

Speech Analytics

The Simple Definition

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Speech Analytics - The Simple Definition

In order to define Speech Analytics (sometimes called Content Analytics) accurately and generically, it is useful both to consider what it does and to look at the challenge to which it offers a solution.

Speech Analytics delivers the ability to automatically search, identify, categorise and cross-reference recorded speech based upon what is actually being said, the spoken content of verbal interactions.

But why is this useful, important or even of value?

Language originated as a tool for describing the world around us – places, animals, plants, food, danger, the weather...all were given sounds or names so humans could communicate. Language has developed into a complex, multi-dimensional medium that is now used to express everything from ideas to emotions, from stories to mathematics and even speculation about the future. Language is so developed, that we even have words which have no other function than to describe other words!

So... if language can be a description of feelings and intentions, then the process of verbal communication can be reversed easily and the spoken word used to determine the speaker's state-of-mind - to understand their behaviour and their intentions.

Clearly, all these indicators and this understanding can be garnered by simply listening, by monitoring conversations and reviewing recordings, however, (and here is the challenge that Speech Analytics addresses) the sheer volume of conversations in even a medium sized organisation makes this monitoring and reviewing slow, unreliable, prone to human error, expensive and resource hungry.

Speech Analytics automates this labour intensive manual process, which means that very large volumes of conversations can be reviewed, monitored, searched, identified and categorised effectively and efficiently. The insight Speech Analytics delivers can be used to reduce risk and drive an organization's performance.

Dispelling the Fear

Speech Analytics applications were originally conceived and developed in high-tech environments, the laboratories of universities as research projects and the gadget shops of government security agencies in order to bolster surveillance measures. The underlying technologies are certainly complex requiring many years of development, and one of the challenges faced by organisations looking to deploy Speech Analytics is *how are the benefits that the technology offers realized without incurring the costs, pain and uncertainty associated with complexity?*

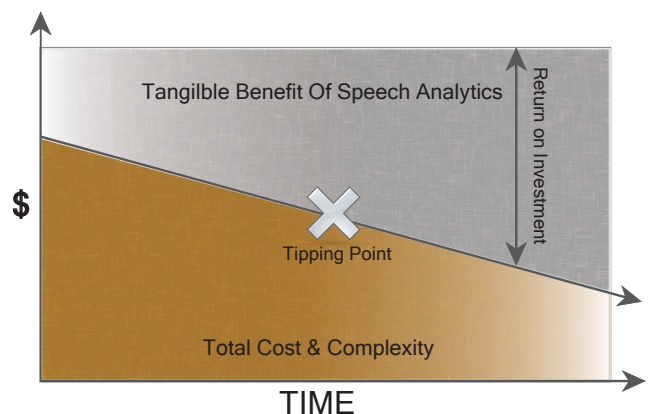
The last few years have seen Speech Analytics slowly beginning to be adopted into the mainstream of corporate operations, predominantly in their call centre environments as the evolving technology's ability to deliver tangible benefits has been proven. However, the perceived complexity of deploying and running a Speech Analytics solution have meant that potential adopters have taken a cautious approach, waiting as the technology continues to be developed. As with all new technologies, use by early adopters in "real world" environments leads to adaptation and improvement which in turn leads to adoption by the wider market.

There is now a new wave of Speech Analytics offerings available. These offerings offer cost effective, flexible, integrated solutions. With complexity stripped away, deployment, operational and ownership costs are greatly reduced, benefits are more easily realized, and the risk associated with adopting a maturing technology can be almost totally mitigated. Speech Analytics is becoming a powerful adjunct to existing reporting capabilities - one that can deliver new and unparalleled insight.

Overview of Business Value

Solutions that remove complexity, reduce ownership cost and mitigate risk still need to show tangible benefits to those organisations that choose to deploy Speech Analytics. What are the benefits that drive the return on investment and how are they realised?

Figure 1. The Opportunity offered by Reduced Cost & Complexity



At Tipping Point: Total Cost = Tangible Benefit

Listen to Every Call

Although it is not impossible for every call centre, help desk, trading floor and service centre to monitor or review every call coming in or going out, the resources and logistics required make it extremely unrealistic. It is, therefore, impossible to know what is being said on every call. A high performing call centre may review 2% to 3% of its total volume of recorded calls, or rather, a handful of calls per employee per month. Where internal or external procedures are mandatory, teams of quality control staff need to be employed in order to monitor and ensure compliance, reviewing volumes of calls at a substantial cost. Here Speech Analytics offers a practical, efficient solution.

Understanding Trends

The behaviour, intentions and state-of-mind of an individual customer or caller can be understood by listening to one or two calls; what they say on a call about a company, its service, its products and its competition will uncover ways to interpret clues as to how best treat them and how to win their confidence and, possibly, their business. Most organisations and companies have more than one customer, and many devote considerable resources to managing thousands of customer interactions every day. How can their behaviours, intentions and states-of-mind be measured? How can disaffection and dissatisfaction of a proportion of a customer base be identified across thousands of recorded conversations? Even if it is identified, how can management gain an understanding of the root causes of such disaffection and dissatisfaction so that the situation can be reversed and customer confidence restored? Speech Analytics has the ability to identify groups of calls amongst many thousands by key criteria, as well as spot previously undetectable performance affecting issues, trends and patterns.

