

Incorporating Speech Analytics Into a Telephone Survey Quality Program

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Telephone Survey Quality

How do typical telephone surveys assess appropriate questionnaire administration?

- 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 standard 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.
- **Quality Assurance staff need to be regularly calibrated to ensure inter-rater reliability**

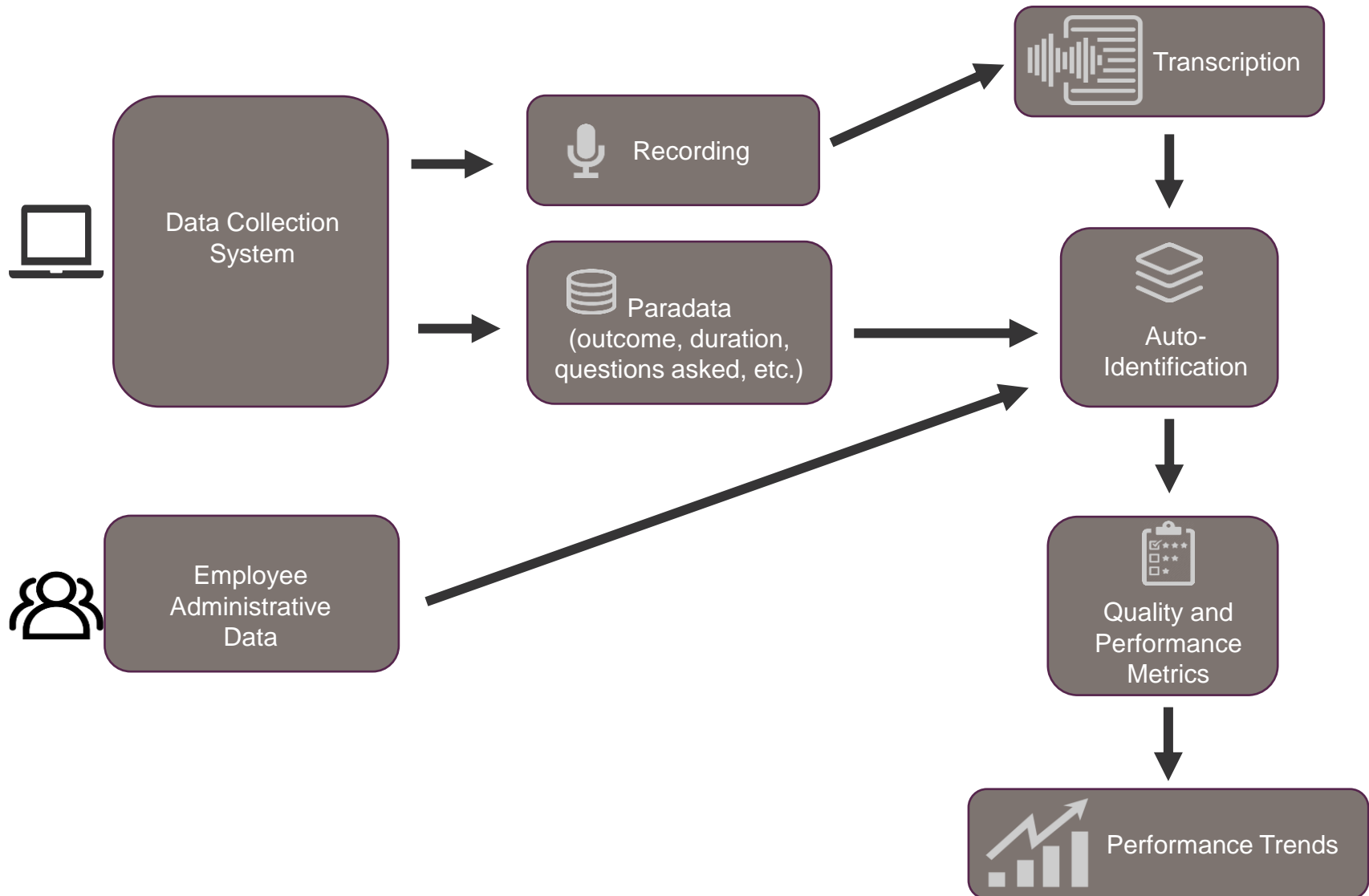
This is where speech analytics comes in

About Speech Analytics

About Speech Analytics

- **Systems have been in call centers for at least a decade**
 - Most typically seen in the inbound call center space, not outbound data collection.
- **Systems offer both real time and post-contact processing**
- **Major features include**
 - Speech to text transcription
 - Auto identification of language
 - Personalized dashboards for interviewer feedback
- **Often aimed at market segments where customer experience or customer satisfaction is of high value**
 - This is fundamentally different than social science research data collection for a variety of reasons.

Components of speech analytics systems



Automated Call Analysis

