

Sample Size of One: Operational Qualitative Analysis in the Classroom

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Sample Size of One: Operational Qualitative Analysis in the Classroom

Abstract

Qualitative analysis has two extraordinary capabilities: first, *finding answers to questions we are too clueless to ask*; and second, *causal inference - hypothesis testing and assessment - within a single unique context (sample size of one)*. These capabilities are broadly useful, and they are critically important in village-level civil-military operations. Company commanders need to learn quickly, "What are the problems and possibilities *here and now*, in this specific village? What happens if we do A, B, and C?" - and that is an ill-defined, one-of-a-kind problem.

The U.S. Army's Eighty-Third Civil Affairs Battalion is our "first user" innovation partner in a new project to adapt qualitative research methods to an operational tempo and purpose. Our aim is to develop a simple, low-cost methodology and training program for local civil-military operations conducted by non-specialist conventional forces. Complementary to that, this paper focuses on some essential basics that can be implemented by college professors without significant cost, effort, or disruption.

Introduction

Qualitative analysis has two extraordinary capabilities: first, *finding answers to questions we are too clueless to ask*; and second, *causal inference – hypothesis testing and assessment – within a single unique context (sample size of one)*. The analytic methods of qualitative analysis are explicitly designed for fast learning in poorly understood, one-of-a-kind situations (or several, for comparison studies). That context-specific focus is especially critical for civil-military operations, which need to understand quickly how and why the various actors and actions interact in a specific, rapidly evolving context.

Operational qualitative analysis is qualitative analysis adapted to an operational tempo and purpose – e.g., for civil-military operations. The core strategy is rapid-fire experimentation before, during, and after taking action. Richly detailed, context-specific information generates hypotheses that are constantly revised or replaced. Feedback between evidence and analysis is frequent and fast – indeed, often instantaneous by simply asking a follow-up question. Action plans are exploratory and adaptable: "What could be done? What is a first step? What are some milestones along the way?"

A companion paper, forthcoming in the *American Intelligence Journal*, offers a broad overview of why and how to do qualitative analysis for operational purposes, and a brief description of a newly-launched project in partnership with the U.S. Army's Eighty-Third Civil Affairs Battalion.¹ That project aims to develop a methodology that iterates rapidly between information-gathering, analysis, and action to support civil-military operations that are locally nuanced and conducted entirely by nonspecialized conventional soldiers.

This paper asks, "What can be done to implement operational qualitative analysis in the classroom?"

Implementation of qualitative analysis for operational purposes

First step: What can be done without significant cost, effort, or disruption?

The essential basic skills of operational qualitative analysis are easy to learn. The hard part is the attitudinal shift. Students and soldiers won't believe they can do this until they do it. So the key for teaching and training is to provide frequent, simple opportunities for conversational interviewing and causal inference in poorly understood situations. This paper focuses on two strategies to accomplish that in the classroom without significant cost, effort, or disruption:

- Replace role-playing with real people and real problems.
- Have students do qualitative analysis while they are doing other things.

¹ John Hoven and Joel Lawton, "Locally Nuanced Actionable Intelligence: Operational Qualitative Analysis for a Volatile World," Unpublished Manuscript (2015), available at: <https://app.box.com/s/sl6a56fsg3ywhvzkopt>.

Conversational Interviewing

Essential basics:

- Listen intently and ask follow-up questions.
- Get used to conversing about topics you know nothing about.

Activities:

- Instructors answer a student question in a sentence or two, and then pause for a follow-up question rather than treating the question as a prompt for a mini-lecture. This is a culture shock, so it has to be taught – but that can be done without significant cost, effort, or disruption.
- Students seek out an interesting guest lecture, association meeting, or conference twice a month. Their task is to engage at least two presenters or attendees in conversation, discover and probe a shared interest through conversational interviewing, and immediately afterwards write down what they learned. (This activity applies also to the next section, "Learning when you know almost nothing.")
- Two or three students jointly prepare a short paper that includes one interviewee as a source.

Table 1. Basic Follow-up Questions²

Purpose	Questions
Missing pieces Unclear concepts Broad generalizations	Such as...? Can you give me an example? How would you compare ...? (broad, then specific) How is that the same or different than ...? How does this compare with the way things were in the past?
Why? (causation)	Could you tell me how...? How do you go about...? Can you step me through that? What happens step-by-step? What happens during...? What led up to ...? What contributed to ...? What influenced ...?
How do you know?	You said... Could you give me an example? How did you find that out? Your unit did... Did you personally have anything to do with it?