Identify Courses of Action

Addressing performance affecting issues can only be done effectively if the root cause of the issue is understood. Failure to identify and address the root cause leads at best to a delayed resolution and at worst a compounding of the issue in the immediate term. It is not enough simply to quantify, for example, the number of complaints received or to categorize and sub-categorize those complaints. What is required is a complete understanding of the customer's attitudes and intentions in relation to the complaints, as well as the business impact these attitudes and intentions will have. Speech Analytics delivers the insight that complete understanding requires.

Automated Solution

If every call cannot be reviewed, if understanding performance affecting issues, trends and patterns requires a holistic view, if identifying the correct course(s) of action

requires true insight, then the singular and multiple occurrences of instances that increase risk, that impact the bottom-line and affect the top-line cannot be fully understood. If not fully understood, their impact on the business or organisation cannot be quantified, the reasons for their existence cannot be qualified and, therefore, the choice of how, or even whether, to address these issues will not be a fully informed one.

Speech Analytics delivers insight by automatically processing volumes of recorded audio thus allowing conversations to be searched and cross-referenced; thereby delivering easily digestible results which, in turn, can be further investigated delivering further insight.

State of the Market

Speech Analytics has been a commercial offering since about the year 2000, and for a decade has been dominated by a handful of vendors in two camps: those with call recording backgrounds, and those with "stand alone" offerings. All these solutions have been positioned in the Enterprise space with the majority of deployments being seen in multi-national banks, major outsourcers, large utilities and government agencies.

Why Now?

Now, 10 years in, the marketplace is changing dramatically. Speech Analytics is being offered as an integrated solution in the hosted, network and desktop environments. It is now possible to access this powerful, cutting-edge technology and all of its benefits without the need for Enterprise-scale investment of capital, resources and infrastructure.

Integrated solutions mean less complexity; less complexity means lower total cost of ownership; lower total cost of ownership means a more rapid return on investment; a more rapid return on investment means that the solution is more affordable.

As Speech Analytics continues to become mainstream while the complexity of acquiring, deploying and using this technology decreases, the rate of uptake will continue to accelerate. However, the deployment of a Speech Analytics solution is only the beginning of a process that will deliver the benefits of previously unavailable insight, and this process requires careful planning at each stage. The sooner Speech Analytics is deployed, the sooner the organization will reap the benefits and the greater will be the window of opportunity to create a competitive advantage.

Using Speech Analytics to Gain Insight

Why are organisations using Speech Analytics? Originally, the uptake was slow as the technology continued to develop and the market matured, but the number of implementations and offerings continues to grow steadily. What are the business benefits associated with Speech Analytics that are driving this growth?

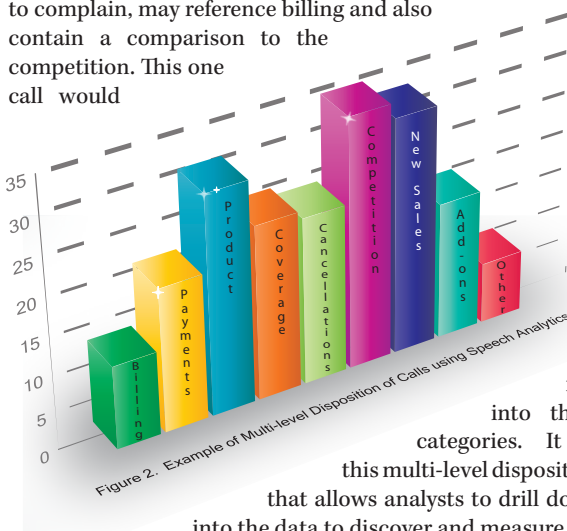
Speech Analytics adds value to a call centre or a telephony-based business by affecting the top and/or bottom-line of the organisation, thereby reducing risk. These principal areas include:

- Measuring and Driving Customer Satisfaction
- First Call Resolution & Agent Performance Improvement
- Assessing & Addressing Competitive Threats
- Ensuring Compliance & Risk Mitigation

Using Speech Analytics, the spoken content of every employee/customer conversation can be assessed and measured, and every call can be categorised by its content. So not only the outcome of each call, but also the subjects, products, services and even the complaints contained within the call can be qualified and quantified, and the resulting insight can be used to drive performance.

Holistic Benefits

Often, the first step in any Speech Analytics process is to gain a holistic view of, in this case, the call centre. This is done by creating a high level "call landscape". Key words, names, phrases and in-call scenarios are used to categorise every call by the spoken content. As seen in Figure 2 below, this delivers a high level view of the reasons for and the topics discussed in every call. It is worth noting that the sum of these categories is greater than 100% of the total calls, as some calls will fall into multiple categories. For example, a call originally placed to complain, may reference billing and also contain a comparison to the competition. This one call would



fall into three categories. It is this multi-level disposition that allows analysts to drill down into the data to discover and measure the

performance affecting trends and patterns.