Challenge: How do we make transcript data work for us given our data collection use case?

- We need to know if language related to a specific question should be present in a call before we can determine if it was or wasn't read appropriately
 - Consider skip patterns, partial interviews or test conditions
- **Solution: We use paradata to indicate which questions were asked during the call.**
 - This tells us when we should look for specific language.
 - If question 1 of your survey was asked, then you should expect language for question 1 in the transcript.

After setting up our paradata and corresponding question text, we can start running automated call analysis

- With paradata helping inform what text to look for, new calls loaded into the system can be automatically evaluated.
- Metrics can be generated by number of questions that pass / number of questions evaluated
 - Severe issues can have individual calls escalated
 - You can roll up metrics to determine problems at the day level, interviewer level, question level, and more.

Interviewer and Quality Assurance Staff Feedback

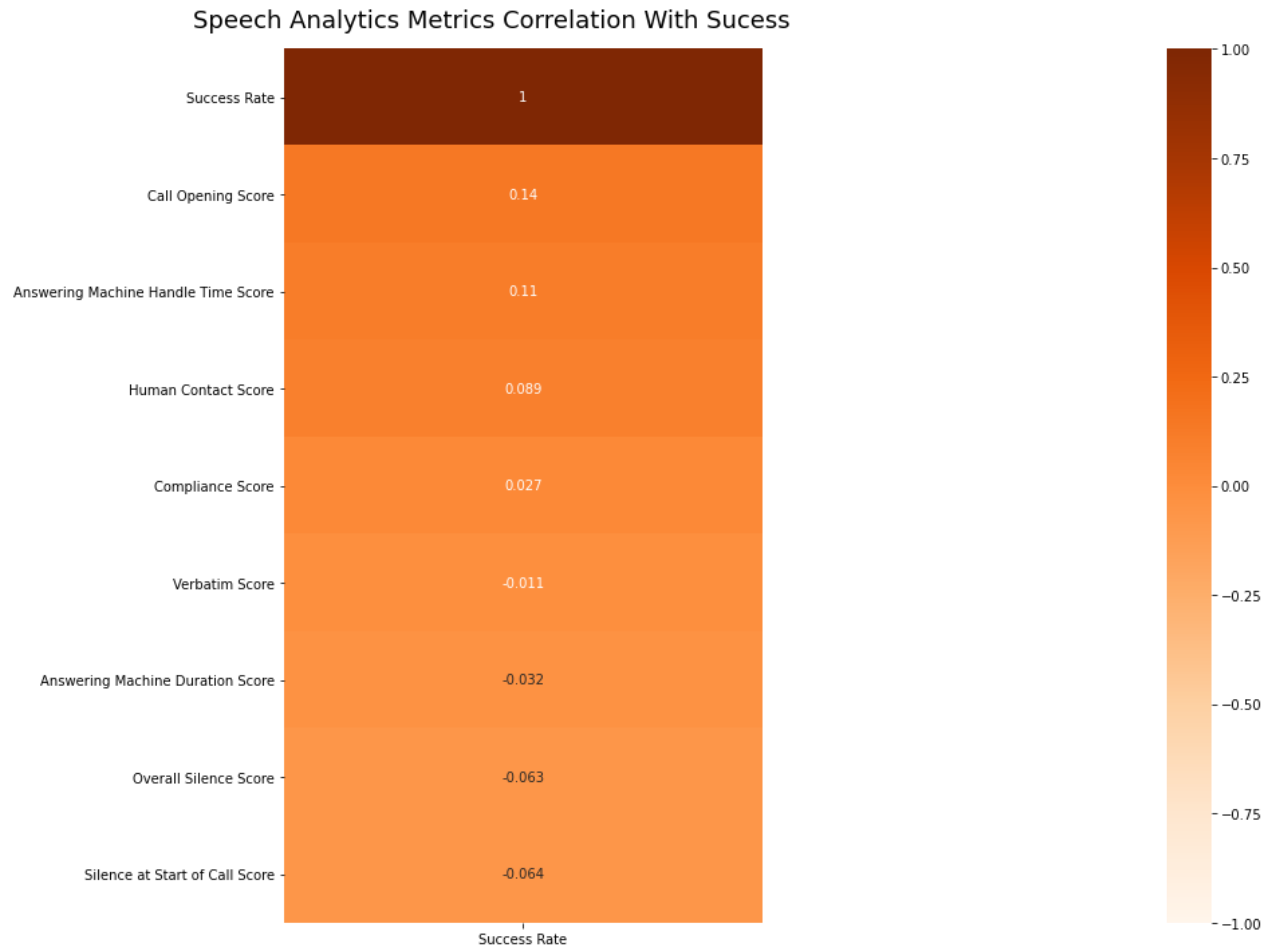
Changing the Quality Assurance role with speech analytics

