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# A Comparative Account of Qualitative and Quantitative Research

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**ABSTRACT**

Quantitative research is concerned with establishing the cause and effect relationship but qualitative research is more concerned with understanding the social phenomenon from the participant's perspectives. In other words we can say that, qualitative research is concerned with the opinions, experiences and feelings of individuals producing subjective data. Whereas quantitative researchers seek causal determination, prediction and generalization of findings, qualitative researchers seek instead illumination, understanding and extrapolation to similar situations. Qualitative and quantitative research differ in many ways but they complement each other as well Researchers who use one type of research alone do not always communicate well with those using the other, but the languages and orientations of the styles are mutually intelligible.

**Keywords:** Qualitative research, quantitative research

Qualitative and quantitative research differ in many ways, but they complement each other, as well. All Social researchers systematically collect and analyze empirical data and carefully examine the patterns in them to understand and explain social life. One of the difference between the two styles comes from the nature of the data. Soft data, in the form of impressions, Words, sentences, photos, symbols, and so forth, dictate different research strategies and data collection techniques than hard data, in the form of numbers. Other differences are different assumptions about social life and different objectives. These differences can make tools used by the other style in appropriate or irrelevant. People who judge qualitative research by standards of quantitative research are often disappointed, and vice versa. It is best to appreciate the strengths each style offers on its own terms.

Qualitative researchers often rely on interpretive or critical social science. They apply "logic in practice" and follow a non linear research path. Qualitative researches speak a language of "cases and contexts".

They emphasize conducting detailed examinations of cases that arise in the natural flow of social life. They try to present authentic interpretations that are sensitive to specific social-historical contexts. Interestingly, more female than male social researchers adopt the qualitative approach.

Most quantitative researches rely on a positivist approach to social science. They apply "reconstructed logic" and follow a linear research path. They speak a language of "variables and hypotheses." Quantitative researches emphasize precisely measuring variables and testing hypotheses that are linked to general causal explanations.

Researchers who use one style alone do not always communicate well with those using the other, but the languages and orientation of the styles are mutually intelligible. It takes time and effort to understand both styles and to see how they can be complimentary.

## Quantitative Versus Qualitative Approaches

Each approach uses several specific research techniques (e.g. survey, interview and historical analysis), Yet there is much overlap between the type of data and the approach to research. Most qualitative researchers examine qualitative data, and vice versa. There is a difference of mind set between the followers of each research approach. Some find it difficult to understand or appreciate the other approach. Although both share basic principles of science. The two approaches differ in significant ways, We can see with the table given below:

| Quantitative Approach | Qualitative Approach |
|---|---|
| ❖ Measure objective facts | ❖ Construct social reality & Cultural Meaning |
| ❖ Focus on variables | ❖ Focus on interactive processes & events |
| ❖ Reliability is key | ❖ Authenticity is key |
| ❖ Value free | ❖ Values are present and explicit |
| ❖ Theory and data are separate | ❖ Theory and data are fused |
| ❖ Independent of context | ❖ Situationaly constrained |
| ❖ Many cases, subjects | ❖ Few cases, subjects |
| ❖ Statistical analysis | ❖ Thematic analysis |
| ❖ Researcher is detached | ❖ Researcher is involved |

## Steps in the Quantitative Research Process

The process of conducting a quantitative study begins with a researcher selecting a topic. After that a specific research question arise then researcher design the study, according to the topic. After designing the study a researcher begins to collect data. A quantitative researcher will very carefully record and verify information, almost always in the form of numbers and usually transfers the data into computer-readable format. Once the data are all collected, the researcher begins the fifth step, to analyze data. This typically involves manipulating the data or numbers using computer software to create many charts, tables, graphs and statistics. Often the research ends up with a large quantity of computer-generated

output that provides the researcher with a condensed picture of the data. The researcher next has to give meaning to or interpret the data. By looking at the analyzed data, using background knowledge on the research topic and question and drawing on theory a researcher answers the original research question. A researcher also consider alternative interpretations of the data, Compares the result of this study with previous studies and draws out its wider implications. In the end the researcher will be prepared for the final step, results or conclusions or to inform others. This means writing a report about the study in a specific format and presenting a description of the study and result to professional audiences and in one or more publications.

Flow chart of steps used in the qualitative research process.

| 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---|---|---|---|---|---|---|
| Select topic | Focus Question | Design study | Collect data | Analyze data | Interpret data | Results conclusions |

## Steps in the Qualitative Research Process

Norman Denzin describes a slightly different set of steps for qualitative research. Qualitative researchers begin with a self assessment and reflections about themselves as situated in a socio-historical context. It is a highly self aware acknowledgment of social self. Like the quantitative researcher,, a qualitative researcher design a study, collect data, analyze data and interpret data. The qualitative researcher is likely to collect, analyze and interpret data simultaneously. At the interpret data stage, many quantitative researchers test hypothesis they previously developed where as qualitative researchers tend to create new concepts and emphasize constructing theoretical interpretations. In the end of research results can be shown in a separate manner. In qualitative research a later step may stimulate reconsideration of a previous one. The process is not strictly linear; It may flow in several directions before reaching an end.