Interviewing tips:

- Build rapport in the first few seconds of an interview.

² Taken from Rubin, Herbert J. and Irene S. Rubin, *Qualitative Interviewing: The Art of Hearing Data*, 3e (Los Angeles: Sage Publications, 2012), 137-169, available at: <http://books.google.com/books?id=T5RDmYuueJAC&printsec=frontcover#v=onepage&q&f=false>.

- Use starter questions to direct the conversation to the desired topic. Listen intently and make up a second question that gets further into the topic. Discover answers to questions you hadn't thought to ask, and probe further.
- Whenever possible, have another person present to take notes and help gauge body language. Write up at least the highlights of the interview before the day ends.

Learning When You Know Almost Nothing

Essential basics:

- Expect to be surprised by what you learn, especially at the start of a new investigation.
- Quickly focus the investigation within some tentative bounds (interviewees, search terms, issues). Probe deeply within those bounds, and continue to probe the boundaries for important issues and information sources that have been overlooked.
- Forage for information in Google Scholar: Guess a search term, click "cited by" of interesting articles to broaden the search, specify a recent date to limit the search, and *search for search terms* in the abstracts and literature review sections of relevant articles.
- After each interview, decide what you need to learn next, and where to get it.

Activities:

- One student identifies two or three significant unexplored issues or sources in another student's paper. Together, they explore one of these, and define some tentative bounds (interviewees, search terms, issues) for further investigation.
- Two or three students jointly prepare a short paper based on internet research, and at least one interview, on a topic that will not be introduced until later in the course. The paper should make a good start on identifying relevant sources and issues, and it should explain what the students did to get there.

Trusted Relationships

Relationships between individuals and groups are often key issues for investigation – e.g., relationships that terrorist networks have with supporters and potential recruits, relationships that traders have with village farmers and produce sellers, etc. They are also one of the most common sources of "unknown unknowns" – answers to questions you hadn't thought to ask. The key to investigating them is to recognize that all of these relationships can be analyzed in the same way (Figure 1).

Essential basics:

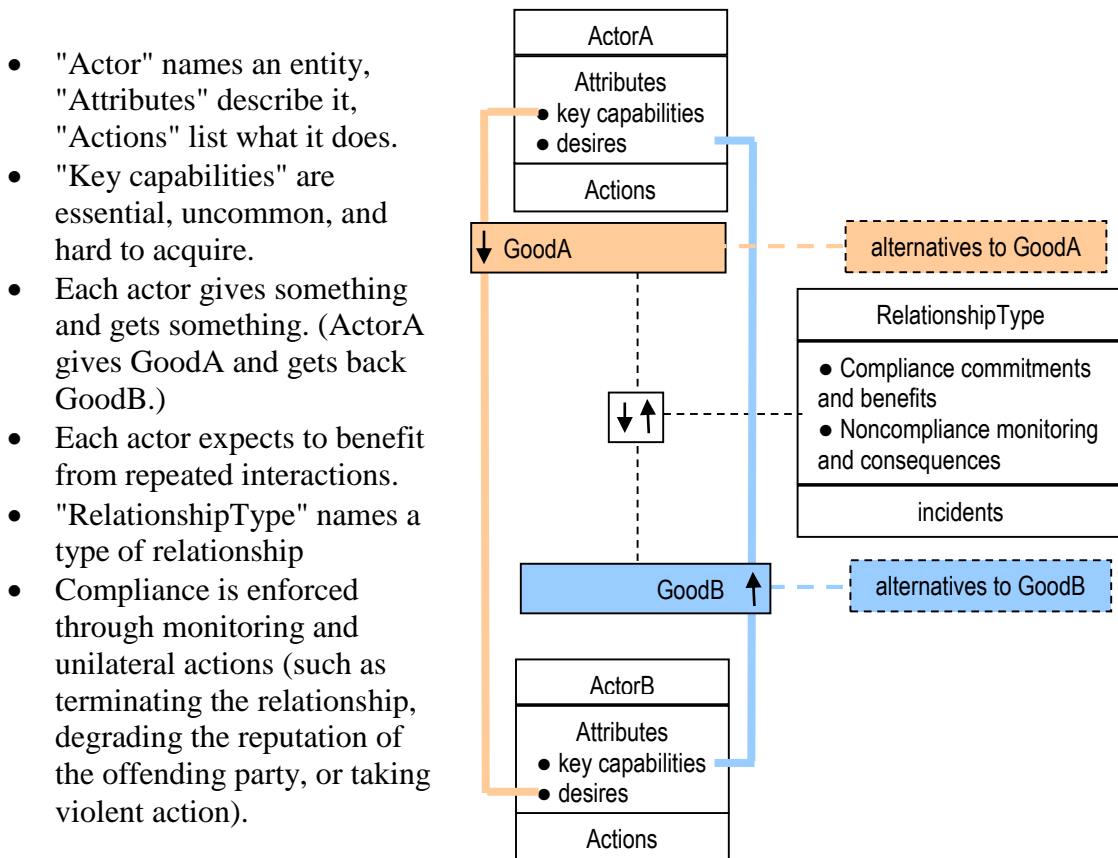
- In any relationship, each party gives something and gets something back.

