

# SAGE Research Methods Cases: Business & Management

## **Managing Sustainable Projects: Analyzing Qualitative Interview Data using the Recursive Abstraction Method**

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Author bio.

Dr Martyn Polkinghorne  
Bournemouth  
University, UK

Dr Martyn Polkinghorne has a PhD in Artificial Intelligence from the University of Plymouth. He is currently an Associate Professor within the Bournemouth University Business School, and an Education Excellence Theme Leader. Martyn was previously Head of Education and Professional Practice for undergraduate Business and Management courses, and before that he was Knowledge Transfer Programmes Centre Manager for Bournemouth University, and Head of Innovation and Start-up programmes for the University of Plymouth. He had an earlier career delivering business support and knowledge management solutions to the public and private sectors, and remains a director of two companies. Current research interests include the evaluation of student learning, and the education of students to improve their relevance to business and industry. Martyn is an Advance HE Senior HEA Fellow and a UK Council for Graduate Education (UKCGE) Recognised Research Supervisor. He is also a Member of the Institution of Engineering and Technology, a Member of the Institute of Knowledge Transfer, a Member of the Institute for Small Business and Entrepreneurship and a Fellow of the Chartered Management Institute. Martyn has PRINCE 2 project management qualifications at Foundation and Practitioner levels.

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Author bio.

Dr Milena Bobeva  
Bournemouth  
University, UK

Dr Milena Bobeva has a PhD in Information Architecture for Business Networks from Bournemouth University. Her academic and industry practice has been in the areas of information management, system analysis and design, business process improvement, innovation and performance management. Milena is a Chartered Manager and a Fellow of the Chartered Management Institute, an Advance HE Senior HEA Fellow and a UK Council for Graduate Education (UKCGE) Recognised Research Supervisor. Milena is a Senior Principal Academic at the Bournemouth University Business School, where she is also the Internationalisation lead. Her previous roles within the Business School include being Director for the MBA programme and Associate Dean for Global Engagement. Applied research features prominently in Milena's academic practice, with a focus upon experiential project-based learning, developing student employability through industry engagement, reverse mentoring as a strategy for cross-generational learning, and learning gains. She is a key advocate of education innovation through staff-student collaboration, process optimization and digitally enhanced teaching and learning.

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Author bio.

Sidra Shahid  
Bournemouth  
University, UK

Sidra Shahid has a Master's in Project Management from Bournemouth University and an MBA from Peshawar University. She is a Postgraduate Researcher and part-time academic at Bournemouth University. Her PhD research is focused upon the success of long-term educational programs in Pakistan which are delivered by non-governmental organizations, and with a particular focus upon projects which support the delivery of United Nations Sustainable Development Goal-4 (Quality Education). Sidra had an earlier career working with Non-Governmental Organizations (NGOs) in Pakistan in the education and finance sectors.

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# **Abstract**

This research methods case study is based upon an investigation into the delivery of educational projects in Pakistan. The research considers the sustainability of these projects using the outcome targets of the United Nations (UN) Sustainable Development Goal (SDG) 4 as a measure of Quality Education. In the project, data was collected via Interviews undertaken with a wide range of stakeholders including Government Officials who support projects, Non-Governmental Organizations (NGOs) who deliver projects, Donors/Sponsors who fund projects, and Communities who benefit from projects. This case study considers the analysis of an example interview undertaken with one of these stakeholders. Starting with the background context for the project, and the research design used, the analysis process undertaken using the Recursive Abstraction method is detailed, and from this the underlying patterns and trends identified within the data are revealed. Each step of the research process is carefully explained to provide a clear path from the original source data to the final recommendations proposed. Lessons learnt from analyzing this example interview are then expanded upon to illustrate wider points that researchers should be aware of when using Recursive Abstraction.

## **Learning Outcomes**

By the end of this case study, readers should be able to:

- Describe the steps in the Recursive Abstraction method and discuss its value.
- Analyse qualitative data using the Recursive Abstraction method.
- Make recommendations based upon the analysis and interpretation of qualitative data.

