We record & analyze communications
1 Introduction

Contact centers have successfully used speech analytics to reduce avoidable calls, improve self-service facilities, ensure compliance to contracts and regulations, increase sales and improve targeting of staff training.

The idea that a speech analytics tool is too expensive for most contact centers to consider, or that speech analytics won’t be useful without building a massive infrastructure, is no longer accurate.

Speech analytics has become a viable tool for all but the smallest contact centers. Contact centers can get very good results by using speech analytics in three distinct roles: classifying customer demand, as a tool for investigating opportunities and to automatically monitor call traffic.

This overview shows how contact centers can deploy speech analytics in a cost-effective manner to develop powerful intelligence about what is happening in their organization.

2 Essential Elements of Success

Successful IT deployments always include:

• A clear goal,
• The right technology,
• The right people,
• The right processes, and
• A way to measure progress and success.

3 A Clear Goal

The ability to automatically check every single phone conversation for meaning is enormously powerful. Contact centers have used speech analytics to reduce avoidable calls, improve self-service facilities, ensure compliance to regulations, identify ways to increase sales and improve targeting of staff training.

However with so many possible benefits, it is easy to lose focus and end up missing all your targets. To avoid this pitfall, a speech analytics project should start with clear initial goals. These goals can be expanded upon as each one is attained, and experience grows, but the temptation to load a project with too many objectives from the outset must be avoided.

So, with such a new and powerful technology, what should a contact center expect to achieve?

A starting place: You should start a speech analytics project with “Demand Analysis,” by classifying the reasons for 90-to-95 percent of handled calls. Demand analysis may sound like a basic objective, but it’s amazing what opportunities surface when this exercise is properly performed.

Why 90-to-95 percent? The analyst groups calls by using expected words and phrases. The classification percentage determines whether the analyst has used relevant search terms to properly categorize calls.

A small percentage of calls won’t fit any specific category, but this statistic should hover around the five percent mark. If the volume of unclassified calls starts growing, the analyst needs to re-examine the database and update the search terms to see what new topics are being discussed.

Next question: It’s often amazing to learn why customers are calling. Managers may know that the “technical support” option on the IVR gets a lot of calls, but how much more powerful is it when they can see that 50 percent of technical support calls are related to “password reset?” And what about when it turns out that 90 percent of “password reset” requests are caused after the customer “already tried to do this on the website?”

Clearly website administrators can use that information both to improve customer satisfaction and reduce workload in the contact center.

Once a clear “map” of customer demand has been created, the next powerful question might be:

“For each area of demand, how many calls are service requests best handled in this contact center, how many are calls the customer and we would prefer not to happen, and how many might be moved to our self-service platform?”

These very simple questions serve as the starting point for significant return on investment.
4 The right technology

Speech analytics technology falls roughly into three types: keyword spotting (KWS), phonetic-based analytics (PBA) and transcription-based analytics (TBA).

To learn more about the underlying technologies, please refer to ASC’s white paper describing the various approaches in more detail at: http://asctechnologies.com/english/white_papers.html

Both KWS and PBA process voice recordings using phonetics, the building blocks of words and sounds in conversations. Although there are some differences between KWS and PBA, both provide fast and flexible speech analytics based on phonetic analysis of single words or phrases.

**Advantages:**

Very fast – can be used in real time to flag issues during calls – without using much computing power. Calls can be searched very quickly for words and phrases. PBA does not depend on any given language. The implementation and maintenance is rather simple compared to technologies based on complex dictionaries.

**Disadvantages:**

Won’t automatically present analysts with a transcription of a conversation or a “word cloud” to search for clues. Instead, the analyst needs to know the search term in advance. The context of words will not be considered.

Transcription-based analytics (TBA) instead converts conversational speech to text, using massive computing power and large reference dictionaries, so in addition to spotting known keywords, new words, phrases and meanings can be detected, too.

**Advantages:**

TBA automatically creates a text version of the phone call, allowing unlimited text searches, a powerful tool when trying to determine the root cause of issues. The context of words can be considered to avoid false positives. A text version of calls also makes it possible to process data with other techniques such as data mining. Thus, TBA can also automatically alert analysts to new topics for trend analysis.

**Disadvantages:**

TBA requires substantial processing power, so it requires a substantial investment in technology and hardware. It also requires concerted effort to “train” the system and maintain the dictionaries. A dictionary is required for every language to be processed.

ASC offers all types of speech analytics technology, depending on the needs of the customer. In the following this paper concentrates on the flexible phonetic-based approaches.

**But where will the analyst start without transcriptions to tell them what words are being used?**

In a contained business environment like a contact center, where a lot of information about customer behavior already exists – just ask the people talking to customers – the cost and speed advantages of phonetic-based approaches outweigh any start-up hurdles.

How to start an analysis will be discussed in the “Process” section of this white paper.

5 The right people

Speech analytics is a tool, not unlike a spreadsheet, and to be useful, it needs to be properly applied. Someone must be able to use it, and someone must act on the information it generates.

**Monitoring Mode:**

Speech analytics effectively monitors and reports on call volumes in pre-defined categories. It helps to spot spikes in different types of calls and react accordingly, as well as noticing when “unclassified” calls increase: an indicator of new topics being discussed. It also measures the impact of operational changes: “Now that the website has been fixed, have calls about ‘password resets’ been reduced?”

