Evaluating the Impact of Speech Analytics and Interviewer Self-Monitoring on Telephone Survey Metrics

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Telephone Survey Quality

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How do traditional telephone surveys assess appropriate questionnaire administration?

Subset of cases reviewed manually

- Review of 5 to 10% of work from recorded calls, varies by project
- Selected across calls and interviewers
- Manual scoring by Quality Assurance staff

Operational challenges of the traditional quality model

Labor intensive to scale up

- Requires at minimum 1:1 relationship between time spent by Quality Assurance staff and call time reviewed
- Increases in review thresholds can increase labor required exponentially

Consistency in scoring and feedback

- Quality Assurance staff need to be regularly calibrated to ensure inter-rater reliability
- Staff can't easily determine whether performance on a call is indicative of the interviewer's overall performance

Speech analytics can address some of these issues

About Speech Analytics

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Speech analytics systems offer both real time and post-contact call processing

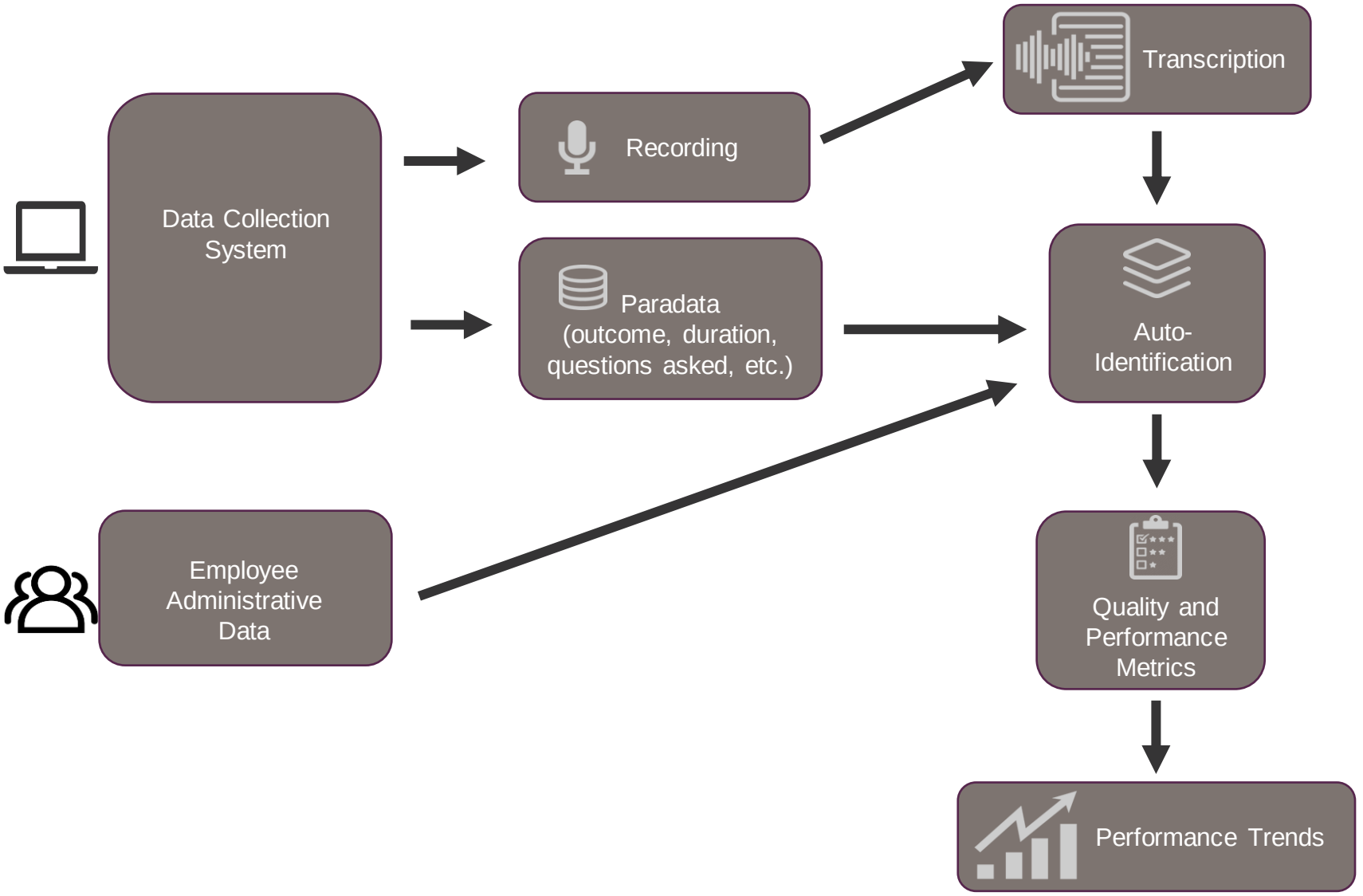
Systems have been in call centers for at least a decade