- ActorA has the *capabilities* to provide *GoodA* which satisfies ActorB's *desires*, and vice versa.
- There are *alternatives to GoodA* and *alternatives to GoodB*. It's important to learn whether the next-best alternative is a very good alternative or a very bad one.
- Relationships endure because each actor expects to benefit from repeat interactions. So it's important to learn what these expectations are, focusing especially on *noncompliance monitoring and consequences*.

Activities:

- Replace role-playing with real people and real problems. For example, researching a local network of relationships – suppliers to a local business, decision-making in a government agency, etc. – is a vehicle for learning how to investigate a completely unfamiliar topic, using all of the basic methods of operational qualitative analysis.

Figure 1. Nontransient Relationships – i.e., both parties expect to benefit from repeated interactions



The diagram serves as a visual file cabinet for evidence on questions like these:

- *What* does each entity get out of the relationship? (GoodA for ActorB, GoodB for ActorA)
- *Why* do they value those goods? (ActorA's desires and alternatives to GoodB, Actor B's desires and alternatives to GoodA)
- *How* are they able to provide those goods? (ActorA's capabilities to provide GoodA, ActorB's capabilities to provide GoodB)
- What *future commitments and expectations* sustain the relationship? (compliance commitments and benefits)
- What mechanisms exist to *monitor compliance*? What are the *consequences of noncompliance*? What *incidents of noncompliance* have occurred?

Causal Inference: Developing and Testing Hypotheses

Essential basics:

- Articulate a cause-and-effect hypothesis – a chain of causes leading to an effect – based on what has been learned through investigation. Distinguish between necessary causes (*X and Y*) and sufficient causes (*X or Y*). Intermediary steps are effects of preceding events, and also causes of later events. A Theory of Change is a special case, in which some of the contributing causes are actions taken to achieve a desired outcome, e.g.:
 - Civil-military operations: desired outcome is to address sources of stability or instability in a specific context ("What happens here and now, in this village, if we do A, B, and C?")
 - Students and trainees: Desired outcome is a satisfying career ("What could I do that I want to do? What can I do now to improve my prospects? What are some milestones along the way?")
- Search for information sources and evidence that confirm or reject the hypothesis. Revise or replace it.
- Keep doing that, again and again.

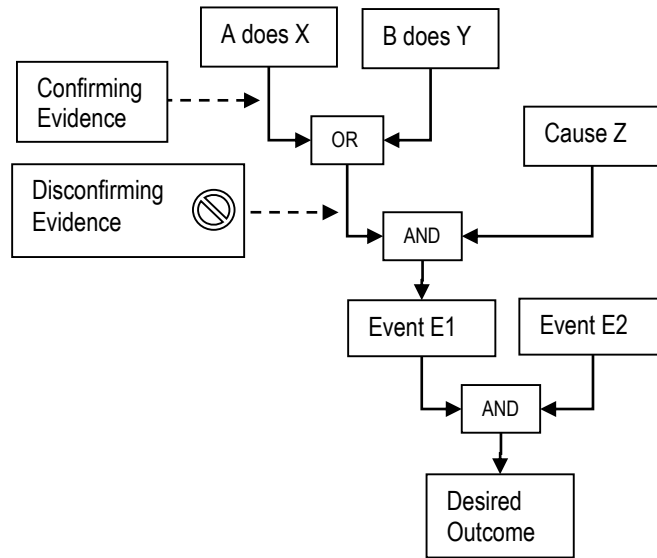
Activities:

- Students continually revise a Theory of Change for their own careers, and use it as a way to discover shared interests and build professional relationships with students, professors, and other professionals.