## **Project Overview and Context**

With the population of the world growing larger, the amount of resources humanity consumes each year is increasingly becoming unsustainable. The United Nations (UN) has therefore created a series of seventeen Sustainable Development Goals (SDGs) which focus upon some of the key areas which businesses and individuals across the globe now need to manage carefully to ensure the survival of our planet. Example topics covered include health, inequality, climatic change, and economic differences. One of these topics is the need for quality education, and for this education to be delivered in a sustainable way (United Nations, 2021) and for the outcomes of the education to be sustainable. Sustainability in this sense is quite wide ranging and includes:

- Equality of access/opportunity for all people to gain a basic level of education
- Sustainable delivery of education to ensure that it does not cause further damage to the planet's resources and climate.
- Teaching of a curriculum which itself is sustainable, for example not just teaching someone to use a tool, but also teaching them to repair and maintain that tool so that its working life can be prolonged, and the contribution of both the tool and the individual can be maximized.

It is widely believed that there is a correlation between a country's employment rates and the educational level of its population, and so a key driver to raising living standards in a country and enabling that country to better contribute to addressing the global sustainability agenda, is to raise educational levels. Pakistan is therefore undertaking a series of educational projects across the country to raise the educational levels of its own population, and many of these projects are being delivered by Non-Governmental Organizations (NGOs).

A NGO in this sense, is a not-for-profit organization that operates alongside the Government of the country, in order to support local communities, and address their bespoke needs. NGOs rely on funding from Donors (Sponsors), who are often wealthy individuals, to enable them to deliver projects. Donors often work together to pool their contributions. Such contributions are collected and distributed by an appropriate agency. Donors rarely fund projects directly as individuals.

For the purposes of this research study, a project is a temporary venture setup to achieve a single aim or objective, within a set timeframe, and with an agreed budget. Once this goal has been achieved, the project itself will be completed and closed, with ownership of the project's outputs and outcomes being transferred to the target community. However, even though an individual project may only have a finite lifetime, lessons learnt from one project can be applied to subsequent projects. Over time, a body of knowledge and experience can therefore be developed which will improve the delivery of subsequent projects.

This case study is based upon research undertaken at Bournemouth University in the UK, which investigated how project success in quality education projects could be managed and monitored. Interviews were held with a series of stakeholders, all of whom were connected with the provision of education projects delivered by NGOs in Pakistan, and from these interviews an informed understanding of the key issues was created.

## Section Summary

- *The UN has created 17 different Sustainable Development Goals (SDGs).*
- *SDG-4 relates to Quality Education.*
- *An NGO is a not-for-profit organization delivering social benefits.*
- *A project is a short-term activity with a prescribed goal.*
- *Raising education levels in a country improves prosperity.*
- *Improved prosperity in a country enables it to better support sustainability.*

# Research Design

Research question: What key metrics should be considered when measuring the success of sustainable quality education projects delivered in Pakistan?

This Research Question was addressed through the following research objectives:

1. Identify the major issues related to measuring the success of sustainable quality education projects delivered in Pakistan.
2. Appraise the critical drivers for delivering sustainable quality education projects in Pakistan.

The most appropriate philosophical position for this study was that of interpretivism in which we recognize that participants are ‘social actors’ whose actions influence the phenomenon being investigated (Ghauri *et al.*, 2020). As such, this research used an inductive approach to infer the meaning behind these actions as often this meaning is not explicitly expressed.

Although some projects may relate to more than one purpose, most research projects primarily fall into one of five different purposes, these being:

1. **Exploratory** – this is when the research study is trying to understand the dimensions of a phenomenon.
2. **Descriptive** – this is when the research study is trying to articulate the dimensions of the phenomenon.
3. **Explanatory** – this is when the research study is trying to understand why the phenomenon occurs.
4. **Analytical** – this is when the research study is trying to understand the detail of the phenomenon.
5. **Predictive** – this is when the research study is trying to estimate what will happen either to the phenomenon, or because of the phenomenon, in the future.

