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Best Practices for Successfully Deploying and Using Speech Analytics

Scott Bakken
Founder
MainTrax

Brian Spraetz
Solutions Marketing Manager
Interactive Intelligence, Inc.

Contents

Interactive Intelligence, Inc.
7601 Interactive Way
Indianapolis, Indiana 46278
Telephone (800) 267-1364
www.ININ.com

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Introduction

Speech analytics is a sophisticated software technology designed to enhance contact center efficiency and profitability by extracting meaningful information from every incoming call. All speech analytics tools find key words and phrases in conversations between agents and customers. Real-time speech analytics solutions, which analyze phone calls as they are in progress, can alert a supervisor to intervene — or prompt an agent to try a different approach, switch to a different script, or attempt a specific up-sell.

Speech analytics is a powerful technology, but is as much an art as it is a science. This guide tells you how to successfully plan, prepare for, deploy, and implement a speech analytics solution. Learn industry best practices, how to avoid common pitfalls, and why context matters just as much as content when analyzing agent-customer interactions.

Perhaps the best way to prepare for speech analytics success is exploring why speech deployment failures litter the contact center landscape. The four primary reasons for this harsh but undeniable reality are that:

- **Speech analytics is not an out-of-the-box technology.** Optimizing your speech analytics tool so it delivers useful, actionable business intelligence is time-consuming and challenging. Yes, locating key words and phrases (often referred to as “key phrases") may be straightforward, but that function alone is of limited use without a solid understanding of the relationship between content and context, the ability to interpret results skillfully, and the capacity to account for the colloquialisms of various dialects or specialized industry vernacular.
- **Time must be spent listening to recordings of calls.** If you forge ahead on a speech analytics project without listening to recordings reflective of the business issues you are targeting, you lower your odds of producing useful business intelligence significantly. Guessing about "the voice of the customer" is not a suitable substitute for actually hearing it. Reviewing hundreds of agent-customer conversations is a laborious task, but it is the only way to identify the meaningful key phrases that determine customer intent and predict outcomes.
- **Both sides of the agent-customer conversation need attention.** Focusing on what agents are telling customers ensures that agents are following scripts correctly, communicating necessary information, and avoiding prohibited words and phrases. The customer side of conversations provides equal or greater value by pinpointing the reasons behind customer complaints and identifying quality gaps in products, services, internal processes, or agent-customer interactions.

  One retailer used speech analytics to spot when do-it-yourself customers called the contact center because information was missing from the website. Armed with this information, the retailer updated their website, reducing the number of calls and resolving their customers’ frustration.

- **Supervising the speech analytics process requires special skills.** Leveraging the full power of your speech analytics tool requires performing a variety of administrative, analytical, and fact-finding tasks on an ongoing basis. The learning curve can be steep and confusing without the presence of internal or external speech analytics experts who know how to apply operational subtleties and strategies for capitalizing on raw data.

Yet, even with so many complexities to consider, there are plenty of speech analytics success stories. The companies that achieve success follow a common framework for deployment: meeting with key stakeholders and decision makers to pinpoint challenges and issues, establishing benchmarks, forming a strategy, setting realistic expectations, and ensuring clarity of organizational objectives.

Content Audits Provide the Foundation of an Effective Speech Library

A critical step in any well-conceived speech analytics project is a content audit: a manual review of a sizable sampling of recordings. Listening to hundreds of actual calls from start to finish is a tedious process, but it allows you to compile a speech library by capturing the actual utterances used in customer-agent conversations.

An audit inevitably leads to the discovery of unanticipated high-value phrases that are similar to other key phrases, but different enough to warrant inclusion on their own. For example, you may learn that customers are more likely to say “terminate my service,” “stop my subscription” or “get rid of my subscription” in place of expected phrases like, “cancel my service” or “cancel my subscription.” Gone undetected, these minor differences can distort results significantly.

By gaining insight into the real “voice of the customer," a content audit exposes potential results-hindering issues such as differences in language, dialect, jargon, and culture (for example, “y’all” vs. “you”). An audit also allows you to gain clarity about the root causes of calls, which enables you to select the most relevant categories for your speech library.

Gaining a sense of how often particular business issues surface and how often related phrases are uttered provides a benchmark from which to start tuning the speech engine. Absent this benchmark, you can never be entirely confident that, say, detecting a particular phrase in one out of every 10 calls is an accurate assessment of how often that phrase actually occurs.

The Art and Science of Confidence Level Setting

A confidence level (for example, 70%) reflects a degree of certainty required of the speech engine before it registers a hit. Low-confidence levels instruct the speech engine to be less discerning. High-confidence levels instruct the speech engine to be more discerning. Typically, confidence levels can be set for each individual key word phrase for which the speech engine searches.

There is a trade-off to keep in mind when setting confidence levels. Lower confidence levels generate more false positives. These are false alarms where the speech engine mistakenly identifies the wrong phrase. For example, the engine thinks it heard “more information” when actually, “more inflammation” was spoken. Use lower confidence levels when you absolutely do not want to miss high-value phrases, such as "I will sue you." However, keep in mind that you may need to weed through a potentially large number of false hits.

