

The process of QDA in the era of Generative-AI

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The use of AI tools in qualitative analysis has a history of more than 25 years, with the first real assistance – beyond managing data and text-based searching and auto-coding - coming at the end of the 1990s with unsupervised machine learning features such as topic extraction using clustering (e.g. WordStat, 1999) and concept mapping (e.g. Leximancer, 2000), and supervised machine learning features such as code suggestions (e.g. Qualrus, 2002) and collaborative and adjudicated human and machine classifiers (e.g. DiscoverText, 2009). Since then many other CAQDAS-packages have implemented various AI-informed features based on different applications of natural language processing and machine learning technologies, such as sentiment analysis, theme extraction, and topic modeling (e.g. ATLAS.ti, MAXQDA, QDA Miner and NVivo).

However, the rise of Generative-AI and in particular the release of OpenAI's ChatGPT in November 2022 made these technologies accessible and user-friendly in ways and with impact not previously seen. Suddenly awareness of Large Language Models (LLMs) and their capabilities became the topic of discussion on mainstream media channels, among the general public and within the qualitative community of practice. The integration of these new technological capabilities into the qualitative analysis space began rapidly, with several established CAQDAS-packages beginning to incorporate functionality based on GPTs within months – for example ATLAS.ti (from March 2023), MAXQDA (from April 2023), Qual Coder (from December 2023), and NVivo (from September 2024). This is in addition to automated transcription which has significantly improved with the enhanced capabilities of models, and several CAQDAS-packages have added this functionality recently, including MAXQDA, Transana and Quirkos.

These developments have sparked heated debate amongst the qualitative research community. Many early adopters and advocates are excited about the potential; some are developing new tools that take advantage of the possibilities Large Language Models (LLMs) and Generative-AI provide, viewing these technologies as promoting a step-change, even a paradigm shift, in how we think about and undertake qualitative analysis. Indeed, we have seen not only established CAQDAS packages integrate Generative-AI into their products (including ATLAS.ti, MAXQDA, NVivo and Qual Coder), but literally dozens, if not hundreds, of new Aps explode onto the market, enabling the analysis of qualitative data in an entirely different way from how researchers have been doing it up until now.

On the other end of the spectrum are the sceptics of these new possibilities; qualitative researchers, many with well-developed and trusted existing manual or computer-assisted methods, who are unconvinced about the potential of Generative-AI for qualitative data analysis and/or are concerned about the ethics of the development and use of LLMs for the purposes of interpretation. Between these two extremes are many who are unsure about what is happening in the space and how it might impact their work. These researchers work in a variety of sectors, or are teachers of qualitative methods worried about how to equip their students appropriately in this new era, or indeed students themselves, just beginning their qualitative research journeys, faced with so many choices it can be overwhelming to navigate. It is natural and important that the qualitative community debate the issues, and that forums for them to do so are provided.



amongst these groups reflect longstanding discussions in the field of CAQDAS that have been occurring since the first qualitative software emerged in the 1980s.

Building on the pre-conference panel, “Redefining the Qualitative Researcher’s Role in Era of AI and Digital Innovations” (18th September 2024), this panel will discuss the whether and how Generative-AI tools are influencing the process of undertaking Qualitative Data Analysis (QDA).

Keywords: Generative-AI, Large Language Models (LLMs), CAQDAS, Qualitative Data Analysis, Technology Acceptance

Necessary resources: Internet, Zoom

Organization of the Panel Discussion

Brief context:

The panel will discuss questions around three core topic areas, spending 15 minutes discussing each topic, followed by addressing delegates questions.

- First will be discussion about the need for Gen-AI tools, discussed in terms of questions like: What are the problems that qualitative researchers who advocate Gen-AI are seeking to solve? Do these technologies actually solve those problems, and if so how? Is there even a problem that needs solving with the practice of qualitative data analysis? What difference would it make to the status of qualitative research if more qualitative researchers did adopt Gen-AI?
- Second will be discussion around the appropriateness of the use of Gen-AI in qualitative research projects that span the methodological spectrum, from those sitting at the purist qualitative end (e.g. relativist, interpretivist, constructionist etc.), through the pluralist space (critical realist, mixed methods, experimental etc.) to projects analysing qualitative data from more positivist perspectives (e.g. realist, empiricist, quantitative etc.). Should we be thinking about the role of Gen-AI differently along the spectrum, and if so, how and why?
- Third will be discussion around some important ethical issues about how researchers can use Gen-AI technologies in an ethical and rigorous manner, whether researchers can have a role in shaping the future development and implementation of these technologies, and how the availability and use of them changes what informed consent means for qualitative research participants.