This research methods case study is based upon an exploratory research study which was focused upon collecting the thoughts and views from those actually involved in the delivery of educational projects in Pakistan. As such, the data collected was quite subjective in nature, and a qualitative method was therefore required. Qualitative data can be collected in a variety of ways, of which the two most common are Interviews and Focus Groups.

In the case of the latter, Focus Groups work best when the researcher can combine a number of participants together (either physically or online) to debate the phenomenon being investigated. This sharing of experiences can stimulate participants to provide more detail, with the result that a wider range of perspectives may inform the research. However, when participants are only available on an individual basis, and / or the researcher doesn't wish the thoughts and views of one participant to be influenced by those of another, as it is the case in this study, then Interviews are a more useful data collection tool.

Interviews themselves are available in three main types (Saunders *et al*, 2019), these being:

- **Unstructured interviews** – a general theme is agreed for the interview, and the person being interviewed talks about the topic, but no subsequent questions are asked by the interviewer other than to check understanding, and to seek clarification. Each interview is often quite different, with every interviewee concentrating on what they think is important about the phenomenon being investigated. The data collected is qualitative in nature.
- **Semi structured interviews** – questions are asked about a series of broad high-level topics supported by additional probing questions to drill down into more detail should this be required. Each interview is often quite variable with all interviewees being asked the same questions about the high-level topics, but also being asked bespoke additional questions about the detail. The data collected is mostly qualitative in nature.

- **Structured interviews** – a series of detailed questions are agreed, and a set of pre-coded answers are detailed for each question. There is little social interaction between interviewer and interviewee beyond asking the questions, and recording the answers. Each interview is normally consistent with all interviewees being asked the exact same questions. Data collected is easily quantifiable.

For this study, semi-structured interviews were employed to ensure that the data collected was focused upon the research questions, without inhibiting each interviewee's ability to provide new additional insights not previously considered by the research team. Each person being interviewed was selected using a purposive sampling strategy which means that there was a distinct rationale behind their nomination / choice. Selection criteria used to identify participants included their role as a stakeholder of educational projects being delivered in Pakistan, and their level of experience relevant to the study.

Some research studies are longitudinal as they compare two sets of data collected at different points in time. Conversely, this research study is cross-sectional as the data was collected at a single point of time. This means that if the thoughts and views of participants had changed over time, the researchers would have been unable to identify this (Bell *et al.*, 2018). Given that the interviewer is exposed to the thoughts and views of the participants as they exist at the time of the interview, it is important to ensure that measures are taken to reduce bias, and to increase the validity of responses. Such measures included ensuring that the participant had the time available to undertake the interview, was not concerned about being over-heard during the interview and didn't have any restrictions that would prevent them being able to concentrate fully on the questions being asked. Equally, the interviewer needed to record the interview (with the permission and knowledge of the participant) to ensure that all data was collected, and not just the data which the interviewer considered to be important at the time of the interview (Easterby-Smith *et al.*, 2021).



## Section Summary

- *The philosophical stance of this research study was interpretivism.*
- *The approach used for this research study was inductive.*
- *The time-horizon for this research study was cross-sectional.*
- *Data was collected using semi-structured interviews.*
- *Data collected from semi-structured interviews was mostly subjective and qualitative in nature.*

## Research Practicalities

The study in this research methods case study was undertaken in accordance with the Bournemouth University research ethics protocol (approval reference 39494). This required that prior to commencing the data collection, a research ethics checklist was completed to establish the level of risk involved with this project, and to remind the researcher of all aspects related to the ethical conduct of data collection, analysis, storage and use. This was accompanied with a Participant Information Sheet and Participant Consent form as well as a list of indicative questions to be included in the interview. The data collection could not commence before this set of documents was approved by a nominated reviewer.

All of the interviews were undertaken during the period of the COVID-19 global pandemic, and so the researcher had to use online video-conferencing tools such as Microsoft Teams, Zoom and Skype to hold the interviews. All interviews were recorded.