Higher confidence levels result in more false negatives. These occur when the speech engine fails to identify an actual spoken phrase. Use higher confidence levels when you want a high likelihood of accurate hits. However, keep in mind that you will miss some occurrences of the phrase. When employing real-time speech analytics capabilities to alert supervisors or initiate agent guidance on live calls, high confidence levels prevent annoying and distracting false alarms.

Adjusting the confidence level for a phrase is a common way to resolve false positives or false negatives. You can also include phonetic alternatives, so that the engine will detect both “cue-pon” and “coo-pon” as the word “coupon”. Phrase construction also has a big effect. Individual words are more difficult for a speech engine to identify than phrases made up of multiple words. Ideally, a key phrase will contain hard consonants, five to seven syllables, and good, strong root words like "attorney" or "diabetes" that reflect its core meaning.

Auditing and Tuning Ensures Accuracy

Speech analysis results are only useful when they accurately direct you to the conversations that can influence your business. Tuning a speech engine requires multiple iterations of testing and tweaking to achieve optimal accuracy detection. This painstaking, meticulous work involves auditing search results repeatedly, continually adjusting confidence levels, and fine-tuning the speech engine until it hums in perfect harmony with your targeted business objectives.

Reviewing recorded agent-customer conversations is a core requirement of the auditing process. Unlike the implementation phase, where reviewing hundreds of calls from start to finish identifies which key words and phrases to look for, ongoing auditing involves listening only to that part of a call containing the identified phrase.

Comparing the actual spoken words to what the speech engine "heard" uncovers cases where phrases are fooling the engine. "Cancel" and "can sell" sound very similar. Using a longer phrase like "I can sell you" or "cancel my service" gets better results. Creating phonetic alternatives for key phrases can account for differences in accents, dialects, and colloquial pronunciations, like "tawk" vs. "talk."

You may also uncover high-value correlations between groups of key phrases. For example, a large service provider learned that customers were significantly more likely to churn within four weeks of a call when there was a presence of a miscommunication phrase such as "not what I was told" along with a shopping phrase such as "calling around."

Discovering new key phrases that may have escaped detection in the library-building phase often happens during a performance audit. For instance, a clinic wanting to provide agents with real-time guidance when callers mention pregnancy may discover that "breast pump" is a new phrase that had not occurred to them. Adding such a highly relevant phrase to the library can significantly improve results.

Confidence levels will also need adjusting, as initial settings are almost never optimal. A good way to optimize confidence levels is by adjusting them downward (less discerning) until an unacceptable number of false positives appear. The exact definition of "unacceptable" differs with the circumstances surrounding a targeted business objective.

Verifying the correct context of detected phrases is also an important part of the tuning process. For instance, a caller may indeed have said the phrase, "lousy service," but upon reviewing the full context of the comment, the customer actually said your competitor has lousy service and that she is glad she switched to your company.

When tuning, avoid the temptation of making too many changes at one time. Doing so can obscure the impact of a specific change. Also, keep detailed records on the number of false positives for various phrases and confidence levels. This information will be critical in selecting the most useful settings and phrases, and can help you restore previous settings if necessary.

Speech analytics audits additionally offer an opportunity to define scoring algorithms that weigh the relative importance of each key phrase in accordance with specific business objectives. Call score summaries can measure, and provide insights on, everything from customer satisfaction to agent effectiveness.

Managing Your Speech Analytics Project

Whether you tap internal resources or rely on outside consultants to manage your speech analytics initiative, maximizing the technology's capabilities requires certain skill sets. Unless you have employees who are speech analytics aces, it may be wise to turn to a professional services organization with speech analytics expertise to ensure a successful deployment that produces high-value, actionable business intelligence.

If you choose to manage the process from within, your ideal candidates will be able to toggle between left-brain (logical) thinking and right-brain (creative) thinking. Individuals who can synthesize speech analytics data from both viewpoints will be able to analyze and articulate business opportunities and make the case for necessary changes.

These whole-brain thinkers are a bit of a rare breed, so here are some minimum requirements for three essential skill sets. Depending on the depth of your internal resources, one staff member could perform multiple functions.

Administrator. The Administrator is responsible for deployment of the speech analytics tool and manages all server and database connections. He or she will:

- oversee the initiative from communications, IT, PCI-compliance and application configuration perspectives;
- be tasked with granting permissions for system access to all users;
- determine roles and functions for all users;
- test against design to ensure full functionality.

Business Analyst. The Business Analyst is responsible for executing all the analytical tasks necessary to compile, analyze, and deliver key findings of speech analytics projects to upper management. He or she will:

- be inquisitive and intuitive enough to determine what key words and phrases to search for and what the assigned categories should be;
- be analytical and knowledgeable enough to recognize pertinent language patterns and correlations that lead to accurate interpretation of results;
- design and apply scoring configurations and confidence thresholds;
- identify fresh insights and quantify the impact of relevant issues and trends;
- create, edit, and manage custom reports;
- develop recommendations to improve results to extract as much business intelligence as possible;
- manage, maintain, and edit the speech library as needed;
- brainstorm value-added applications to further use the available technology;
- collaborate and communicate effectively with internal managers and other stakeholders.