Flow chart of steps used in the qualitative research process.

| 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---|---|---|---|---|---|---|
| Acknowledge Social self | Adopt Perspective | Design study | Collect data | Analyze data | Interpret Data | Result findings |

## Some other Phases of Comparison

| Quantitative Research | Qualitative Research |
|---|---|
| Test hypothesis that the researcher begins with | ❖ Capture and discover meaning once the researcher becomes immersed in the data |
| Concepts are in the form of distinct variables | ❖ Concepts are in the form of themes, generalizations and taxonomies. |
| Measures are systematically created before data | ❖ Measures are created in an *ad hoc* |

| | |
|---|---|
| Collection and are standardized | ❖ manner and are often specific to the individual setting or researcher. |
| Theory is largely casual and is deductive | ❖ Theory can be casual or non casual and is often inductive |
| Procedures are standard and replication is frequent | ❖ Research procedures are particular and replication is very rare. |
| Analysis proceeds by using statistics, tables or charts and discussing how what they show relates to hypothesis | ❖ Analysis proceeds by extracting themes or generalizations from evidence and organizing data to Present a coherent, consistent picture. |

## Quantitative and Qualitative Measurement

Quantitative researchers are far more concerned about measurement issues than are qualitative researchers. Quantitative researchers treat measurement as a distinct step in the research process that occurs prior to data collection, and they developed special terminology and technique for it. They adopt a deductive approach and begin with a concept, then create empirical measure that precisely capture it in a form that can be expressed in numbers. Qualitative researchers approach measurement very differently. They develop ways to capture and express concepts using various alternatives to numbers. They often take an inductive approach, creating new concepts as part of measuring. Both qualitative and quantitative researchers use careful, systematic methods to gather high quality data. In both styles, data are empirical representation of concepts and measurement links data to concepts. Yet differences in the styles of research and the types of data mean they approach the measurement process differently. Designing measures of variables is a vital step in planning a study for quantitative researchers. Qualitative researchers measure with a wider variety of technique.

## Reliability and Validity in Quantitative Research

Reliability and validity are central issues in all measurement. Reliability means consistency and validity suggests truthfulness. In quantitative researchers measurement reliability means that the numerical results produced by an indicator do not vary because of characteristic of the measurement process or measurement instrument itself. Stability representative & equivalence reliability applies in quantitative researches. Face, content, criterion and construct validity are used in quantitative researches.

## Reliability and Validity in Qualitative Research

Most qualitative researchers accept the basic principles of reliability and validity, but rarely use the terms because of their association with quantitative measurement. In addition, Qualitative researchers apply the principles differently. Measurement validity in qualitative research does not require demonstrating a fixed correspondence between a carefully defined abstract concept and a precisely calibrated measures of its empirical appearance. Other features of the research measurement process are important for establishing validity.

## Comparative Account of qualitative and quantitative Research

| Reference point | Quantitative research | Qualitative research |
|---|---|---|
| Meaning | Quantitative research is concerned with establishing the cause and effect relationship. | Qualitative research is more concerned with understanding the social phenomenon from the participants perspectives. |
| Nature | Value free | Values are present |
| | Independent of context | Situationally constrained |
| | Positive | Normative |
| Role of researcher | Researcher is detached | Researcher is involved |
| Sample size | Lorge sample | Small sample |
| Sampling Technique | Random sampling frequently used | Non random sampling quota purposive & snowball sampling |
| Nature of data | Hard | Soft |
| | Structured and Rigid | Unstructured & flexible |
| | Objective | Subjective |
| Inquiry method | Formal | In depth |
| Measurement & Analysis | Deductive | Inductive |
| | Counting in terms of researchers categories | Understanding participants categories |
| | Fixed response Questions | Open ended questions |
| **Features** | | |
| | For general purpose | For specific purpose |
| | Broad objectives | Narrow objectives |
| | Expensive | Economical |
| | Standardized | Non–standardized |
| | Replication is frequent | Replication is rare |
| | Measures objective facts | Construct social and cultural setting |
| **Types** | | |
| | Experimental Research | Philosophical Research Historical Research |
| | Survey research | Phenomenological Research |
| | Field Experiment | Ethnographical Research |
| | Ex post facto Research | Case studies |
| | Laboratory Research | Policy research |
| | | Participatory inquiry |
| | | Clinical research |
| | | Field Research |

## CONCLUSION

Quantitative research is concerned with establishing the cause and effect relationship but qualitative research is more concerned with understanding the social phenomenon from the participant's perspectives. In other words we can say that qualitative research is concerned with the opinions, experiences and feelings of individuals producing subjective data. Whereas quantitative researchers seek causal determination, prediction and generalization of findings, qualitative researchers seek instead illumination ,understanding and extrapolation to similar situations.

Qualitative and quantitative research differ in many ways but they complement each other as well Researchers who use one type of research alone do not always communicate well with those using the other, but the languages and orientations of the styles are mutually intelligible. It takes time and effort to understand both researches and to see how they can be complementary

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