There are obvious ethical issues when recording interviews, and this had to be considered in advance of data collection. The interviewees may be concerned regarding how their data would be stored and who may subsequently listen to the recording. To ensure that good quality data was collected, the researcher needed to ensure that participants were open and honest with their answers during the interview. It was therefore important that the researcher was able to reassure interviewees that the recording of their interview was only being

undertaken to ensure that the transcript subsequently generated was accurate, that the transcript itself was to be stored safely on a password protected server to which only the immediate research team would have access, and that the data collected would be anonymized to protect the identify of each participant. Furthermore, the interviewee was reassured that once used in the data analysis, that the transcript would be safely destroyed. Before undertaking each interview, each participant was provided with the approved information sheet which detailed the research process, risks and data management procedures, and they were asked to sign the above-mentioned consent form. Each interview then lasted approximately one hour. During this time, the interviewer asked the interviewee a series of agreed questions relating to the aim of the research. These interview questions had been carefully selected to enable the researcher to answer the research question, and to satisfy the research objectives. Specifically, the questions asked related to the following high-level topics:

1. Participant's personal and organizational data for contextualization.
2. Participant's understanding of projects / project management.
3. Participant's understanding of the major issues related to measuring the success of sustainable quality education projects delivered in Pakistan.
4. Participant's understanding of the drivers for delivering sustainable quality education projects.

In total, 20 interviews were undertaken in the research study. This case study includes data collected from 3 example interviews (interviewees A to C), with a particular focus on the analysis of a single interview (interviewee A). The stakeholders considered in this case study are detailed in Table 1.

**Table 1. Stakeholder Interviews Considered in this Case Study**

<b>Interviewee</b>	<b>Stakeholder Role</b>
<b>A</b>	Non-Governmental Organization (NGO) Representative
<b>B</b>	Government Representative
<b>C</b>	Donor (Sponsor) Representative

Once data had been collected from the interviews, the researcher used commercially available software to create a transcript relating to each interviewee from their respective audio recording. The researcher then checked each transcript by reading it through, with the audio recording of the interview playing simultaneously, to validate that the transcript was accurate. Each agreed and finalized transcript was then analyzed on an individual basis using a qualitative analysis method.

For this study, the Recursive Abstraction method (Polkinghorne and Taylor, 2021) was used in which the researcher follows a series of key steps (Polkinghorne and Arnold, 2014). The Recursive Abstraction method was selected because it helps the researcher to interact more closely with the data, and in the view of the researcher, this helps to support the emergence of more meaningful themes and codes. Each step of the Recursive Abstraction method is non-destructive, i.e., the data from each step is retained when undertaking the next step. The 6 steps in the Recursive Abstraction process are detailed below:

1. Elements of text within the interview transcript relevant to the research question and research objectives were identified. This stage highlighted any potentially important data which had been collected.
2. Identified elements of text were extracted from the transcript for further analysis. This stage was important as it removed any unnecessary content and enabled the researcher to focus upon the pertinent data.

3. The extracted elements of text were then paraphrased in the researcher's own words. These were recorded next to the original to allow for comparison and review. In this stage, the researcher needed to maintain the meaning and context of the original text when paraphrasing. Different interviewees had made similar comments but had expressed them quite differently. Paraphrasing enabled the researcher to introduce a level of conformity in which different interviewees making a similar point, started to be expressed in a similar way, which allowed for easier comparison.
4. Paraphrased elements of text were then grouped together in themes. At first these themes related to the original interview questions asked. Later the researcher recognised emerging similarities between paraphrased elements of text and decided to regroup them into different new themes.
5. Paraphrased elements of text, now grouped into themes, were then coded. Codes were single words, or short phrases, which reflected the same meaning, but used fewer words. Once again, like paraphrasing, coding introduced a level of conformity in which different interviewees who have made similar points, could be expressed in a similar way, which allowed for easier comparison.

