



Territorial Planning
and Management
Graduate Program



Qualitative Methods for Research in Planning

Qualitative Data Analysis: Coding

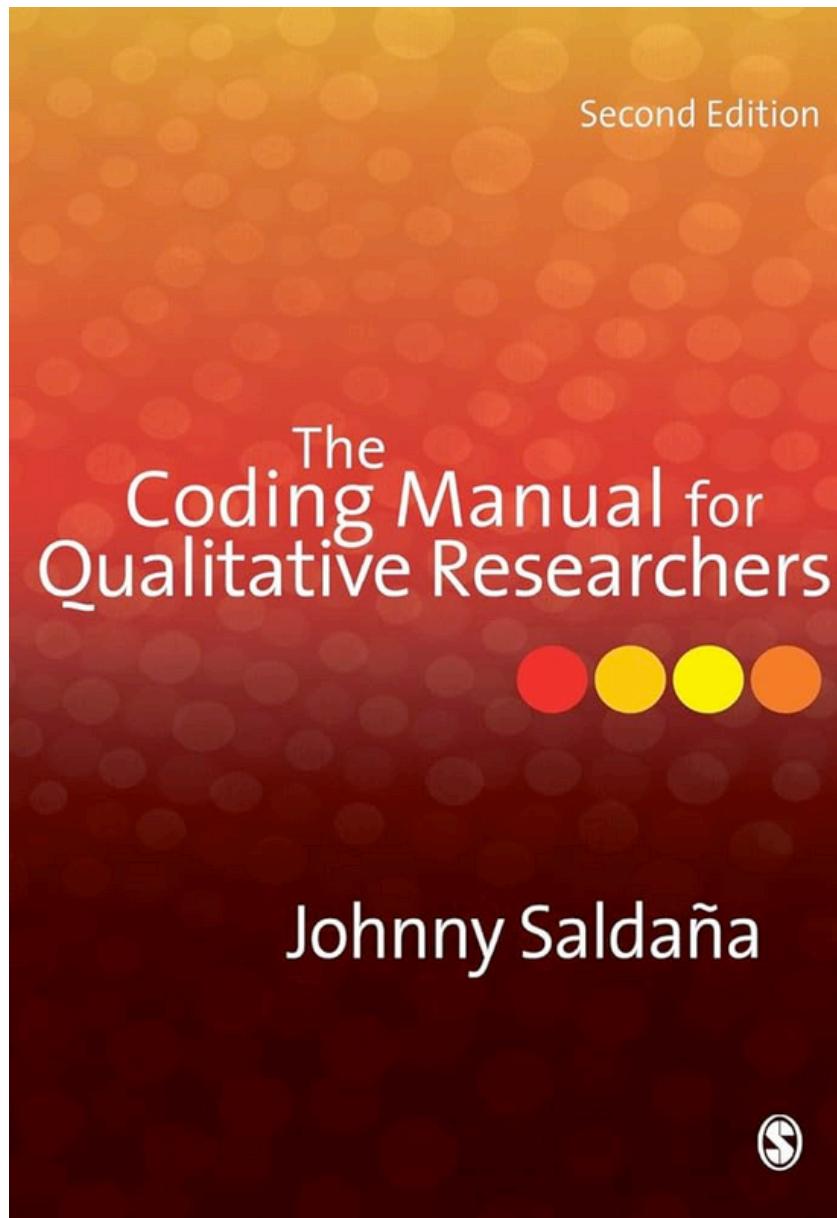
PGT-605 - Methods and techniques in territorial planning and management

PhD Beatriz Milz
2024

Introduction

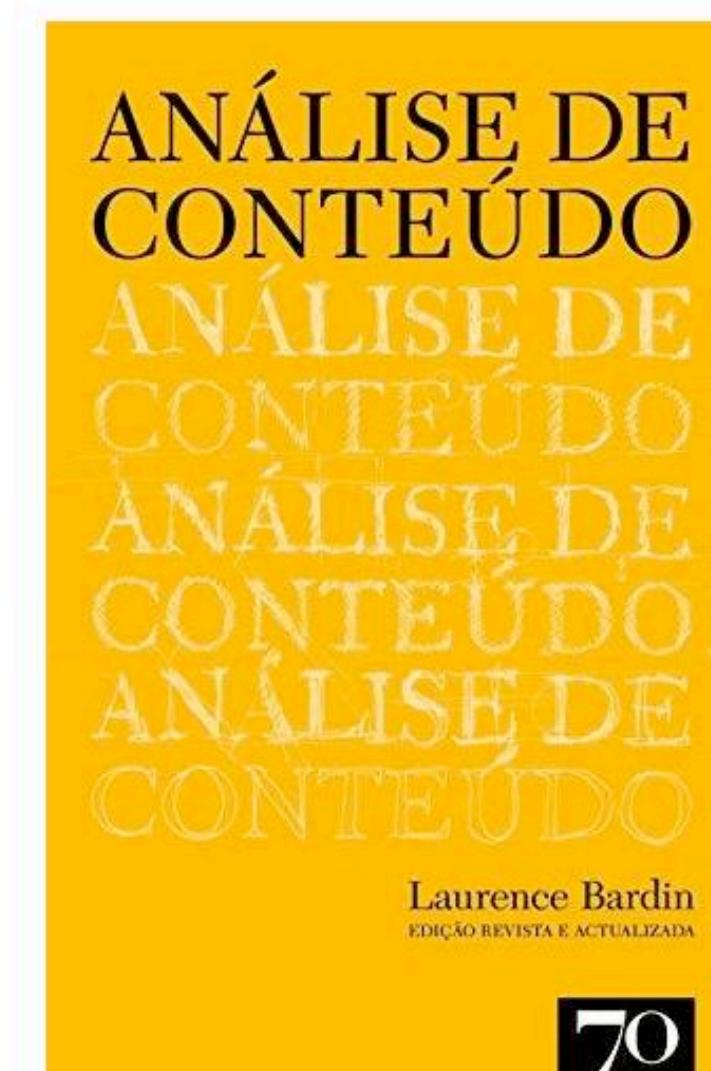
Main references that I used

The coding manual for qualitative researchers
Johnny Saldaña (2013)



This book is already in the 4th ed, but I only have access to the 2nd, so I used this as reference.

Content Analysis
Laurence Bardin



What is a code?

