematic coding Boolean algebra?	Boolean algebra MDS	Statistical analysis of raw text or codes
	In-Between	1.Coding		
	Quantitative	Interpretation of statistical results Graphical displays of data		Statistics (e.g., regression) Mathematical Modeling

Discussion and coclusions

Based on what is discussed through this paper, qualitative research can play an important role in management dicision making. Qualitative reseach is fast growing in all areas of science. In Iran it needs more attention espcially in management studies which can be a reliable source for making decisions in organizations. Qualitative research also needs a development of qualitative and quantitaive methods for analysing data. We also need a careful choice of method of analysis to avoid misinterpretation of the results. The choice of research method greatly depends on the goal of the research in which the researcher decides his/her approach of study. We still need to study the different aspects of the qualitative research in order to compromise between both qualitative and quantitative research design. The implementaton of either study design needs a great care.

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