Objective(s):

- Raise awareness about the role and use of Generative-AI capabilities in the qualitative analytic workflow
- Encourage critical reflection on the appropriateness of using Generative-AI for different types of qualitative analysis
- Facilitate continued debate between researchers, developers and methodologists who hold contrasting views in a collegiate and productive space

Dynamics / Strategy:



- **Presentation (Group Activity):** The moderator will briefly introduce each panel member, and at the same time share their profile information in the Zoom chat. The moderator will ask each panellist to state in one sentence their overarching perspective on the use of Generative-AI for QDA. This will allow the discussion to begin as soon as possible, without taking up unnecessary time with elaborate introductions, whilst simultaneously setting the scene for the debate and placing each panellist in context vis-à-vis their position relating to Generative-AI and QDA.
- **Theoretical exposition of the theme:** Christina Silver is the moderator, she will introduce each topic and pose the questions to the panelists, and they will respond in turn. Due to time constraints each topic will be contributed to by three of the four panelists. This panel will be a discussion format, so there are not any presentations by panelists.
- **Application in other contexts:** This panel discussion has application to any context where qualitative analysis happens, be it academic, government, NGO or industry research, and any tool that has Generative-AI imbedded. It is relevant to researchers considering or already using these tools, teachers thinking about integrating discussion of Generative-AI into their practice and methodologists and practitioners considering the implications of these new capabilities.
- **Discussion:** We will encourage delegates attending the panel to use the Zoom Q+A function to pose any questions for panellists at any time during the session, and will leave 10 minutes at the end to address them. Any questions we do not have time to address during the session will be answered in text format afterwards, and shared with delegates along with the recording.
- **Application of the proposal in reality / practical examples:** Panel members will relate their responses to the questions to their own use of Generative-AI capabilities in the context of qualitative research
- **Expected results:** This panel will contribute to the growing body of debate about the appropriate use of Generative-AI tools in the qualitative data analysis workflow. As well as having the recording posted on the WCQR YouTube channel, we will embed it in the new Qual-AI page on the CAQDAS Networking Project website, which will be launched before WCQR 2025 as a curated collection of authoritative resources on the topic.

References:

- Morgan, D. L. (2023). Exploring the use of artificial intelligence for qualitative data analysis: The case of ChatGPT. *International journal of qualitative methods*, 22, 16094069231211248.
- Morgan, D. L. (under review) Query-Based Analysis: A Strategy for Analyzing Qualitative Data Using ChatGPT.
- Paulus, T. & Marone, V. (2024). 'In minutes instead of weeks': Discourse dilemmas on AI for qualitative data analysis. *Qualitative Inquiry*.
- Paulus, T., Pope, L. & Bower, K. (2024.) Ways that qualitative researchers engage in 'technological reflexivity': A meta-synthesis. *Qualitative Inquiry*.
- Paulus, T. & Lester, J. (2023). Digital qualitative research workflows: A reflexivity framework for technological consequences. *International Journal of Social Research Methodology*. DOI: 10.1080/13645579.2023.2237359



Biographical notes

Panel Moderator: Christina Silver, PhD. SFHEA, FAcSS. Is Associate Professor (Teaching) in the department of Sociology, University of Surrey, where she is Director of the CAQDAS Networking Project. She is interested in the relationship between technology and methodology, and the pedagogy of qualitative methods.

Selected related presentations

- C.Silver. What's happening in the qualitative AI space and why it matters. Opening plenary, Researcher Accelerator Conference, 4th December 2023
- C. Silver. AI-Assisted Qualitative Analysis. Presentation at the Research Integrity Workshop, University College London. March 2024
- Silver C & Wright S. The Good, the Bad and the Ugly of AI in Qualitative Research. Keynote at the Social Research Association Annual Conference, London 6th June 2024
- Silver C. What AI means for Qualitative Research. Methods Advisory Group. Department for Work and Pensions. UK Government, 16th July 2024
- Silver C. Generative-AI for Creative Research. Workshop for International Creative Research Conference. Manchester. 10th September 2024
- Silver C. AI in Qualitative Research. Keynote at the Qualitative Symposium, Exeter University. 26th September 2024

Co-Author: Trena M. Paulus, Ph.D. is a professor in Sociology & Anthropology at East Tennessee State University where she also coordinates a graduate certificate in qualitative research methods. Her recent scholarship has been on the topic of reflexivity when integrating digital tools and spaces (such as generative AI) into qualitative research designs and methods.