*Note: Steps 4 and 5 needed to be repeated several times to fully collapse the data successfully into the final themes and codes for the interview being analyzed. The researcher should not be afraid to introduce new themes and codes, or to merge existing themes and codes. The Recursive Abstraction method is quite flexibility in this regard.*

6. The finalized themes and codes relating to the interview being analyzed were then compared to those themes and codes emerging from the other interviews being undertaken, to identify patterns and trends within the data. It was easier at this stage to place the results into a table. By taking this approach, the researcher was able to identify views and opinions which were isolated to a single individual, and other

views and opinions which were more widely shared across many of those being interviewed. From these patterns and trends, the researcher was able to propose appropriate actions and / or recommendations.

With qualitative research, the researcher is less concerned about the detail, and instead they are much more interested in identifying the underlying patterns and trends (Collis and Hussey, 2021). Once they have identified these patterns and trends, the researcher should return to the original interview transcripts and extract text which will illustrate their findings. Because the interviews were recorded, and the transcripts had been carefully checked, this text can be in the form of quotations.

## Section Summary

- *Research was conducted in an ethical way and in compliance with the relevant organisational policies and procedures.*
- *Participants were provided with an information sheet in advance which detailed the research process, risks and data management procedures.*
- *Participants completed a consent form to confirm their agreement to take part in the study and to have their interviews recorded.*
- *Interviews were recorded to ensure that accurate transcripts could be created. Recordings of interviews were later carefully destroyed.*
- *Transcripts were created, checked and stored on password protected servers.*
- *Data collected was anonymized.*
- *Recursive Abstraction summarized the data in the form of themes and codes, and then identified the emerging patterns and trends.*
- *Quotes taken from the checked transcripts were used to illustrate research findings.*

## Method in Action

Once the interviews had been held and recorded; and the transcripts had been created, checked and anonymized; the Recursive Abstraction process was undertaken using the six steps detailed in the previous section.

Below, we concentrate on analyzing a single interview which has been coded as interviewee A. At the end of the section, we will compare the results obtained from interviewee A to those results obtained from the analysis of interviewees B and C. The interview data from Interviewees B and C had been analyzed separately.

**STEP 1:** The researcher considered the interview transcript very carefully, and highlighted interesting sections of text in yellow. At this early stage in the process, it was sometimes unclear which parts of the text to retain. A good rule of thumb is therefore to reverse this process and consider which parts of the text are not required. Saving too much text in Step 1 can be corrected at a later stage by removing it. Removing too much text in Step 1 will mean that the separated data will no longer feature in the subsequent analysis process. The analysis of qualitative data is time consuming and therefore this removal of all data unconnected with the research study being undertaken significantly reduces the time requirement necessary.

**STEP 2:** The highlighted retained text was extracted so that the data analysis only concentrated upon the relevant data. The link to the question the data addressed was maintained by creating a reference table. Examples of highlighted text to be retained and extracted for two of these questions are detailed below in Table 2.

**Table 2: Two Selected Questions with Examples of Extracted Text from Interview Data**

Original Question	Extracted Text from Data for Interviewee A
How can we improve the performance of a project to make it more successful?	“Community ownership, need identification, appropriate need, and acceptance from the community, are the main points to consider for a successful and sustainable project”
	“The Donors need to ask about the NGO’s mandate”
	“We need to devise a strategy for resource allocation”
In your opinion, what are the key factors that contribute most to project success?	“If the interventions are not according to the needs of the community, the project cannot be or will not be successful”
	“Donors refuse to provide the funds for certain needs of the community”
	“If the needs are not genuine, and the NGO has conducted the project, the project is very unlikely to be successful”

**STEP 3:** When analyzing qualitative data, it was apparent that different interviewees said the same thing in different ways, and even the same interviewee made the same point several times using different wording and phraseology. Paraphrasing the original data was therefore useful to overcome this problem. When the researcher paraphrased the data, they looked at the meaning behind the words, and tried to capture this in a short and consistent fashion. Short in this context may mean a single word and could also be a phrase. Whenever possible, the researcher used the same paraphrasing as much as possible so that they started to build repeated phrases, i.e., the interviewee may have repeated the same point three times using different words, and the researchers may replace each occurrence with the same paraphrasing. Table 3 contains examples of how they have replaced the extracted text with a paraphrased alternative.