"In qualitative data analysis, a code is a researcher-generated construct that symbolizes and thus attributes interpreted meaning to each individual datum for later purposes of pattern detection, categorization, theory building, and other analytic processes. [...] A code represent and capture a datum's primary content and essence."

(Saldaña, 2013, p. 4)

Codifying and Categorizing

"Coding is thus a method that enables you to organize and group similarly coded data into categories or “families” because they share some characteristic - the beginning of a pattern"

Codifying and Categorizing

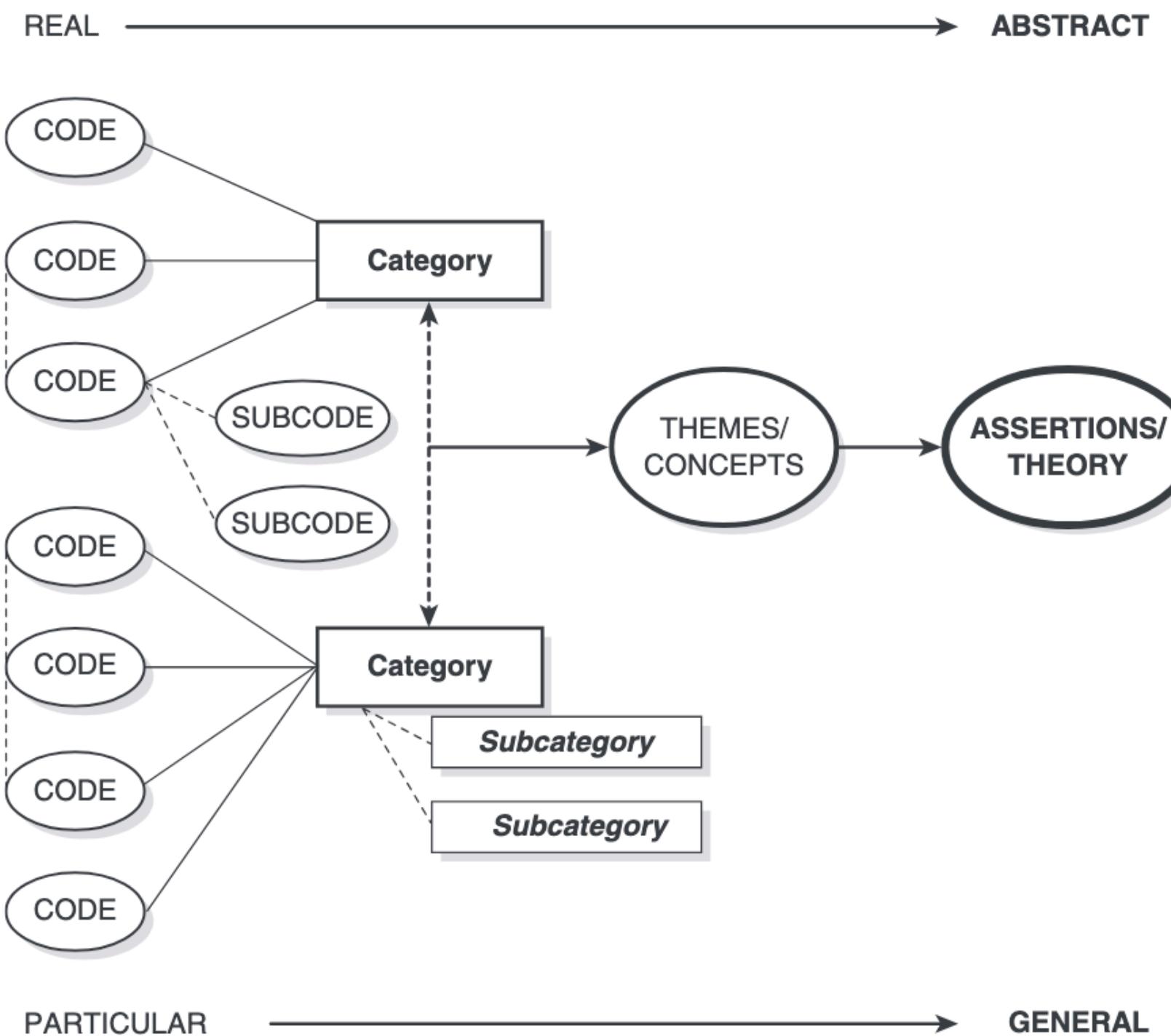


Figure 1.1 A streamlined codes-to-theory model for qualitative inquiry

(Saldaña, 2013, p. 13)

Example

Category: Teacher Skills

- Subcategory 1: Instructional Skills
 - Code: PEDAGOGICAL
 - Code: SOCIO-EMOTIONAL
 - Code: STYLE/PERSONAL EXPRESSION
 - Code: TECHNICAL
- Subcategory 2: Management Skills
 - Code: BEHAVIORIST TECHNIQUES
 - Code: GROUP MANAGEMENT
 - Code: SOCIO-EMOTIONAL
 - Code: STYLE (overlaps with instructional style)
 - Code: UNWRITTEN CURRICULUM

What to code?

Interviews*

Focus groups*

Survey responses*

Articles

News

Speeches

...

* Remember to be careful about ethics in research, each country has specific legislations.

What to code?

"The data can consist of interview transcripts, participant observation field notes, journals, documents, drawings, artifacts, photographs, video, Internet sites, e-mail correspondence, literature, and so on."

(Saldaña, 2013, p. 3)

What is our data?