In this monitoring role, the speech analytics tool might only require periodic checking and administration, and supervisors and managers can often use the reports during the course of the current day or week.

**Investigations:**

What happens when a spike in calls is detected? Or the number of unclassified calls suddenly increases? Or a manager wants answers to a specific question?

Investigations into specific questions can be as quick as a few hours of work or can take longer. Smaller operations often struggle to find someone with enough time to investigate and classify calls, especially to get to the root cause of issues.

If your contact center is lucky enough to employ people who do this type of work, hold on to them! If not, many vendors and consultants can add great value to your operation.

Finding the right people represents an essential element in any successful deployment of speech analytics – or any information technology for that matter.
6 The right process

Designing a process is as simple as asking some simple questions: What are we trying to achieve? How does this stuff work? Who does what? What will we do with the information? With clear goals, the right technology and the right people on hand, these questions can be answered pretty quickly. Careful thought should be given to the customized use of a speech analytics tool in your environment.

The following example demonstrates the use of speech analytics to understand customer demand.

Start: As mentioned, phonetics-based analytics is unable to present transcriptions or word clouds to analyze. Instead, the analyst must find a starting point. Here are three ways this might occur:

A question is posed. A question may derive from a spike in call volumes, a change in the customer demand map or a query from a supervisor or manager. Any of these events provides a starting point for further analysis.

Listen to calls. Faced with 20,000 calls to analyze, and no real starting point, the analyst can simply listen to some calls, take notes about what is going on, and start classifying them from there. This process can be time consuming, but it works quite well for analysts with minimal contact center experience or new to speech analytics. For more experienced users, the next option is often more effective.

Take a guess. Not a complete guess, of course! The speed of searching and returning results in a phonetics-based tool is fast enough to allow an analyst to make educated guesses about the types of calls being handled, and to test, expand and pinpoint issues very quickly. In the same time it might take others to listen to a few hundred conversations, a skilled and educated guesser can classify thousands of calls.

Improve: Searching for words and phrases in a keyword list or phonetic index is quick, and thanks to Google, many users have already learned how to build search terms. An analyst can repeat the test-improve-test-improve process many times. It's very useful to understand the environment being analyzed, and to have a good ear for common language. This step also involves listening to identified calls to build a picture of various ways customers will describe the topics properly.

Check #1 – Unclassified calls: Once call classification takes place, you should check the ratio of classified and unclassified calls to determine whether you have covered the topics properly. If, for example, 30 percent of calls in a group are unclassified, then the search terms don’t match many words in the calls, and other categories must be found.

Speech analytics, as used in this flexible analytics approach, provides useful information by counting how many calls fall into certain categories. These statistics help to improve customer experience, reduce costs or increase revenue through good old-fashioned human intelligence to nail down exactly why so many calls are falling into a certain category, and what should be done about it. So, the next step in our process involves investigation.

Investigate: Once analysts have found a significant number of phone calls about a particular issue, they must find out why. Here the speech analytics search function can help to quickly prove or disprove a theory. For example:

- A spike in technical call numbers shows a sudden increase in requests about “password resets.”
- Analysts wonder why people didn’t use the automated password reset function on the website, so they search for “website, web, web page and internet.”
- A lot of the calls contain these words, so they listen to a few, and learn that many people tried to use the website function without success.
- Now that the location of the problem has been identified (it’s up to the web administrator to fix it), the analyst expands the search to calls earlier in the week and sees that the growth in calls mentioning “password” and “website” started on Saturday morning.
- There’s a good chance that the website software was updated on Friday night!

Bonus question: A curious analyst might also check why people are resetting their passwords in the first place. Is this level of activity normal, or has the company done something to affect people who obviously don’t use their online accounts very much?
Monitor: Once customer demand has been classified, phonetics-based speech analytics is a powerful tool for keeping track of trends. Building on the example above, once the web administrator has been notified of a problem, speech analytics can continue to monitor the technical support traffic to determine whether customers are still calling about the issue.

Once a phonetic-based approach is incorporated into day-to-day operations, this monitoring role can help contact center management stay on top of issues that could otherwise grow into serious problems.

7 Measuring Progress & Success

The use of speech analytics to monitor call traffic raises another issue important for any project: how to measure progress and success.

In addition to providing contact centers with the ability to investigate why customers are calling them, speech analytics also helps to directly measure the impact of any changes by continuing to classify and count types of incoming calls.

One of the real strengths of speech analytics, the simple ability to automatically classify and count types of calls, might not seem very important. But being able to do this without asking people to sit for days listening to hundreds of conversations is the difference between making changes whenever they are needed, and never making them at all.

It's the difference between basing decisions on people's opinions and gut feelings, and basing them on hard verifiable facts.

And it's the difference between believing in a change, and actually measuring and putting a value on it.

8 Conclusion

Whether providing customer service or selling, being able to classify, and to constantly monitor, what customers are saying is very powerful.

The key to getting good value out of technology often involves focusing on a single capability and then building a process around that feature.

For speech analytics, great value can be realized by simply using it as a counter. By determining how many calls fit various categories, a contact center can quickly get a picture of customer demands, understand what drives them to the contact center in the first place, and keep a constant lookout for changes in customer interactions.

One person, equipped with a speech analytics tool, can now turn the contact center into a very powerful and responsive source of business intelligence for the entire company.