Selected workshops/presentations

- Paulus, T. (October, 2024). *How is generative AI impacting qualitative research methods?* Women, Gender and Sexuality on Wednesdays Lunchtime Lecture. East Tennessee State University.
- Paulus, T. (September, 2024). *AI in qualitative research: Optimizing workflows, considering consequences.* EQUAL Kick-Off Invited Lecture and Workshop. North Carolina State University.
- Paulus, T. (May, 2024). *AI-assisted qualitative analysis.* HGGS Masterclass. Heidelberg Graduate School for the Humanities and Social Sciences. Heidelberg, Germany
- Paulus, T. (March, 2024). *How will generative-AI affect qualitative research methods? A reflexivity framework.* Educational Psychology Departmental Speaker Series, University of Illinois-Chicago, invited by Dr. Sarai Coba-Rodriguez
- Paulus, T. & Marone, V. (July 2024). Discourses of AI and qualitative research practices. *Critical approaches to discourse analysis across disciplines.* Poznan, Poland.
- Richards, M. & Paulus, T. (May 2024). AI-evolved research methods: Considerations and consequences. *AMS Annual Conference: Academy of Marketing Science Annual Conference.* Coral Gables, FL. Presented by Richards.

Panelist: David L. Morgan is professor emeritus in the Department of Sociology at Portland State University. He is an inter-disciplinary research methodologist, who is widely known for his work on focus groups, including his books, *Focus Groups as Qualitative Research*, and *Basic and Advanced Focus Groups* with SAGE. He has also published *Essentials of Dyadic Interviewing* for Routledge, and *A New Era in Focus Group Research*, co-edited, with Rosaline Barbour, for Palgrave. He is the editor for the



Sage Qualitative Research Methods Series (“little blue books”), and his work on artificial Intelligence has appeared in the International Journal of Qualitative Methods.

Selected outputs

- Morgan, D.L. (2023) Analysing Qualitative Data Using ChatGPT: A Researcher’s Journey, Symposium on AI in Qualitative Analysis, Part 2 Research Applications, Opportunities and Challenges, 1st December 2023
- Morgan, D. L. (2023). Exploring the use of artificial intelligence for qualitative data analysis: The case of ChatGPT. *International journal of qualitative methods*, 22, 16094069231211248.
- Morgan, D. L. (under review) Query-Based Analysis: A Strategy for Analyzing Qualitative Data Using ChatGPT.

Panelist: **Dr Susanne Friese** is founder at Qeludra, and a highly accomplished and experienced professional in the field of qualitative research. Susanne has established herself as a prominent figure in the qualitative research community and recently as thought leader in AI for qualitative research. She has been a witness and active participant in the development of Computer-Assisted Qualitative Data Analysis (CAQDAS) for over 30 years. With AI as a new player, she firmly believes that we stand on the brink of a paradigm shift. Her hypothesis is that in a few years’ time, we will no longer be coding data.

Selected presentations

- 24. July 2024. QRCA AI Days. Presentation: The Great Unlearning. Online.
- 28. May 2024. Keynote, WU Wien. Advancing Qualitative Methods with AI: Potential, Challenges, and Ethical Implications. Austria.
- 17. May 2024. Panel Discussion: Qualitative Research and Artificial Intelligence: Questions For Qualitative Data Analysis Software Publishers. 20th International Congress of Qualitative Inquiry. IL, USA.
- 16. April 2024. Keynote 10th anniversary of the Methods Competence Center at the University of Graz: KI in der Qualitativen Forschung. Austria.

Panelist: **Dr Daniel Turner** is director of Quirkos. He has 20 years experience in qualitative research, leaving academia to develop Quirkos 10 years ago. He has been part of a joint industry/academia grant on machine learning in qualitative research, funded by the Scottish Digital Health & Care Institute, and has recently written a widely shared blog post investigating issues with using ChatGPT and 'AI' in qualitative analysis.

Selected outputs

- **Automated transcription and new possibilities in qualitative research.** CAQDAS Networking Project webinar. Daniel Turner, PhD, Founder & Developer of Quirkos Software. 26 April 2023
- **Comparing the best automated transcription services for qualitative research.** Quirkos Blog. December 1st 2023
- **Outsourcing decision making: AI, ethics, and qualitative research.** Quirkos Blog. 1st February 2024