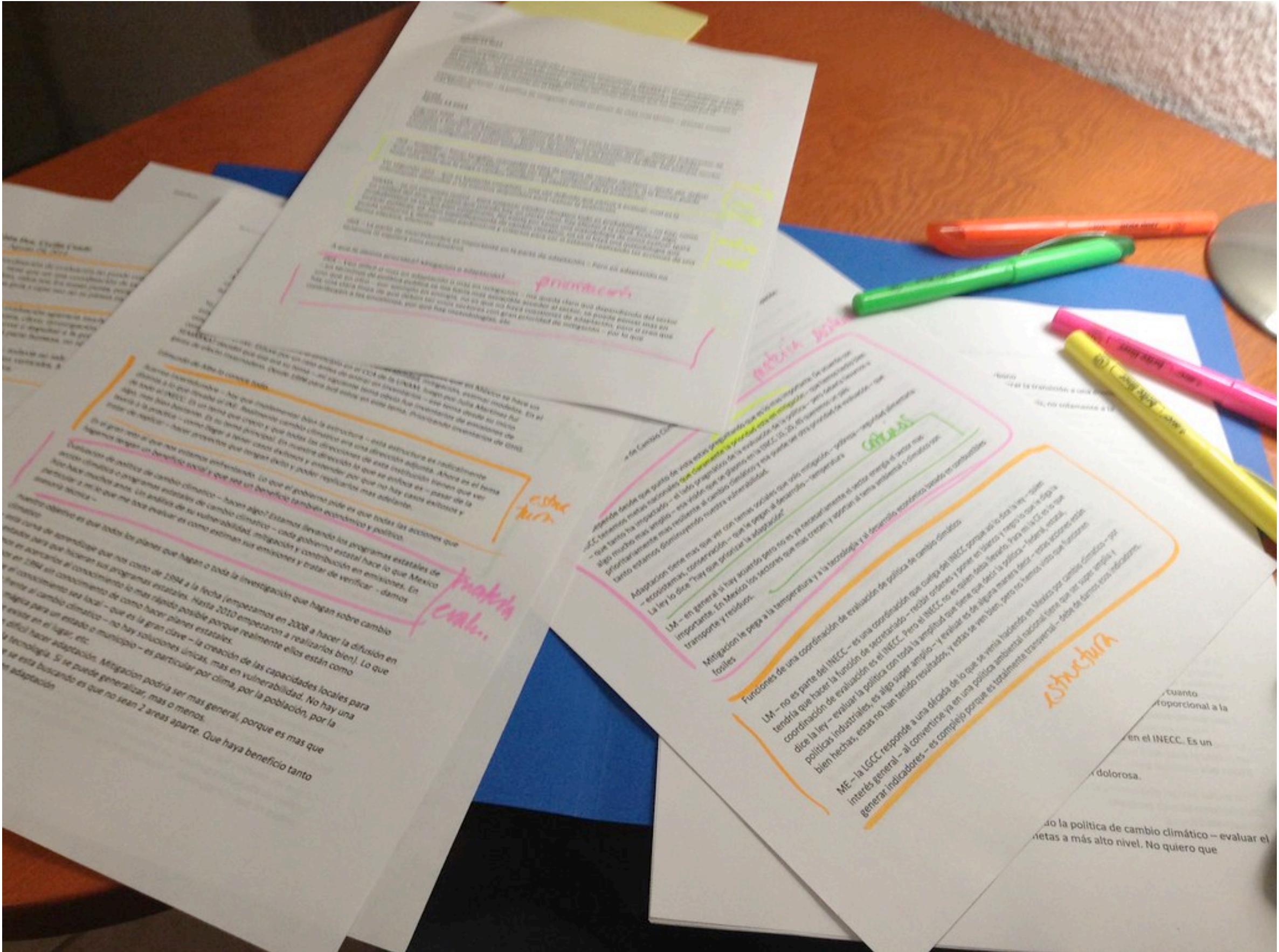
Data corpus is how we call the total body of data

It depends on what we are analysing, what is the research question, what was the method to collect that data.

(Saldaña, 2013, p. 16)

Tools to code

Coding without computers



Coding without specialized software



Google Sheets

The screenshot shows a Google Sheets spreadsheet titled "Revised_Redistribution-of-ethnographic-material-around-keywords". The data is organized into columns: "Excerpts from Field Notes", "Codes", "Theme", and "Subtheme".

The first row contains the column headers: "Excerpts from Field Notes", "Codes", "Theme", and "Subtheme".

The second row contains the text: "Birsen would take that specific tool (ashırılı deynek they call it) long enough to reach the ceiling to bring the model down. When the models are not meant to be brought down but only looked at briefly, the needle runs for help. I saw a woman (participant) using her needle to reach one of the relatively lower hung models to put the model in the desired angle only to look at it. In this case the needle is transformed from a mere tool to knit, but becomes a whole with the arm, because it started to be used as such. Almost like an extention of it." This row also includes the "Codes" (Knitting practice), "Theme" (Decoding Gestures), and "Subtheme" (Course rules).

The third row contains the text: "However, these models either hung on top or layed down on the table, are only accessible to decode for those who made a financial contribution to the shop by buying knitting materials such as yarn. Nilüfer Hoca became really angry when she explained a late incident where one customer tried to take a picture of a model after buying yarn from Yigit, presumably an opponent shop nearby. Soon she was told that it was only possible after buying a yarn, and her reply was that Nilüfer Hoca's attitude was not nice although her external appearance seemed to be otherwise. This shows that there is a fierce competition also between customers and tutor on the access to samples. Nilüfer Hoca tends to claim ownership of those samples until a financial contribution is made." This row includes the "Codes" (Authorship, Copying, Taking pictures of patterns), "Theme" (Course rules), and "Subtheme" (Rule of pattern exchange).

The fourth row contains the text: "During another talk where one woman asked her the price of a sample, Nilüfer Hoca said it was not for sale. The reason for that was the fact that they had only one copy of that sample. So the samples circulating in the shop are almost like objects in an archive, not only showcasing the talents but also underlining the singularity of them. However, it is free to copy them within the community, and this is not looked down on, for this what forms the basis of the course." This row includes the "Codes" (Not for sale, The last one becomes a template), "Theme" (Course rules), and "Subtheme" (Rule of pattern exchange).

The bottom of the sheet has a footer with "Whole Data" and a refresh button.

