

Reimagining the Survey Development Process as an AI/Human Collaboration

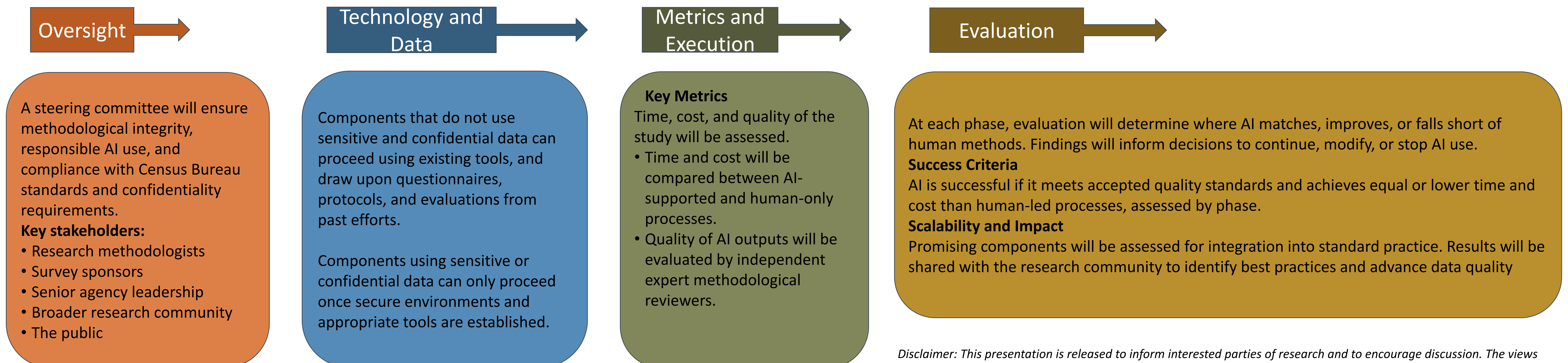
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Overview

- Survey development is a multi-phase, resource-intensive process that can include question design, review, and testing through methods such as cognitive interviewing. Doing this well requires significant expertise and can be time-consuming and expensive.
- This poster presents a case study to evaluate the potential for AI to assist in various stages of the survey development process, improving efficiency while meeting methodological standards. It examines AI's potential to produce insights that improve clarity, lower respondent burden, and reduce measurement error, while reducing the time and cost of the process.
- The goal is a human-centered process, supported by AI to the extent that it can improve timeliness and quality.

Phases of Survey Development	Drafting Survey Questions	Reviewing Questions	Designing Cognitive Interview Protocols	Conducting Interviews	Analyzing Results Proposing Improvements	Developing AI Survey Respondents
Potential AI Contributions	Propose questions that meet key measurement needs, avoiding common pitfalls (e.g., complex or ambiguous questions)	Identify potential problems based on guidelines from questionnaire design literature	Propose probes as well as optimal sample composition to maximize chances of discovering flaws	Administer survey questions and probes; determine when enough information has been obtained to evaluate question effectiveness	Review recordings and transcripts, identifying common interpretations, problems, and difficult characteristics of questions	Simulate likely responses of people not represented in testing to evaluate question performance as broadly as possible
AI Techniques or Tools We plan to Evaluate	Generative language models will draft survey questions aligned with measurement goals.	NLP and text analysis techniques will flag design problems such as ambiguity, excessive complexity, or hidden assumptions.	Generative AI will propose probes to illuminate cognitive processes and determine which question paths and respondent characteristics warrant the most attention.	Conversational AI systems will administer questions and follow-up probes in a consistent yet adaptive manner, supported by transcription tools.	NLP and machine learning methods will summarize transcripts, identify recurring issues and link problems to specific question features; generative models propose alternative wordings that avoid observed problems.	AI generated personas will supplement (not replace) human respondents, particularly when it proves difficult to find respondents with specific characteristics.

Evaluation plan



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