**Table 3: Two Selected Questions - Examples of Paraphrasing Extracted Data**

<b>Original Question</b>	<b>Extracted Data from Interviewee A</b>	<b>Paraphrased Data</b>
How can we improve the performance of a project to make it more successful?	“Community ownership, need identification, appropriate need, and acceptance from the community, are the main points to consider for a successful and sustainable project”	Project success depends on meeting a genuine community need
	“The Donors need to ask about the NGO’s mandate”	Project success depends on the NGO having a mandate relevant to project
	“We need to devise a strategy for resource allocation”	Project success depends on the allocation of appropriate resources
In your opinion, what are the key factors that contribute most to project success?	“If the interventions are not according to the needs of the community, the project cannot be or will not be successful”	Project success depends on correct needs identification
	“Donors refuse to provide the budget for certain needs of the community”	Project success depends on Donors having a relevant priority
	“If the needs are not genuine, and the NGO has conducted the project, the project is very unlikely to be successful”	Project success depends on meeting a genuine community need

**STEP 4:** When the researcher first undertook each interview, and as they had followed an inductive approach, they had no themes to use, and so created initial themes based upon the original interview questions asked. Once they started to paraphrase the text, it became clear that themes were emerging from the data as different points raised linked to each other, and so they grouped the paraphrased data into these new themes. In some instances, it was clearly



a new theme with lots of relevant content, but on other occasions they were less certain and proceeded cautiously until they were convinced that the new theme had enough data to be viable. Table 4 includes examples of how the researcher allocated new themes to the paraphrased data. The data within the original question-based themes was often moved to different new themes, i.e., the new themes did not link directly to the original questions, and data within each original question often needed to be being split into multiple different themes. This fluidity of the data in this regard is part of the power of Recursive Abstraction as it allows data to coalesce as appropriate without being forced by either the questions asked, or by the researcher’s expectations.

**Table 4: Two Selected Themes - Examples of Grouping Paraphrased Data**

<b>Original Question</b>	<b>Paraphrased Data for Interviewee A</b>	<b>Themes</b>
How can we improve the performance of a project to make it more successful?	Project success depends on meeting a genuine community need	Project Design
	Project success depends on the NGO having a mandate relevant to project	Project Initiation
	Project success depends on the allocation of appropriate resources	Project Design
In your opinion, what are the key factors that contribute most to project failure?	Project success depends on correct needs identification.	Project Initiation
	Project success depends on Donors having a relevant priority	Project Initiation
	Project success depends on timely release of Donor funding	Project Design
When delivering educational projects in Pakistan, what are the key challenges that you need to overcome?	Project success depends on Government not causing bureaucratic delays	Project Design
Which stage of the project is considered most important in	Project success depends on the alignment of stakeholder expectations	Project Initiation

terms of measuring the performance of the project?	Project success depends on appropriate project management and monitoring	Project Design
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**STEP 5:** Codes are a lower-level groupings than themes, and so each theme will normally contain multiple codes. A theme with only one code is possible, but in such circumstances the researcher should consider if that theme should be merged with another.

As with the paraphrasing, the researcher kept to a small range of different codes. What this meant in practice was that whenever the researcher had applied the same paraphrasing to certain sections of extracted text, they then applied the same code to each occurrence.

Furthermore, if the same interviewee had said something similar more than once which fitted with an existing code, we the researcher applied the code to that new paraphrased comment too. In addition, across all of the interviewees being analyzed, the researcher tried as far as possible to use the fewest number of codes which they could justify as this helped to streamline understanding. The warning to researchers is that sometimes the existing codes do not quite apply to the new paraphrased data being considered. On these occasions either a new code is necessary, or the existing code needs to be renamed to make it more inclusive. Table 5 provides examples of how the researcher replaced paraphrased data with codes.