Example from DOI: [10.13140/RG.2.2.21115.13606](https://doi.org/10.13140/RG.2.2.21115.13606)

Coding with specialized software

8
9 Overall, a sustainable lifestyle is about making conscious and
responsible choices that reduce our impact on the environment, while
supporting our own well-being and the well-being of others.
10

11 Interviewer:
12 What recommendations would you give for people to live more
sustainably at home, at work, and while on vacation?
13

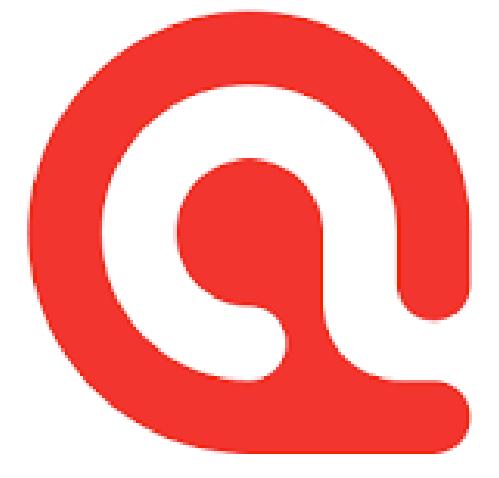
14 Interviewee:
15 At home, people can install energy-efficient appliances and light
bulbs, and turn off lights and electronics when not in use. Fixing leaks
and taking shorter showers can reduce water usage. People can also
choose sustainable products and avoid single-use plastics. Recycling
and composting whenever possible is also important. People can also
grow some of their own food, which can be a great personal hobby, or
they can support a local community garden and connect with others.

7:21 Ove... Attitude and...t: Responsibility
Environmental...ss: Awareness
Human values...and wellbeing
Sustainability: Lifestyle

7:40... live more sustainably

7:22 At home, people ca... Attitude and...al responsibility
Environmental...: Conservation
Sustainability: Lifestyle

7:38 Pe... Opinion Mining: food
Sentiment: Positive



ATLAS.ti



ATLAS.ti Web Student - Personalized (monthly, Web-ONLY)

MÊS
R\$ 65,39*

selecionar

i Requer prova de elegibilidade estudantil após a compra.

A licença é apenas para uso acadêmico pessoal e não pode ser compartilhada. Aplicação web apenas via navegador, versões para desktop não incluídas.



ATLAS.ti Student License (one year) (PC, Mac + Web)

COMPRAR
R\$ 544,91*

selecionar

i Requer prova de elegibilidade estudantil após a compra.

A licença é apenas para uso acadêmico pessoal e não pode ser compartilhada. Inclui versões para Desktop e Web.



ATLAS.ti Student License (six months) (PC, Mac + Web)

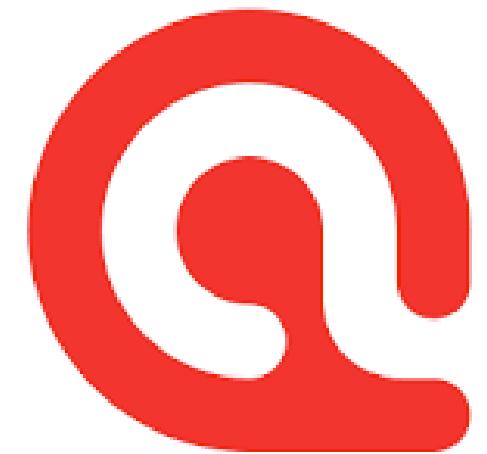
COMPRAR
R\$ 283,35*

selecionar

i Requer prova de elegibilidade estudantil após a compra.

A licença é apenas para uso acadêmico pessoal e não pode ser compartilhada. Inclui versões para Desktop e Web.

* Os preços são preços líquidos



ATLAS.ti

@ ATLAS.ti

The Qualitative Data Analysis & Research Software

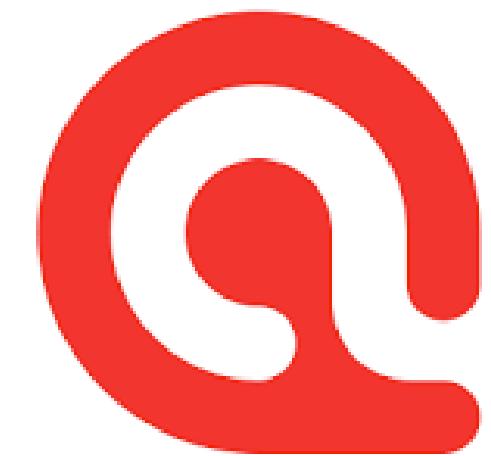
Available on all Platforms:



The Ultimate Guides to Qualitative Research

Level up your expertise with our growing collection of guides to qualitative research and analysis. ► [Read more!](#)

@ ATLAS.ti / Oct 17



ATLAS.ti

Your trial period has expired

You can still view projects of any size and create and use projects of limited size (10 documents, 50 quotations, 25 codes, 2 memos).

 Purchase License

<https://web.atlasti.com>



1 x

MAXQDA

Academia (12-months-license)

113.05 US\$* (95.00 US\$)

113.05 US\$ (95.00 US\$)

Next

*Prices are **gross and include local sales tax**. The correct prices will first be shown in the purchase process in the shopping cart. Prices are for the entire duration of the service.

The license ends automatically at the end of the term. Cancellation is not required.

Payment options: Credit card / wire transfer / PayPal / additional options possible depending on your location (e.g. check).

Please read the [student license agreement](#) and take a look at MAXQDA's [system requirements](#).

Preliminary codes

"Start coding as you collect and format your data, not after all fieldwork has been completed. When you are writing up field notes, transcribing recorded interviews, or filing documents you gathered from the site, jot down any preliminary words or phrases for codes on the notes, transcripts, or documents themselves, or as an analytic memo or entry in a research journal for future reference. They do not have to be accurate or final at this point, just ideas for analytic consideration while the study progresses. Be wary of relying on your memory for future writing. Get your thoughts, however fleeting, documented in some way."

(Saldaña, 2013, p. 20)

COLUMN 1**Raw Data**

¹ The closer I get to retirement age, the faster I want it to happen. I'm not even 55 yet and I would give anything to retire now. But there's a mortgage to pay off and still a lot more to sock away in savings before I can even think of it. I keep playing the lottery, though, in hopes of winning those millions. No luck yet.

COLUMN 2**Preliminary Codes**

"retirement age"

financial obligations

*dreams of early
retirement*

COLUMN 3**Final Code**

¹ RETIREMENT ANXIETY

(Saldaña, 2013, p. 21)

Exercise

Exercise

g1

SÃO PAULO

Temporal mata pessoa após queda de árvore e deixa bairros sem energia elétrica em SP

Cidades da Grande São Paulo também enfrentam problemas provocados pela chuva e ventos fortes na sexta (11). Voos foram cancelados e trens tiveram circulação prejudicada.

Por Ederson Hising, Juliana Furtado, g1 e TV Globo

11/10/2024 19h58 · Atualizado há uma semana

How does the government communicate about the storm on October 11, 2024?

