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Title

Artificial intelligence and the end(s) of qualitative data analysis

Permalink

<https://escholarship.org/uc/item/3dz9q8r2>

Journal

Human Organization, ahead-of-print(ahead-of-print)

ISSN

0018-7259

Author

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Publication Date

2025

DOI

10.1080/00187259.2025.2546439

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Peer reviewed

Artificial Intelligence and the End(s) of Qualitative Data Analysis

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Declaration of conflicting interest- Not applicable

Funding statement- Not applicable

Ethical approval and informed consent statements- Not applicable

Data availability statement- Not applicable

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Op Ed

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Michael R. Duke

Abstract

Large language models and other forms of artificial intelligence are increasingly harnessed in qualitative research. However, an over-reliance on AI-derived analytic tools runs the risk of normalizing thin description as a “good-enough” outcome for qualitative inquiry; bypasses the ethical arrangement between investigators and participants regarding how informants’ stories and other narrative information should be handled and interpreted; and facilitates both the de-skilling of analytic practice and the alienation of workers engaging in such activities. Perhaps most important, the uncritical use of AI-based analytic tools calls into question the ontological and epistemological underpinnings of qualitative research itself.

Keywords: Artificial intelligence, research methods, qualitative data analysis, narrative, humanism

Artificial intelligence has altered nearly all dimensions of scientific, artistic, informational, and mechanical forms of inquiry, production and consumption. As with previous transformational technologies (e.g., the printing press, television, the internet), we are forced to grapple with AI's social, political, economic, environmental, and interpersonal implications in real time. And "real time" advances at a dizzying pace regarding artificial intelligence, given its centrality to information-based hyper capitalism. AI's contemporary impacts are arguably harder to pin down than these previous transformational technologies, because its power derives from being amorphous, with algorithmic throughputs continually mutating through trial and error and exposure to new information.

The role of generative AI in qualitative research reflects many of these anxieties. It is not difficult to see its appeal, given that qualitative research tends to be time-consuming and expensive. Arguably the most laborious aspect of qualitative work consists of organizing the data to facilitate analytic interpretation. A growing number of researchers harness AI for these back-end processes, using large language models to automate code book development, data coding, and thematic summaries, and many qualitative software packages now offer some

version of AI functionality. However, the introduction and rapid acceptance of AI as a tool for smoothing out the logistical and conceptual peculiarities of qualitative data deserves more debate and deliberation than has so far been the case.

What might be lost in our rush to uncritically rely on algorithmic judgement to perform interpretive tasks? The coding process can be frustrating and labor-intensive, but what we might perceive as frustration might be our attempt to achieve clarity and order on a complex body of data? Put another way, what if our discomfort with coding and analysis is not something to be avoided, but the very crucible for generating deep insights into our material?

In the following, I discuss AI's impact on the methodological, conceptual, and relational underpinnings of qualitative research, and call into question the uncritical use of artificial intelligence in qualitative analysis. Rather than imposing an all-or-nothing stance regarding AI-assisted analysis, I aim to stimulate further reflection and debate.

Coding is a vehicle for reducing qualitative data—which is typically voluminous and unwieldy—by subjecting it to a categorical schema. It is not merely a mechanical procedure: it entails making micro-level judgements about how the material should be categorized, based on immersive knowledge of the topic area and study population. Coding requires engaging with the data in a deep and sustained manner as “an exercise in professional fact finding” (Housley &

Smith, 2011: 418). This allows researchers to ask new questions of the data while they are coding. Because themes are typically identified and refined by manipulating coded data, how might a superficially coded data set impede that thought work? If researchers rely instead on AI-coded data, what types of insights might be lost? Finally, because coding entails assigning narrative information to categories, what might be lost when no one on the research team has read through an interview or field note in its totality, and only engages with that material in its fragmented, coded form?

The literature on AI- vs person-based coding shows mixed results on whether AI can capture the same degree of semantic, narrative, and conceptual nuance as can be achieved by well-trained qualitative analysts, with most studies concluding that AI is unable to engage in more subtle forms of categorical decision-making and interpretation (Morgan, 2023; Williams, 2024). Given its ability to learn and evolve, AI-generated coding may become more accurate over time, but regardless of accuracy (however defined), introducing AI-based approaches into the analytic process forces a reckoning in terms of the overarching methodological, epistemological, interpersonal, and ethical framework of qualitative research.

AI can code a dataset quickly, but what we are to do with the time that we free up by automating these analytic tasks? Might this leave us more time for in-

depth analysis and contemplation. Perhaps. But we may risk contributing further to the economy of busyness and the fetishization of academic productivity for its own sake. More importantly, inviting an algorithm to take the wheel in our analytic work runs the risk of normalizing thin description and good-enough engagement with our data, rather than thick description and thematic complexity. Over-reliance on AI for coding and analyzing our material runs the risk of turning us all into cheap workers, more concerned with saving time than engaging with our data with the focus and engagement that it deserves.