**Table 5: Two Selected Themes - Examples of Replacing Paraphrased Data with Codes**

Themes	Paraphrased Data for Interviewee A	Codes
<b>Project Initiation</b>	Project success depends on correct needs identification.	Community Need
	Project success depends on NGO having a mandate relevant to project	NGO Mandate
	Project success depends on Donors having a relevant priority	Donor Priorities

	Project success depends on the alignment of stakeholder expectations	Stakeholder Expectations
<b>Project Design</b>	Project success depends on meeting a genuine community need	Community Need
	Project success depends on the timely release of Donor funding	Donor Funding
	Project success depends on Government not causing bureaucratic delays	Government Support
	Project success depends on the allocation of appropriate resources	Project Resources
	Project success depends on appropriate project management and monitoring	Project Management

**STEP 6:** By this point in the analysis, the researchers had an agreed series of themes and codes from the data for interviewee A, and had collapsed the data considerably from the original narrative of the interview transcript. The Recursive Abstraction process allowed for Steps 4 and 5 to be repeated time and again, until the researcher considered that the themes and codes had been collapsed as far as possible. This is called the saturation point and for interview A, the final themes and codes are detailed in Table 6. Please note the Table 6 includes the results from all questions for Interviewee A, whilst Tables 2 to 5 illustrated the process using examples from the transcripts of only two of the interview questions.

**Table 6: Summary of Themes and Codes for Interviewee A**

<b>Themes</b>	<b>Codes</b>	<b>Interviewee A</b>
<b>Project Initiation</b>	Community Need	*
	NGO Mandate	*
	Donor Priorities	*
	Stakeholder Expectations	*

<b>Project Design</b>	Donor Funding	*
	Government Support	*
	Project Resources	*
	Project Management	*
<b>Project Implementation</b>	Monitor Deliverables (NGO)	*
	Monitor Performance (Donor)	*
	Community Expectations (NGO)	*
	Community Feedback (Donor)	*
	Community Satisfaction (Donor)	*
<b>Project Evaluation</b>	Success Criteria (Stakeholders)	*
	Benchmark Community	*
	Community Satisfaction	*
	Donor Satisfaction	*
	Project Sustainability	*
	Project Deliverables (Community owned)	*
	Project Lessons	*

As detailed in Table 7, the themes and codes which emerged from undertaking the analysis of interviewee A were then compared to the themes and codes which emerged from the analysis of interviewees B and C, so that the researcher could easily identify any common patterns and trends. Where relevant, the same themes and codes were used when undertaking the analysis of the subsequent interviews, but new themes and/or codes were introduced if required. For example, it is clear that “*Project Initiation - Community’s Need*” was reported equally by all interviewees, whereas “*Project Design - Donor Funding*” was only reported by interviewee A (NGO representative) and interviewee B (Government representative) and not by

interviewee C who was a Donor themselves. Equally, “*Project Implementation – Community Expectations*” was reported equally by all interviewees, whereas “*Project Evaluation - Donor Satisfaction*” was only reported by interviewee A (NGO representative) and by interviewee C (Donor representative), and yet not by interviewee B (Government Representative).

**Table 7: Comparison of Selected Example Themes and Codes for Interviewees A to C**

Themes	Codes	Interviewees		
		A NGO	B Gov	C Donor
<b>Project Initiation</b>	Community Need	*	*	*
	NGO Mandate	*	*	*
	Donor Priorities	*	*	
	Stakeholder Expectations	*	*	
<b>Project Design</b>	Donor Funding	*	*	
	Government Support	*	*	*
	Project Resources	*	*	*
	Project Management	*	*	*
<b>Project Implementation</b>	Monitor Deliverables (NGO)	*	*	*
	Monitor Performance (Donor)	*	*	*
	Community Expectations (NGO)	*	*	*
	Community Feedback (Donor)	*	*	*
	Community Satisfaction (Donor)	*	*	*
<b>Project Evaluation</b>	Success Criteria (Stakeholders)	*	*	*
	Benchmark Community	*		*
	Community Satisfaction	*	*	*
	Donor Satisfaction	*		*

	Project Sustainability	*	*	*
	Project Deliverables (Community owned)	*	*	*
	Project Lessons	*	*	*

From the patterns and trends identified in Table 7, the researcher was able to recognize a number of themes/codes with which all stakeholders agreed. These are the major issues (research objective 1) and critical drivers (research objective 2) which the research has sought to identify. In this study, the results of the Recursive Abstraction analysis have answered the original research question (*what key metrics should be considered when measuring the success of sustainable quality education projects delivered in Pakistan?*) and they have addressed the research aim (*to investigate how Non-Governmental Organizations (NGOs) operating in Pakistan can sustainably deliver quality education projects aligned to UN SDG-4*).

