

Analysis of Qualitative Safety Culture Data

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Programs & Projects



	Qualitative Research	Quantitative Research
Purpose	Provides underlying insights into perceptions of population To generate hypotheses	Measures perceptions of population To test hypotheses
Sample	Small Representative of subset of population	Large Representative of population
Data Collection	Semi-structured	Structured
Data Analysis	Thematic analysis In-depth meaning	Statistical analysis Variable-focused
Outcome	Exploratory/investigative Not generalizable to population	Used to recommend course of action Generalizable to population



Data Collection

Data Sources

- Interviews
- Focus Groups
- Observations

Resources

- Staff
- Protocol
- Training



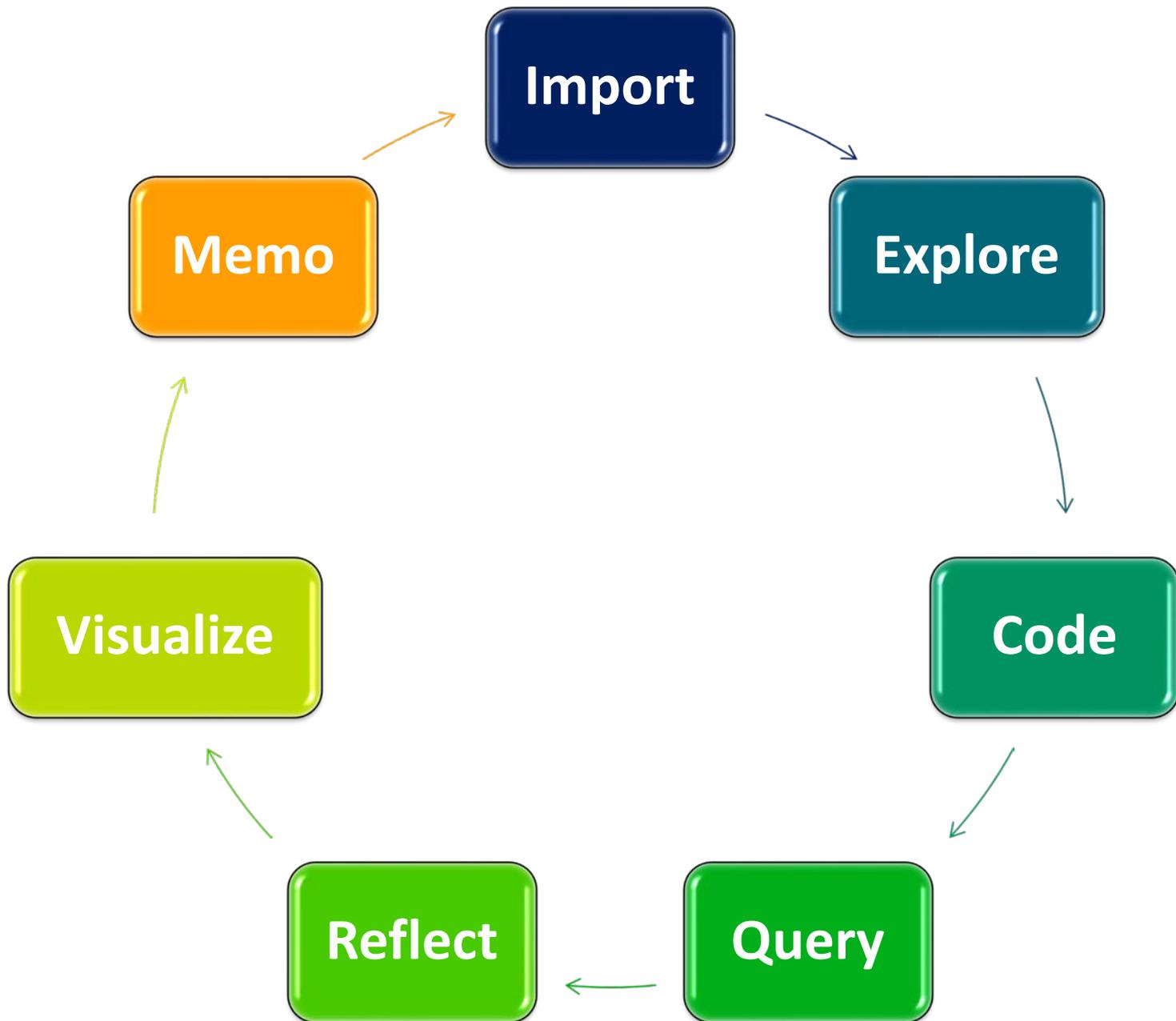
Data Digitization

- Interviews were recorded and then transcribed
- Focus groups included a scribe
- Observations were documented by hand and data entered
- Important to provide training for transcriptionists



Data Analysis





Data Coding

Coding is the process of identifying categories and meanings of text, creating and applying a name or code to each, and systematically marking similar strings of text with the same code name (Lee, 2005)



Coding Manual

- A two-level coding manual based on the NRC and INPO safety culture traits/attributes
- Developed to be concrete, but morphed as analysis progressed
- Multiple coders were responsible for coding the data
- “In vivo codes” may emerge
- Create a definition for each code in order to avoid “definitional drift”



1. Personal accountability

· FG1: Employees are taught to watch each other's backs. It's in our "department nature."