- Typically seen in inbound call center space, not outbound data collection
- Often aimed at market segments where customer experience or customer satisfaction is of high value
- Potential applications for social science research data collection

Major features include:

- Speech to text transcription
- Auto language identification
- Score calibration tools
- Personalized dashboards for interviewer feedback

Components of speech analytics systems



Incorporation Into Quality Program

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NORC invested in an existing speech analytics system to evaluate its feasibility as a tool

Included several evaluation and feedback components

- Interviewers self-monitored by reviewing their performance on metrics that were automatically scored by the system
- These automated scores assessed reading verbatim compliance as well as response rates and call handling efficiency
- Quality Assurance staff could send personalized coaching directly to interviewers, including relevant audio snippets from a call

Initial interviewer reaction during pilot testing was positive

- Strong user adoption of system for self-monitoring
- Praised the more immediate feedback and learning experience provided by the coaching and call audio snippets

Adding a speech analytics system offers unique advantages that translate to potential savings

Ability to monitor interviewers' performance metrics over time

- Automated scores can be assessed on ~100% of calls to get a more complete picture of an interviewer's performance
- Interviewers can identify and self-correct areas with low scores
- Potential quality issues can be identified and investigated quickly

Allows Quality Assurance staff to take a different role

- Reduced time reviewing compliance means more focus on coaching and reviewing elements that can't be detected easily by automation
- Probing and gaining cooperation are examples where appropriate language is highly situational and human judgement is needed

Are there sufficient savings to justify the costs associated with implementation?

NORC conducted an experiment with interviewers on an existing computer-assisted telephone interview survey

Interviewers in the experiment were randomly assigned to one of three system-access conditions, controlling for performance, tenure, and site:

- No Access to System
- Self-Monitoring
- Self-Monitoring + Coaching

Key Findings and Implications

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Interviewers who accessed the system (with or without coaching) showed significant improvement on survey's key performance metric compared to those with no access

Improvement on this metric indicates greater efficiency in getting responses to critical parts of the survey (e.g. screeners, completions)

Savings in Interviewer Labor Hours
4%

Self-monitoring of automated scores can improve performance

Regular coaching by Quality Assurance staff showed significant improvement only for interviewers who were in the lowest 25% for performance on the survey

Personalized coaching led low performers to improve their ability to get respondents to complete the screener question

Interviewers who are already performing well may not benefit as much from additional coaching

Low performers can be targeted for labor-intensive feedback

Automated scores for interviewer compliance on reading verbatim allowed for faster identification of quality issues

Assessing ~100% of calls makes it possible to determine if an issue is isolated or part of a behavioral trend, and can identify specific interviewers and calls where they may be an issue

Interviewers receive intervention earlier which reduces the impact of any problem behaviors and time spent on quality investigations

Quality issues can be identified and investigated using automated scores and trends across all calls, rather than a small sample

The costs associated with implementing a speech analytics system can be offset by savings in interviewer performance and efficiency as well as Quality Assurance staff labor

Additional Opportunities

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Speech analytics provides further opportunities for exploring transcription data

Examples of current and future projects

- Identifying successful interviewer behaviors during call introductions that help gain respondent cooperation
- Detecting audio issues that may impact respondent experiences
- Analyzing the effects of the time it takes to reach key parts of the call introduction script on respondent engagement
- Confirming accurate data entry by interviewers

Thank you.

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