Exercise

How does the government communicate about the storm on October 11, 2024?

Part 1: Each person codes one official news from the government of São Paulo

The screenshot shows the official website of the Government of São Paulo. At the top, there is a header with the SP logo and social media links. Below the header, the main navigation menu includes 'Últimas Notícias', 'SP Notícias', 'Conheça SP', 'Órgãos e Entidades', 'Agenda', 'Imprensa', 'Fala SP', and 'Portal de Serviços'. A search bar is also present. The 'Últimas Notícias' section displays three news articles:

- Cabine Lilás amplia rede de proteção à mulher com expansão para o interior de SP** (21/10/2024 - 15h11)
A woman in a uniform is shown working at a computer. Text: "Policias mulheres passam por treinamento para garantir atendimento especializado e humanizado às vítimas de violência doméstica".
- SP atinge novo recorde de empresas em setembro e tem quarta marca histórica em 2024** (21/10/2024 - 14h22)
A group of people standing in front of a store entrance. Text: "Foi o maior saldo líquido mensal de empresas abertas desde o início da série histórica, em 1998, com 21.663 novas empresas".
- SP lança 3ª fase do Acordo Paulista e renegocia R\$ 50 bilhões em dívidas de empresas** (21/10/2024 - 13h59)
An aerial view of a large crowd of people gathered in a public space.

On the right side of the page, there is a sidebar with filtering options for news by date and topic, and a summary of the latest news from the Governor's Office.

Últimas notícias

As Últimas Notícias do Governo do Estado de São Paulo, do Governador Tarcísio de Freitas, das Secretarias e órgãos indiretos.

Governo do Estado de São Paulo

Exercise

How does the government communicate about the storm on October 11, 2024?

Part 2: Work in pairs, with the person that have the same news piece than you.

- Compare your codes with your peer's. Pay attention to similarities and differences in your coding decisions.
- Discuss why you chose certain codes, whether you both identified the same themes, and how your interpretations of the text may differ.

Exercise

How does the government communicate about the storm on October 11, 2024?

Part 3: Sharing

- What are your insights?

Exercise

[https://docs.google.com/spreadsheets/
d/18LOwjdPVoOw_ep1rcPqhyVESvN1v4bhOZhzaCqKZksA/
edit?usp=sharing](https://docs.google.com/spreadsheets/d/18LOwjdPVoOw_ep1rcPqhyVESvN1v4bhOZhzaCqKZksA/edit?usp=sharing)

Unit of analysis

"Rather than keeping your data running together as long unbroken passages, separate the text into short paragraph-length units with a line break in between them whenever the topic or subtopic appears to change"

(Saldaña, 2013, p. 17)

Unit of analysis

- Paragraph
- Phrase
- Answer (eg. on a survey)
- ...

Subjective

"Coding is not a precise science; it is primarily an interpretive act."

(Saldaña, 2013, p. 4)

Analytic lens

"The act of coding requires that you wear your researcher's analytic lens. But how you perceive and interpret what is happening in the data depends on what type of filter covers that lens."

(Saldaña, 2013, p. 7)

Codebooks

- **short description** – the name of the code itself
- **detailed description** – a 1–3 sentence description of the coded datum's qualities or properties
- **inclusion criteria** – conditions of the datum or phenomenon that merit the code
- **exclusion criteria** – exceptions or particular instances of the datum or phenomenon that do not merit the code
- **typical exemplars** – a few examples of data that best represent the code
- **atypical exemplars** – extreme or special examples of data that still represent the code
- **“close, but no”** – data examples that could mistakenly be assigned this particular code

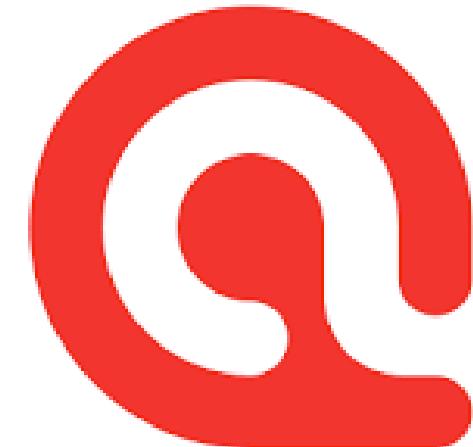
(Saldaña, 2013, p. 25)