- **Having automated scoring and review of calls allows for QA staff to take a very different role.**
 - Instead of reviewing calls for compliance, they can focus on coaching interviewing staff and on elements that can't be detected easily by automation.
 - Probing and gaining cooperation are examples where appropriate language is very situational and hard to account for and requires human judgement.
- **Speech analytics systems can help QA staff easily reinforce comments with snippets from recordings.**

The reaction by our interviewers has been overwhelmingly positive in our pilot tests

- **Our previous quality system was designed around ensuring compliance and adherence**
 - Interviewers without performance deficiencies could see delays in feedback or receive less relevant feedback.
- **The more immediate feedback provided by speech analytics has been praised by our interviewer staff**
 - Having feedback notes associated with the relevant recording snippet has provided a better learning experience than the comments alone.
- **Self-service access was given to interviewers.**
 - With an approach of unforced usage, 23 out of 24 interviewers with access logged in during the past month.
 - Of those, 19 logged in at least once a week to review their metrics.
 - This highlights strong user adoption.

In our pilot testing individual scores did not show strong correlations with successful outcome of a call



Interviewers having access to their score data does have a relationship with their overall success rate of getting an interview

- Access to the speech analytics scores and recordings via the dashboard increased the likelihood of a partial or complete survey on a human contact.

Additional Opportunities

- Compliance and verbatim reviews are important
- Transcription data provides other analysis opportunities as well.
- For example, we can dig into differences between our group with and without dashboard access.

Groups with and without dashboard access typically reach a given point in the script at given times

Second in call	Phrase "name is"	
	No Dashboard Access	Dashboard Access
00:00.000	0%	0%
00:01.000	13%	5%
00:02.000	36%	26%
00:03.000	26%	31%
00:04.000	12%	16%
00:05.000	6%	9%
00:06.000	4%	5%
00:07.000	1%	3%
00:08.000	1%	2%
00:09.000	1%	1%
00:10.000	1%	1%

Second in call	Phrase "calling from"	
	No Dashboard Access	Dashboard Access
00:00.000	0%	0%
00:01.000	0%	0%
00:02.000	4%	1%
00:03.000	23%	15%
00:04.000	30%	28%
00:05.000	21%	24%
00:06.000	10%	14%
00:07.000	5%	8%
00:08.000	3%	5%
00:09.000	1%	3%
00:10.000	1%	2%

Thank you.

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