Interactions Monitoring Analyst. The Interactions Monitoring Analyst is responsible for listening to and reviewing the content of selected calls based on criteria provided by the Business Analyst. He or she will:

- pull up and review the audio playback of calls to verify the detection accuracy of the speech engine;
- make tuning recommendations for key words and phrases based in relation to what the speech engine detected;
- offer suggestions for dealing with phrase deviations, phonetic alternatives and various accents and dialects that may improve results;
- identify calls that provide instructive examples for analytical purposes and for agent training.

Ultimately, managing a speech analytics project requires careful planning and skillful execution to ensure that business objectives are clear, milestones are met, deadlines are adhered to, results are analyzed, adjustments are made, success is tracked, and progress is communicated through the organization.

Documenting and Leveraging Results

Think of speech analytics as a four-legged table. So far, you have constructed three sturdy legs: building the library, learning to operate the tool, and tuning to improve results. The fourth leg may not be as obvious, but is just as essential: documenting the results on an ongoing basis.

Documentation is valuable for several reasons. First, it compiles a treasure trove of actionable insights. The customer, competitor, and market intelligence produced by speech analytics not only improves contact center operations, it can deliver value to marketing, sales, customer service, and other departments throughout the enterprise.

Second, archiving results enables you to build a database of what is working and what is not, which continually allows you to improve accuracy detection of key phrases, months and even years down the road.

Third, documentation reveals patterns and trends that could decidedly affect your business. For instance, you may gain added clarity about the frequency and severity of calls that threaten legal action.

Fourth, documenting results can offer proof of improvement in agent performance. You will learn whether your coaching efforts have been effective in diminishing problematic statements uttered by your agents.

Fortunately, there are customizable software tools on the market — or you can build your own Excel spreadsheets — that can help you manage, interpret, and optimize the data collected by your speech analytics program. The right audit-reporting tool can enable you to leverage both the art and science of speech analytics while keeping a finger on the pulse of contact center operations.

Closing Thoughts

Do not view speech analytics as a magical device that spins the straw of hard data into gold. Think of speech analytics as a tool that produces actionable business intelligence by uncovering content that most likely would have gone undiscovered.

Correctly used and applied, speech analytics optimizes the operational efficiency and profitability of your contact center. It helps you improve agent effectiveness, minimize compliance risk, capitalize on selling opportunities, identify complaint trends, reduce customer churn, decrease operational costs, and mine rich new veins of business intelligence.

What's more, by tracking and improving customer satisfaction metrics to ensure positive outcomes, enhanced brand perception, and consistency of customer-agent interactions, speech analytics can fulfill its promise of delivering happy, satisfied, and loyal customers.

MainTrax is a leading provider of speech analytics (SA) professional services to end users and industry partners. Free of allegiance to any one solution or supplier, MainTrax has earned a reputation as an independent, unbiased resource for consulting expertise across a variety of products and providers. Since 2007, MainTrax has helped contact centers optimize their existing software to improve agent effectiveness, minimize compliance risk, capitalize on selling opportunities, identify complaint trends, reduce customer churn, decrease operational costs and mine rich new veins of business intelligence. Visit www.maintrax.com.

Interactive Intelligence is a global provider of contact center, unified communications, and business process automation software and services designed to improve the customer experience. The company's standards-based, all-in-one IP communications software suite, deployed via the cloud or on-premises, is now in use by more than 6,000 organizations worldwide. In addition to software, Interactive Intelligence provides a comprehensive solution-set, including hardware, implementation, consulting, support and education. The company was founded in 1994 and is headquartered in Indianapolis, Indiana, U.S.A. with offices throughout North America, Latin America, Europe, Middle East, Africa and Asia Pacific. Visit www.inin.com.

The Authors

Scott Bakken, founder and president of MainTrax, is a highly-respected independent voice in the speech analytics industry. His company provides professional services that help end users use their existing speech analytics tools to deliver actionable business intelligence. Over the last seven years, MainTrax has earned a reputation as an unbiased resource for consulting expertise across a variety of products and providers. MainTrax clients benefit from Scott's 25 years of business acumen developed throughout a successful entrepreneurial career rooted in direct marketing and response tracking. Scott was named an Ernst & Young Entrepreneur of the Year finalist.

Brian Spraetz has been helping service organizations perform at peak levels and deliver loyalty-winning experiences to their customers for more than 18 years. With expertise crossing the full range of workforce optimization solutions, Brian provides unique perspectives and valuable insights on using technology effectively to gain operational and competitive advantages. Brian received his B.S.E.E. degree from Southern Methodist University and M.B.A. degree from the University of Texas in Dallas.