Cases

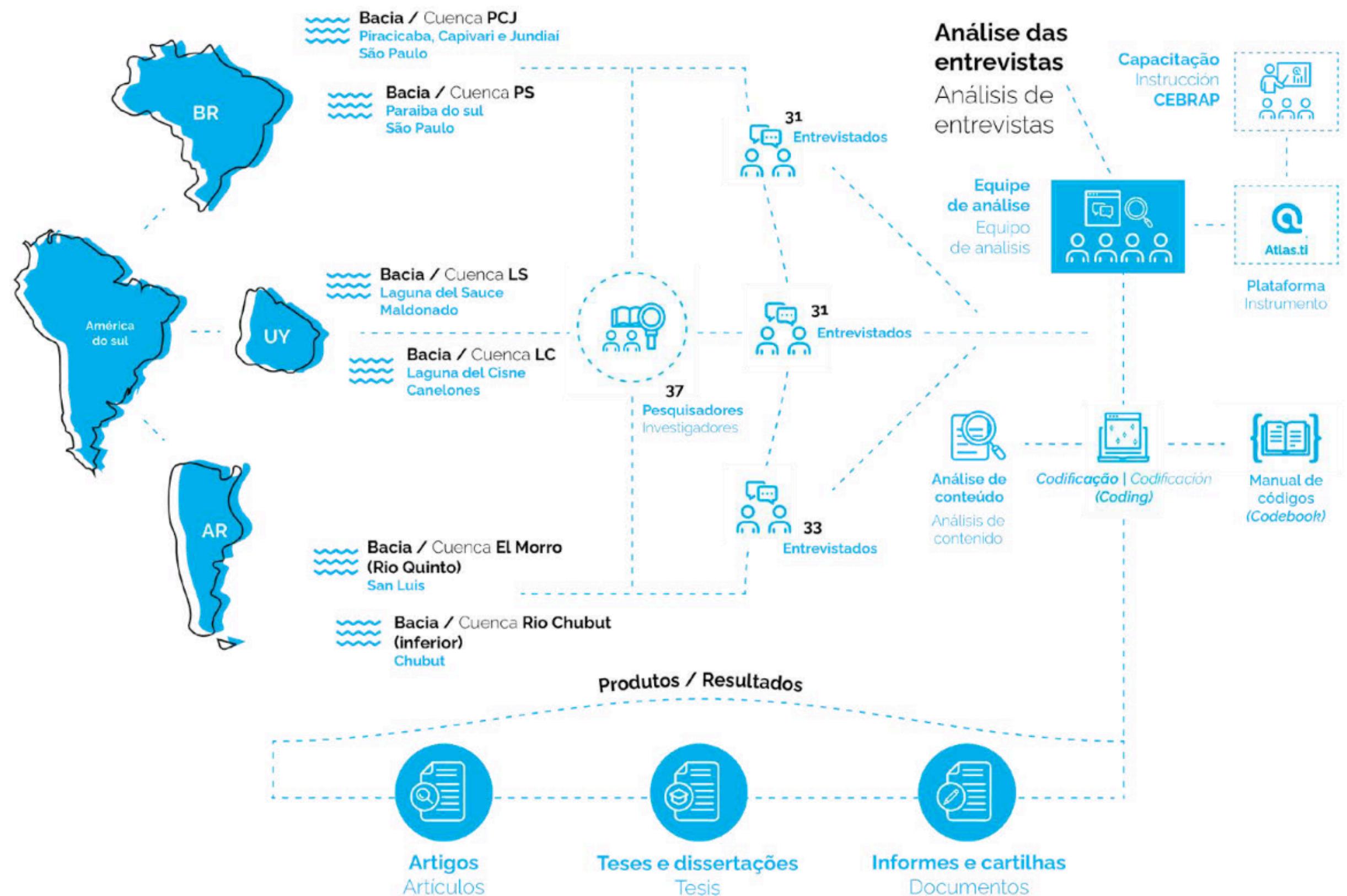
Case 1: IAI - Project GovernAgua

GOVERNAGUA: “TRANSFORMING WATER GOVERNANCE IN
SOUTH AMERICA: FROM REACTION TO ADAPTATION AND
ANTICIPATION”

- 37 researchers
- 3 countries
- + 90 interviews



ATLAS.ti



Esquema 1 – Estrutura de codificação e análise das entrevistas.

Fonte: Elaboração própria, 2022.

Case 1: IAI - Project GovernAgua

- Conduct interviews
- Transcribe
- Organize the documents
 - Creating ID for each person interviewed
 - Using that ID to refer them

Case 1: IAI - Project GovernAgua

The **main challenge** in the coding phase of this project was ensuring that **all coders shared a consistent understanding of the concepts** being used, particularly in relation to key terms such as governance, climate change, and others. Establishing a common interpretative framework was crucial. Additionally, we conducted a second coding cycle, specific to our research focus, which led to the refinement of codes for some countries. In Brazil, for instance, the issue of transparency emerged as a particularly important theme and required further exploration

Case 1: IAI - Project GovernAgua

- We created a **methodological guide to coding**



GUÍA PARA LA CODIFICACIÓN DE ENTREVISTAS - PROYECTO GOVERNAGUA

1. INTRODUCCIÓN

La ejecución del Proyecto **GovernAgua**, “Transformando la gobernanza del agua en América del Sur: de la reacción a la adaptación y la anticipación” tiene entre uno de sus objetivos, el de sistematizar aprendizajes mediante un análisis comparativo de la gobernanza hídrica en seis cuencas de Argentina, Brasil y Uruguay (dos de cada país).

Las características de las cuencas elegidas para la Investigación y, las diferencias entre éstas (por ej., presiones de cambio climático, uso de la tierra y expansión urbana; densidad poblacional), brindan un rico contexto para el análisis comparativo de la gobernanza del agua.

Una de las estrategias previstas en el proyecto para relevar la información propia de cada cuenca haciendo especial foco en el momento de crisis, ha sido el diseño y realización de más de 80 entrevistas a actores clave de diferentes sectores: gubernamental; organizaciones de la sociedad civil; sector científico-técnico y referentes territoriales; entre otros.

2. METODOLOGÍA

Para la elaboración de las entrevistas, se utilizaron las mismas 4 dimensiones definidas previamente en el marco del proyecto: CONTEXTO, GOBERNANZA, CRISIS y USOS DEL FUTURO (tema transversal a lo largo de las entrevistas); además de una pregunta inicial para conocer la trayectoria del entrevistado. Para la realización de las entrevistas se definieron preguntas comunes a las 6 cuencas con el fin de estandarizar el posterior análisis comparativo, dejando abierta la posibilidad de incluir preguntas adicionales en el caso de considerarlas relevantes para profundizar sobre un determinado tema. Esta tarea resultó en dos productos del proyecto: las pautas para la elaboración de las entrevistas y el documento de la entrevista.

La información primaria obtenida, será analizada y categorizada utilizando el programa **Atlas.ti** como tecnología de soporte, el cual constituye una herramienta de mucha utilidad para el almacenamiento, sistematización y análisis de la información (datos) en la Investigación



manera sistemática a través de la codificación; incluye procesos analíticos a través de los cuales los datos se dividen, conceptualizan e integran para formar o alimentar un tema o asunto. Sin embargo, el programa también puede ser usado para análisis basados en el método de análisis de contenido, entre otros.

Otra capacidad del software que es necesario enumerar es su flexibilidad para convertir los datos, y así poder exportarlos en diferentes formatos (**pdf**, **xml**, **htm**, **RTF**, **SPSS**) lo que permite una mejor interacción y transparencia de los resultados.

3. ANÁLISIS DE LA INFORMACIÓN

El primer paso para el análisis de las entrevistas es su codificación, proceso por el cual se asignan fragmentos de texto a códigos o variables previamente definidas, que posteriormente serán categorizadas. Para ello, el subgrupo de Análisis de datos (conformado por miembros de cada una de las cuencas del proyecto) elaboró un “**Codebook**” o Libro de códigos común (Anexo 1). En éste se listan y se definen los códigos creados para cada dimensión o “**Code group**” (Inicio, Contexto, Gobernanza y Crisis). Las definiciones precisas de los códigos son esenciales para que las diferentes personas que realicen la codificación de las entrevistas los comprendan y utilicen de la misma manera o siguiendo los mismos criterios, y también para asegurar que no haya confusión entre códigos.