Qualitative research, particularly in anthropology, is a fundamentally humanistic endeavor, focused on understanding human experience systematically through a close interpretation of speech acts, behaviors, social spaces, and material objects. It simultaneously considers how these domains interface with identifiable social and structural conditions, and with culturally prescribed norms, beliefs and behaviors. In short, our work is fundamentally grounded in the analogic messiness of lived experience.

Many applied qualitative researchers embrace scientific rigor to ensure that their studies are carefully designed, and that their results are persuasive and impactful. Nonetheless, our research sits uncomfortably alongside a scientific method based on statistical significance, prediction, and the replicability of findings. The questions we ask, and our relative acceptance of ambiguity,

contradiction, and contingency in our interpretive frameworks, reflect a desire to account for the complexities of human social and behavioral life.

Large language models promise to address these perceived defects in our approach, not only by eliminating the apparent drudge work of coding and analytic interpretation, but by reducing subjectivity. Yet subjectivity lies at the center of our work, and it does so in several ways. First, as qualitative researchers we are fundamentally concerned with understanding and conceptualizing the subjective experience of the communities in which we work. Second, although many of us strive to operationalize methodological and analytic rigor, we aim to provide insights that explain particular social phenomena. These insights are ultimately subjective, their plausibility hinging on the persuasiveness of the case we are trying to make. Lastly, acknowledging our positionality and subjectivity relative to our research topics and study populations is a hallmark of contemporary qualitative research and fundamental to our ability to generate these insights. AI cannot replace human coders precisely because it lacks positionality vis à vis the data, resulting in an absence of analytic transparency (Friedman et al., 2024).

The zoologist Jakob von Uexküll coined the term *Umwelten* at the beginning of the twenty century to refer to the unique perceptual worlds that animals of every species inhabit (Uexküll, 2010). For example, the red tailed hawk, with its unique visual acuity and hyper-awareness of subtle fluctuation in air currents,

experiences the world in ways that we can only infer; a thorough accounting of the hawk's gestalt as it makes its way through life will forever be outside the grasp of even the most insightful ornithologist, since we lack the cognitive and sensory capacity to perceive the world as do these birds of prey.

So too with human subjectivity. As qualitative researchers our understanding of the lives of others is necessarily—and frustratingly—partial, particularly when their experiences and circumstances are different from our own. Nonetheless, we are trained to question our certainty, to interrogate our findings so that they are recognizable to the communities with whom we work. More centrally, in the same way that we lack the capacity as human beings to understand deeply how it means to navigate the world as a red-tailed hawk, so too does AI face an insurmountable barrier in grasping what Uexküll (2010) termed the subjective "self-in-world" of human experience. Although artificial intelligence is a human invention and the prompts are initiated by human interlocutors, generative AI falls short in interrogating human experience, thus limiting its ability to organize, categorize, and summarize these experiences (Williams, 2024). Put another way, algorithms will always fall short in categorizing and interpreting human Umwelt because their outputs are not mediated by firsthand human experience.

If narrative information lies at the heart of most qualitative data, how do the stories that our participants tell us mediate our relationship with our interlocutors?

These stories, and our engagement with them in the moment of their telling, forge bonds between us, whether fleeting or long term. They are not mere data: they have the characteristics of gifts.

Marcel Mauss famously posited that a gift is not just an item given freely from one person to another: it sets in motion a set of implicit obligations (Mauss, 2000). What is our obligation to these narratives and their tellers? I argue that our responsibility lies in attending to these stories, to read them closely and to reflect on their meaning, rather than outsourcing these obligations to an algorithm. This approach is not only an analytical imperative but an ethical one, particularly when we work with populations experiencing structural vulnerability. Because researchers tend to possess substantially more social capital than these consultants, our ethical obligations are even more important. The stories they tell us should demand our full attention throughout the interpretive process.

The uncritical, disengaged use of artificial intelligence for coding and interpreting data poses a threat to the key relational, methodological, and philosophical principles of qualitative research. As with any technology we harness in our interpretive work, generative AI is useful only to the extent that it helps us to engage more deeply with our data (see Nelson, 2020). My fear, though, is that these tools will be used solely as time-saving devices and analytic shortcuts, and

that these will produce superficial findings, reduce participant narratives to the level of products, and promote the de-skilling of qualitative work.

Acknowledgement: An earlier version of this paper was presented at the 2025 Colloquium on Qualitative Health Sciences Research, University of Oklahoma Health Sciences, Stephenson Cancer Center, Oklahoma City, OK, May 9.

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