

Rigorous Integrated Generalized (RIG) Qualitative Assessment

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Abstract

Qualitative research in development sector is an important paradigm which is used standalone or in conjunction with quantitative research. There is quantitative-qualitative paradigmatic divide on the basis of ontology, epistemology and methodology which explains the strengths and limitations of both paradigms. However, the significance of pragmatism in research sector drags qualitative paradigm under criticism as the traditional notions of validity and reliability do not fit in this paradigm. This paper attempts to instill rigor in qualitative research and uses Integrated Generalization design to derive both theory and generalizable result. On this ground, the paper proposes Rigorous Integrated Generalized (RIG) model for qualitative assessment.

Keywords: Qualitative research, Rigor, Integrated Generalization design, Validity, Reliability

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Qualitative research method

Van Mannen (1979) explains that qualitative methods are a set of data collection and analysis techniques that can be used to provide description, build theory, and to test theory.

Miles & Huberman (1994) express that these methods emphasize the fine grained, the process oriented, and the experiential, and provide a means for developing an understanding of complex phenomena from the perspectives of those who are living it.

Qualitative research methods are used in development sector both as a stand-alone method or in conjunction with quantitative research methods. The qualitative findings can be used in isolation or in support with qualitative findings depending on the research objective and design.

Rigor in qualitative research

According to Guba & Lincoln (1994), 'All science is based on paradigmatic thinking involving distinct assumptions on the nature of reality (ontology), how we can come to know that reality (epistemology), and how we can systematically access what can be known about the reality (methodology).'

The quantitative-qualitative paradigmatic divide can be understood by studying the differences between functionalism and interpretivism. The quantitative paradigm based on functionalism usually aims for theory testing and refinement. Theory building is seldom the goal and when practiced, the approach is deductive. These goals are objective (the observation is independent of observers) and support positivism (the search for causal relationships and uniform patterns). In contrast, the qualitative paradigm is based on interpretivism which aims for representation of interpretations of the phenomena as experienced by those who are experiencing them. The qualitative results are not expected to be replicable as the interpretations are unique for every researcher.

Based on these philosophical underpinnings, it is now easier to understand the methodological differences between qualitative and quantitative research. It is because of philosophical foundation that the quantitative research is based upon quantitative data collection and statistical analysis. The concept of validity and reliability developed within quantitative methodological framework is used as the indicator for quality of social research. With different philosophical foundation, the qualitative research and concepts like validity and reliability do not fit together. To address the issue of high quality or rigor of qualitative research, several new ideas and terms have been generated by qualitative researchers.

'At first, this led qualitative methodologists spawn new terms that either substituted for the scientific language of earlier periods or added new ideas to them' (Seale, 1999).

Locke (2001) suggests three metrics for qualitative rigor: the extent of pragmatic usefulness, credibility and theoretical contribution. Glaser and Strauss (1967) propose four aspects of practical usefulness of qualitative research- fit, understandable, general and control. Altheid and Johnson (1994) identify the interpretivist position on validity as 'successor validity, catalytic validity, interrogated validity, transgressive validity, imperial validity, simulacra/ironic validity, situated validity and voluptuous validity.'

All the studies in this direction and the pragmatism in research underscore the need to express the criteria for rigor in qualitative research.

Rigorous Integrated Generalized (RIG) framework

RIG framework is designed to assess and embed rigor in qualitative research. RIG is the Integrated Generalization design which is practiced under an environment of Credibility, Contextualization, Transferability, Dependability, Conformability and Standardization to ensure rigor and generalizability in the results. The figure below shows the basic framework of RIG.



Figure 1: RIG framework

The following sections discuss about rigor and Integrated Generalization design as key elements in RIG framework and attempt to show the qualitative procedures under the elements of rigor.

Rigor in RIG

RIG uses the concept of 'rigor' as a qualitative complement for validity and reliability. There are six elements of rigor as proposed by RIG. The following are the six elements of rigor for the qualitative research.

1. **Credibility**
The credibility criterion establishes that the results of qualitative research are credible from the perspective of participants of research.
2. **Transferability**
The transferability criterion establishes the degree to which the qualitative findings can be generalized to other contexts.
3. **Dependability**
In qualitative context, the dependability criterion addresses the ability of the research to replicate the findings when used in the same context.

4. **Confirmability**
The confirmability criterion describes the ability of the research to confirm or corroborate the results.
5. **Contextualization**
The contextualization criterion addresses the need to establish the knowledge of research context across all research processes from data collection to analysis.
6. **Standardization**
The standardization criterion measures the ability of the research to follow standardized procedures for quality control.

These criteria for rigor are the extension of the trustworthiness criteria of rigor in qualitative research furnished by Lincoln and Guba (1985). RIG proposes two additional cross-functional criteria- Contextualization and Standardization, for bringing out rigorous findings.

Actions to meet RIG criteria

There is a set of specific actions for each criterion to meet. This is shown in the matrix below:

Traditional criteria	Trustworthiness criteria	Methods for meeting trustworthiness criteria
Internal validity	Credibility	Extended engagement in the field Triangulation of data types Peer debriefing Member checks
External validity	Transferability	Detailed (thick) description of: Concepts and categories in the grounded theory Structures and processes related too processes revealed in the data
Reliability	Dependability	Purposive and theoretical sampling Informants' confidentiality protected Inquiry audit of data collection, management, and analysis processes
Objectively	Confirmability	Explicit separation of 1 st order and 2 nd order findings Meticulous data management and recording: Verbatim transcription of interviews Careful notes of observations Clear notes on theoretical and methodological decisions Accurate records of contacts and interviews

Matrix 1 : Methods for meeting trustworthiness criteria.Source: Lincoln & Guba (1985)

RIG proposes additional methods corresponding to the two new cross-functional criteria of Contextualization and Standardization.