3.1 Pautas para la codificación de las entrevistas

Para que el proceso de codificación siga los mismos criterios en las 6 cuencas en estudio, se proponen las siguientes pautas:

- A. Al “Importar” o cargar la lista de códigos en **Atlas.ti**, se deberá usar la lista completa de todos los códigos acordados (Anexo 1), aunque algunos de estos códigos no apliquen para alguna cuenca. Por ejemplo: en San Luis no hay comités de cuenca (CC)

Case 1: IAI - Project GovernAgua

- We created a **guidebook of the codes and categories (IMPORTANT)**

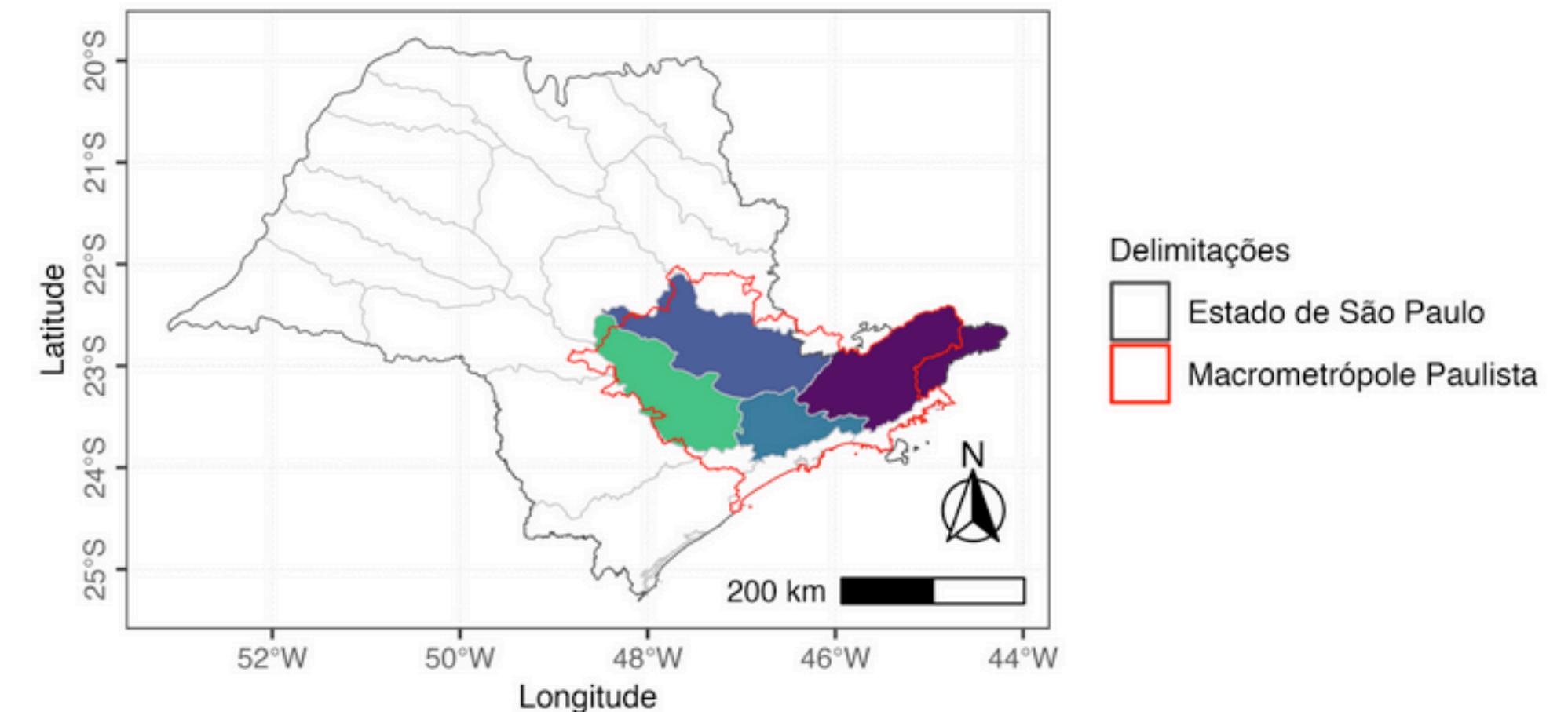
| | | | | | |
|---------------------------------|---|------------|--|---|------------|
| C. Incertidumbre, manejo | Opinión del entrevistado sobre cómo se manejan las incertidumbres en la gestión del agua. Si el entrevistado/a usa la palabra "incertidumbre" en otras partes de la entrevista, también se puede usar este código. [Registro (consciente y efectivamente contemplado) de la incertidumbre en la gestión del agua]. | CONTEXTO | | datos de la cuenca que considera relevantes para su trabajo? | |
| G. Coordinación | Preguntas de entrevista: ¿Y qué podría decirnos sobre el manejo de la incertidumbre, en contextos y fenómenos que no pueden o son muy difícilmente predecibles? | GOBERNANZA | | G. Participación Mecanismos o procesos de participación o consulta a actores no gubernamentales. El código se usa siempre que el entrevistado mencione formas de participación (formales o informales), pero los aspectos específicos sobre el Comité/Comisión de cuenca deben ir acompañados de los códigos correspondientes sobre CC. | GOBERNANZA |
| G. Nexo_Articulad or | Coordinación formal (que ocurre por mandato legal y/o dentro de un foro institucionalizado, como por ejemplo: un comité/comisión de cuenca, convenios, proyectos, etc.) e informal, entre los actores de la cuenca. También se usa este código cuando el entrevistado/a se refiere a la falta de coordinación o problemas que existen para la coordinación entre actores. Nota: cuando se habla de coordinación de actores con relación a la crisis, se debe usar el código: G. actores_coordinación. | GOBERNANZA | | Preguntas de entrevista: ¿Ha habido mecanismos o procesos de participación o consulta a actores no gubernamentales con relación a decisiones sobre la gestión del agua o del territorio de la cuenca? ¿Cómo han operado? | |
| G. CC_integrantes | Preguntas de entrevista: ¿Existe coordinación de trabajo entre los actores de la cuenca? ¿Cómo diría usted que coordinan sus acciones los diversos actores en la cuenca (gubernamentales, sociedad civil, otros)? | GOBERNANZA | | G. CC_toma_decisiones Actores que participan del comité/comisión de cuenca. Cuando se mencionan ausencia de actores, representatividad, o si hay presiones sociales para integrar el comité, también se debe usar este código. También se puede usar para codificar actores de control de los integrantes (ej. Ministerio Público en Brasil que fiscaliza actuación del CC y sus miembros). | GOBERNANZA |
| | Personas u organización que actúa como articulador o nexo (coordinación) entre actores ("bridging organization", "bridging actor", brokers). Se usa este código cuando el entrevistado/a responde la pregunta debajo (aunque nosotros no estemos de acuerdo con que el actor identificado actúe como articulador), pero también se puede usar si en otra parte de la conversación la persona describe a algún actor que parece estar teniendo un rol articulador en la cuenca. | GOBERNANZA | | Preguntas de entrevista: ¿Quiénes participan del comité (o comisión) de cuenca? | |
| | Preguntas de entrevista: ¿Existe alguna persona u organización que actúe como nexo entre actores? | | | Mecanismos y procesos de toma de decisiones en el ámbito del comité/comisión. O sea, se usa este código, siempre cuando el/la entrevistado/a hace referencia a cómo se llegan en las decisiones del comité (ej: votación por mayoría simple, consenso, etc). Importante diferenciar este código de "G. CC_poder_influencia". | GOBERNANZA |