Visual charts are a good way to discipline oneself to think about causal linkages, facilitate conversation with teammates, and focus attention on what needs to be learned next. Figure 2 is a simple model for a Theory of Change. With minor changes,

essentially the same chart may be used to describe the causes of a problem, or a solution to a problem, as in McVay and Snelgrove (2007).³

Figure 2.



Conclusion

Qualitative analysts expect to be surprised by what they learn. This is not a failure to anticipate; it is a willingness to learn. The analytic methods of qualitative analysts make it easy to recover from our mistakes. Be comforted by that, and embrace it when you try these activities. Change is hard to do, and the hardest thing is deciding to take the first step. Relish it.

³ McVay, Mary and Alexandra Snelgrove, *Program Design for Value Chain Initiatives. Information to Action: A Toolkit Series for Market Development Practitioners*, Linda Jones (ed.) and Ben Fowler (co-ed.), (Lancaster, PA: Mennonite Economic Development Associates (MEDA), 2007), available at: <http://www.meda.org/docman/meda-publications/general/value-chain/63-program-design-for-value-chain-initiatives-information-to-action-a-toolkit-series-for-market-development-practitioners/file>.

Appendix I: To Learn More

Operational Qualitative Analysis

John Hoven and Joel Lawton, "Locally Nuanced Actionable Intelligence: Operational Qualitative Analysis for a Volatile World," Unpublished Manuscript (forthcoming, American Intelligence Journal) (2015), available at <https://app.box.com/s/sl6a56fsgr3ywhvzkopt>.

Conversational Interviewing

Miehlbradt, Alexandra and Linda Jones, *Market Research for Value Chain Initiatives*, a toolkit in the series *Information to Action: A Toolkit Series for Market Development Practitioners*, Linda Jones (ed.) and Ben Fowler (co-ed.), (Lancaster, PA: Mennonite Economic Development Associates (MEDA), 2007), available at: <http://www.meda.org/docman/meda-publications/general-technical/value-chain/59-market-research-for-value-chain-initiatives-information-to-action-a-toolkit-series-for-market-development-practitioners/file>.

- Guides to Key Informant Interviews (pp. 57-74) and In-Depth Interviews (pp. 75-96).

Kathryn Roulston, Kathleen deMarrais, and Jamie B. Lewis, "Learning to Interview in the Social Sciences," *Qualitative Inquiry* 9:4 (2003): 661, available at: <http://www.sagepub.com/lichtman2estudy/articles/article9-1.pdf>.

- Recommends that students learn how to conduct interviews as a part of authentic projects.

Rubin, Herbert J. and Irene S. Rubin, *Qualitative Interviewing: The Art of Hearing Data*, 3e (Los Angeles: Sage Publications, 2012), 137-169, available at: <http://books.google.com/books?id=T5RDmYuueJAC&printsec=frontcover#v=onepage&q&f=false>.

- Excellent guide to all aspects of qualitative interviewing.

Causal Inference: Developing and Testing Hypotheses

David Collier, "Understanding Process Tracing," *PS: Political Science and Politics* 44:4, (October, 2011): 823-30, available at: <http://www.ukcds.org.uk/sites/default/files/uploads/Understanding-Process-Tracing.pdf>.

- A remarkably user-friendly explanation, with teaching exercises and engaging examples.

McVay, Mary and Alexandra Snelgrove, *Program Design for Value Chain Initiatives. Information to Action: A Toolkit Series for Market Development Practitioners*, Linda Jones (ed.) and Ben Fowler (co-ed.), (Lancaster, PA: Mennonite Economic Development Associates (MEDA), 2007), available at:

<http://www.meda.org/docman/meda-publications/general/value-chain/63-program-design-for-value-chain-initiatives-information-to-action-a-toolkit-series-for-market-development-practitioners/file>.

- How to do program design as an iterative, ongoing process, step-by-step with worksheets.