## Section Summary

- *The researcher identified and extracted elements of the interview transcript relevant to the research study.*
  - *These extracted elements of text were paraphrased to maintain their meaning using fewer words.*
  - *Paraphrased data were grouped into themes.*
  - *Initial themes were based upon the interview questions, but then alternative themes emerge from the data which were used instead.*
  - *Paraphrased data were assigned to themes irrespective of the question from which the data was originally collected.*
  - *The paraphrased data within the themes was further analyzed and assigned to codes.*
  - *The themes and codes collected from one interview were then compared to those collected from other interviews to identify patterns and trends.*
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## Practical Lessons Learned

Analysis of subjective qualitative data is very different to the analysis of objective fact-based quantitative data, and in this qualitative setting, the researcher had to make a series of judgements regarding how to interpret the data collected. Context was a key element of this interpretation, alongside the need for the development of sensible interview questions which allowed the interviewee to expand upon their thinking.

The Recursive Abstraction process enabled the researcher to work closely with the data so that they understand it, and from this understanding authentic themes and codes emerged. As such, it is important that the researcher allowed the data to remain 'fluid', with codes moving between themes, and data moving between codes, until the point of saturation was reached.

From this and previous studies undertaken, the researcher has identified that if the data is not collapsed enough, there is a risk of the themes and codes being underdeveloped. Conversely, if the data is collapsed too much, then the richness of the qualitative data is lost, and the results become too bland to inform understanding.

The patterns and trends identified from the Recursive Abstraction process are useful, but this new understanding needs to be applied for the maximum impact to be achieved. Researchers are therefore urged to think about what they will do with the new knowledge gained. Will they make recommendations? Will they take action? Will they evoke change? After all, why undertake research if we don't then utilize our understanding of the phenomenon being investigated to make a difference.

### Section Summary

- *The quality of the research possible, is dependent upon the quality of the data collected, which in turn is directly link to the suitability of the interview questions asked.*
- *The researcher needed to collapse the data enough for it to be meaningful.*

- *The researcher needed to avoid collapsing the data too much so that this meaning was subsequently lost.*
- *Patterns and trends identified informed the researcher's understanding of the phenomenon being investigated.*

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## Conclusion

The research method presented in this case study illustrates the key aspects of the research design for a project on UN SDG-4, with particular emphasis on the fundamentals and implementation of the Recursive Abstraction qualitative data analysis method. The latter has some similarities with content analysis (Vaismoradi et al, 2013), and thematic analysis (Kiger and Varpio, 2020), in the sense that all three methods offer a simple process for systematic exploration of qualitative data including the iterative nature of the analysis, and the use of similar operational terms, such as themes and codes. The major advantage of the Recursive Abstraction analysis is the paraphrasing of the words in the transcript to focus upon the meaning, rather than on the words used. This offers a sound base for creating a new understanding of the issues, and as a result, creates a better understanding of the phenomenon being investigated.

Clearly, the quality of the findings was a byproduct of both the care with which the analysis process was undertaken, and also the suitability of the interview questions being asked.

Alongside this, it remained important to interview the right people, who had the best perspective, and who could therefore add most to the research being undertaken. The researcher must remain considerate of these factors, from the initial research design phase, right through to the end of the study.

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## Discussion Questions

1. This case study used interviews to collect data from individual participants, but how might the results have been different if it had used focus groups instead?
  2. In this example, why was it important to interview participants from different stakeholder groups?
  3. What are the positive and negative points which should be considered when deciding to record an interview?
  4. How has the researcher mitigated the possibility of bias when collecting the interview data?
  5. What do researchers need to be aware of when paraphrasing interview data?
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## Further Reading

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