Case 2: Survey about transparency in water management

MILZ, Beatriz. Active transparency in Water Resource Management in the São Paulo Macrometropolis. 2024. 187f. Tese (Doutorado em Ciência Ambiental) – Instituto de Energia e Ambiente, Universidade de São Paulo, São Paulo, 2024.

Survey with 64 valid responses;
Coded the open questions;

Figura 3.3 – Mapa do estado de São Paulo, com as UGRHIs escolhidas para a coleta de dados



Fonte: elaboração própria. Delimitação da MMP por DAEE (SÃO PAULO, 2013). Arquivos *Shapefiles* contendo a delimitação das UGRHIs obtidas no DATAGEO ([20--]).

Case 2: Survey about transparency in water management

Tabela 4.3 – Categoria das respostas sobre sugestões para mudanças nos *sites* a fim de aprimorar a transparência, e a quantidade de respostas

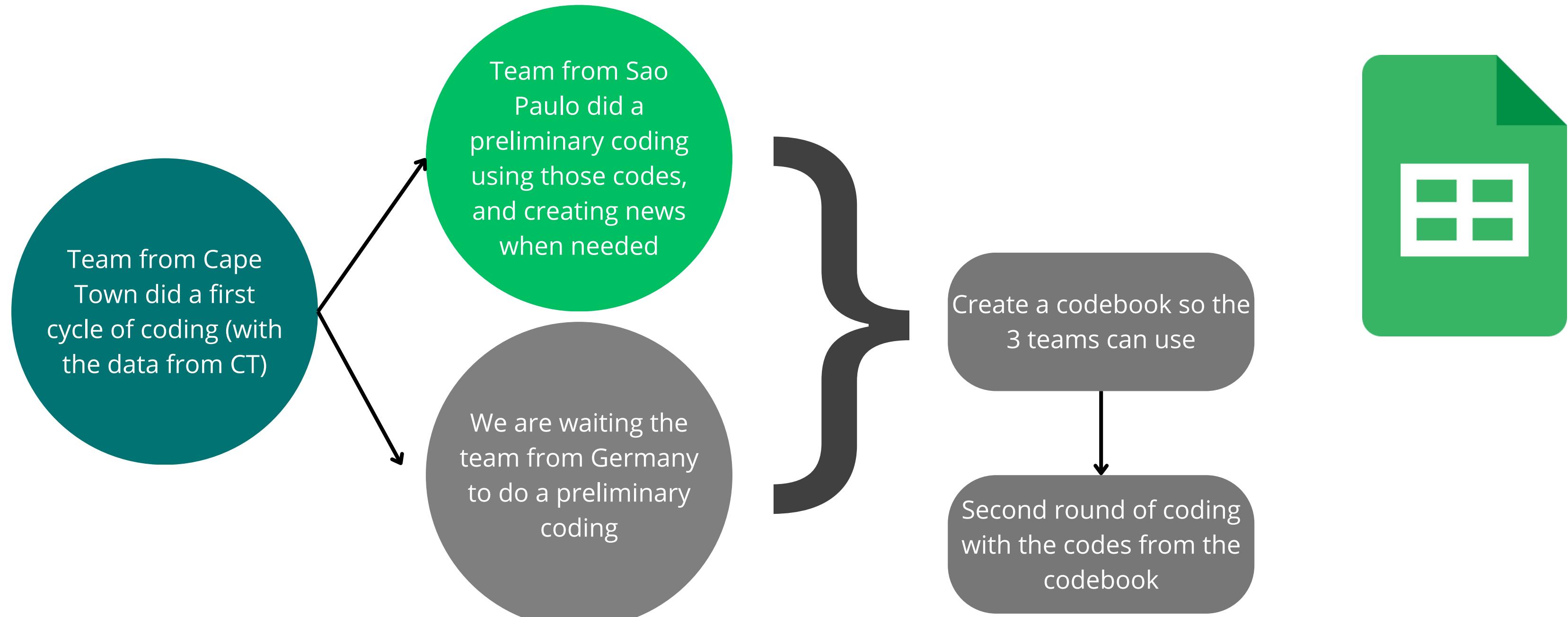
| Categoria | Quantidade de respostas |
|---|-------------------------|
| Facilitar o acesso aos dados | 22 |
| Disponibilizar dados atualizados | 10 |
| Promover a integração dos dados entre os órgãos | 10 |
| Aprimorar a qualidade dos dados | 5 |
| Disponibilizar dados de qualidade ambiental | 3 |
| Disponibilizar dados geoespaciais | 3 |
| Disponibilizar dados sobre prestação de contas | 3 |
| Outros | 4 |



Fonte: elaboração própria.

Case 3: Icolma

- Survey, with more than 300 responses
- São Paulo (Brazil), Cape Town (South Africa), Ruhr Area (Germany)
- Coding the answers from a specific open question





Territorial Planning
and Management
Graduate Program



SPRING
School of Spatial Planning

Thank you!

milz.bea@gmail.com