Cross functional criteria	Methods for meeting cross-functional criteria
Contextualization	Documentation of study context Trainings to sensitize enumerators, researchers with study context Documentation of any changes in the study context and communicating them
Standardization	Standard flow of practices Documentation and implementation of standard practices Documentation of feedbacks and procedural changes and implementation of the same Documentation and implementation of quality control measures

Matrix2: Methods to meet cross-functional criteria

RIG embeds the rigorousness at each level of qualitative process from data collection to analysis by adhering to the set of actions for each criterion. The idea is to internalize these six criteria and methods of rigor in qualitative procedure. The qualitative procedure is based on Integrated Generalization design which is discussed in the following section.

Integrated Generalization design of RIG

RIG is based on Integrated Generalization design to add numbers and generalizability to the results. In the Integrated Generalization design, the generalized result is in context to interpretive research which uses the form of 'Moderatum generalization' where an observable aspect can be seen to be instances of broader recognizable set of features(Mayring, 2007).

The integrated design combines qualitative and quantitative analysis. RIG applies Integrated Generalization design for systematic qualitative data analysis procedure and transforms the qualitative data into nominal data for further quantitative analysis to add generalizability.

First level of analysis/Qualitative analysis

There are five major steps of qualitative analysis used in Integrated Generalized design (Srnrka & Koeszegi, 2001).

1. Data sourcing
2. Transcription
3. Unitization
4. Categorization
5. Coding

There are two forms of output from first level of analysis. One form of output is in the shape of new theoretical insights based on the adapted categories during qualitative analysis and second output is in the form of coded data which is further analyzed using quantitative techniques.

Second level of analysis/Quantitative analysis

The coded data from the first level of analysis can be used for following quantitative analysis (Srnska & Koeszegi,2001) :

1. Exploratory analysis
2. Descriptive analysis
3. Hypothesis testing

The final output from the second level of analysis is the required theory with generalized empirical results.

Rigor in Integrated Generalized design

RIG brings together the notion of 'Rigor' in qualitative research and Integrated Generalization design at core for rigorous and generalizable results. The matrix below underlines the proposed measures to embed the elements of rigor in the qualitative procedure. These measures are not exhaustive but demand standardized practices for a particular research for rigorous and generalizable results.

Qualitative procedure	Elements of rigor	Proposed measures
Data sourcing	Credibility, Dependability, Confirmability, Contextualization, Standardization.	<ul style="list-style-type: none"> - Extended engagement in the field - Triangulation of data types - Debriefing - Purposive and theoretical sampling - Informants' confidentiality protected - Inquiry audit of data collection process - Meticulous data management and recording - Clear notes of observations - Accurate records of contacts and interviews - Trainings - Documentation and implementation of standardized procedures
Transcription	Credibility, Dependability, Confirmability, Contextualization, Standardization.	<ul style="list-style-type: none"> - Member checks - Informants' confidentiality protected - Inquiry audit of data management process - Verbatim transcription of interviews: <ul style="list-style-type: none"> Careful notes of observations Clear notes on theoretical and methodological decisions Accurate records of contacts and interviews - Trainings - Documentation and implementation of standardized procedures
Unitization	Dependability, Confirmability, Contextualization, Standardization.	<ul style="list-style-type: none"> - Inquiry audit of data management and analysis processes - Meticulous data management - Minimum of two well-trained independent coders required for unitization (Smka & Koeszegi, 2001) - Trainings - Documentation and implementation of standardized procedures

Qualitative procedure	Elements of rigor	Proposed measures
Categorization	Transferability, Dependability, Contextualization, Standardization.	<ul style="list-style-type: none"> - Detailed (thick) description of concepts, categories and processes related to data and analysis - Inquiry audit of data analysis process - Minimum of two independent experts required for defining categories (Srnska & Koeszegi, 2001) - Intercoder consistency-matrix to determine incisivness of categories (Srnska & Koeszegi, 2001) - Trainings - Documentation and implementation of standardized procedures
Coding	Transferability, Dependability, Contextualization, Standardization.	<ul style="list-style-type: none"> - Detailed (thick) description of concepts, categories and processes related to data and analysis - Inquiry audit of data analysis process - Minimum of two well-trained independent coders required for coding (Srnska & Koeszegi, 2001) - Trainings - Documentation and implementation of standardized procedures

Matrix 3: Measures for embedding rigor in qualitative procedure

Conclusion

RIG framework internalizes the six elements of rigor- Credibility, Contextualization, Transferability, Dependability, Confirmability and Standardization, in its Integrated Generalization design. It proposes the methods for aligning the qualitative procedures within these six elements to obtain rigorous and generalizable qualitative results. Adherence to this framework calls for context specific adaptations.

The framework is still in conceptual stage and needs to be tested under practical conditions. It should be taken into care that the form of generalization is not purist in nature but 'Moderatum generalization' as discussed in the paper.

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