2. Questioning Attitude

· FG1: No comments

3. Effective Safety Communications

· FG1: There is a lot of uncertainty because of the contract change in companies (B&W and Bechtel)

· FG1: Employees get mixed messages from management.

· FG1: Communications has been a disaster since our reorganization last year.

4. Leadership Accountability

· FG1: Within the department, safety is very important. My immediate supervisor is supportive of safety and tries to help.

· FG1: Management seems to take a one size fits all approach and does not understand the unique culture of the Department.

· FG1: Upper management doesn't try to understand or listen.

· FG1: Management doesn't listen to the uniqueness of their department or try to understand.

· FG1: They have good intentions.

· FG1: The good intentions of senior management get lost in middle management.

· FG1: There are inconsistencies – such as the sidewalk and flooding.

· FG1: Management's solutions to the problems don't always make sense.

· FG1: I have no confidence in management.

· FG1: Supervisors will fight for resources sometimes, too.

5. Decision-making

111
Work safely
Work safely
Communicate with others

1
Leaders communicate
Communicate openly
Leaders communicate
Supervisor communications

Leaders' behavior
Dignity and respect
Leaders listen
Leaders listen
Leaders' behavior
Leaders' behavior
Leaders' behavior
Leaders' behavior
Trust my supervisor
Safety resources



Interpreting the Results

- The researcher focuses analytical techniques on searching through the data for themes and patterns
- Codes are a starting point for looking for patterns, making comparisons, producing explanations, and building models
- Data displays link codes and aid in theme building

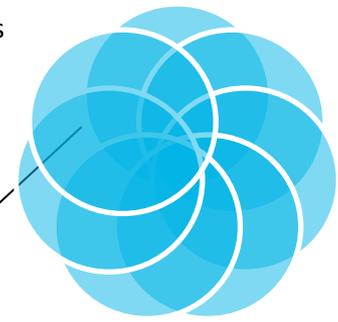


Retaliation



Safety resources

Safety as overriding priority



Address issues in timely manner

Communicate with others

Documentation of work processes

Leaders behavior

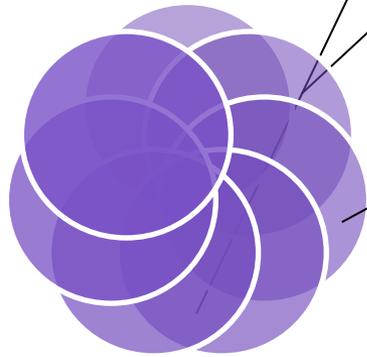
Dignity and respect

Communicate openly

Trust supervisor

Priorities

Qualifications



Reporting safety problems

Employee involvement

Proactive

Plan for mistakes

Praise and discipline

Fairness and justice

Consistency



Reporting

- Final reporting relies on establishing relationships among the codes and exploring themes. This will eventually turn into your final narrative.
 - Look for themes across data sources and triangulate
- Provides evidence of convergent and discriminant validity



	Factor 1 Management Commitment	Factor 2 Personal Accountability	Factor 3 Management Systems & Communication
Management Interviews	Management is committed to safety as evidenced by their conservative approach to decision-making, encouraging employees to have a questioning attitude, effective communication, well-documented work control processes, and a track record of addressing “true safety concerns.”	Employees have a strong commitment to the site and accept responsibility for their own safety as well as the safety of their coworkers.	While workplace safety has made significant progress over the last few years, future improvements will require overcoming challenges related to resource constraints, balancing production with safety, encouraging a questioning attitude, establishing trust, and implementing safe and effective management systems, processes and procedures.
Focus Groups	Management behavior (in terms of safety communication, decision-making, resource allocation, and priorities) is inconsistent and sometimes seems contradictory.	Employees have a strong understanding of safety rules and are committed to protecting themselves and each other.	Supervisors play a key role in encouraging employee involvement in safety by their trustworthiness and in how they provide feedback on issues identified.
Observations	Employees sometimes receive mixed messages regarding leaders’ commitment to safety when leaders’ behaviors contradict their messages.	Employees are committed to protecting themselves and each other by ensuring that a situation is safe before proceeding.	Communications from upper management in all written forms and in meetings reflect safety as a core value.



Summary

- Qualitative and quantitative analyses differ in purpose, but supplement each other well.
- Qualitative data analysis is an iterative process.
- Data displays are helpful for linking codes, building themes, and “making sense” of the data.
- Final narrative relies upon description of themes.