By conducting focused searches based on initial results, Speech Analytics can deliver the insight that will assist management in gaining insight into the four principal areas.

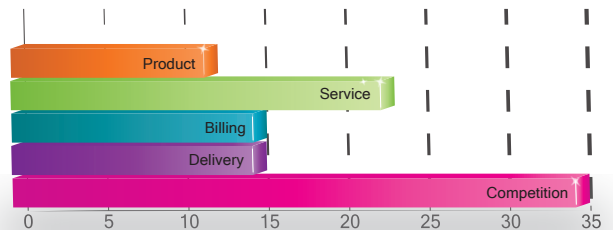
Measuring & Driving Customer Satisfaction

Continued, targeted investigation and categorization of calls using key words, names and phrases associated with cancellations will show clearly what cancellations are being raised and how frequently.

By simply using the industry specific language and phrases associated with cancellations, Speech Analytics reveals the reasons behind the cancellations. This is the insight that can be used to address the issues that are affecting the top-line.

In two simple steps after the initial landscaping, Speech Analytics has armed management with the insight to swiftly reduce cancellations and defend existing revenues.

Figure 3. Categorizing Customer Satisfaction Issues



First Call Resolution (FCR)/Agent Improvement

Repeat callers are a twofold problem. First, as callers want and expect their requests to be handled efficiently and effectively the first time, FCR failures mean these expectations have not been met, thereby impacting customer satisfaction. Second, FCR failures lead to repeated calls - calls that need answering and handling thus taking up resources and negatively affecting efficiency. Driving FCR rates up means increases in both customer satisfaction and operational efficiency.

Traditionally, FCR failures could only be tracked by identifying multiple calls from particular numbers or customers or monitoring specific call outcomes, if recorded.

Speech Analytics is a powerful tool for cracking the FCR problem by identifying those calls that contain phrases such as "...this is the second/third time I have called..." and "...last time I called I was told...". Now that the FCR failure calls have been identified, quantified and their impact understood,

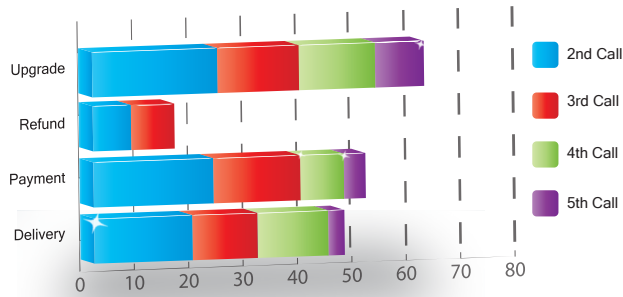


Figure 4. Categorizing First Call Resolution

one further level of searching and categorization will begin to determine the root causes of these failures (such as seen in Figure 4, above) that will, in turn, allow management to act in an informed way to address the issue, increasing both customer satisfaction and operational efficiency.

Only Speech Analytics can deliver the insight that allows management to understand fully and address this type of performance impacting problem swiftly and accurately.

Assessing & Addressing Competitive Threats

Competition poses a constant external threat to business. Using Speech Analytics, marketing departments can know which competition callers and customers are mentioning and in what context. They can learn who is posing the greatest threat and how. Are they cheaper - offering better service, targeting specific customers? By searching for company and product names, Speech Analytics can identify trends and patterns in competitive activity. By exploring the context and volume of competitive mentions, the impact of the threat can be quantified, understood and action can be taken to nullify any risk.

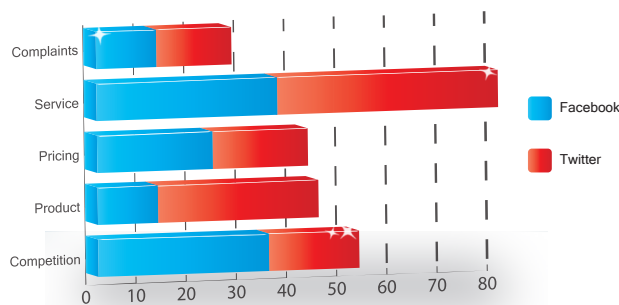


Figure 5. Social Media Mentions in the Call Centre by Subject

Searches can even be employed to measure the effects of social media on a business. By searching on sites such as

Facebook and Twitter for conversations including a company or product name within some context, a measurement of what impact social media sentiment is having on the business can be unveiled, as seen below left in Figure 5. Speech Analytics can help to reveal the effects social media is having on a telephony-based business.

Ensuring Compliance & Risk Mitigation

Measuring compliance can be difficult, expensive or both. Historically, there have been two options available to call centre management - either listening to a sample of calls in hopes of identifying employees who are exhibiting non-compliant behaviour or reviewing all calls in which compliance is essential; for example, calls where a sale of a particular product has been made.

Sampling calls is, obviously, a hit and miss affair. Speech Analytics offers automatic reviewing of up to 100% of calls with searches that can be designed to locate mandatory phrases and script adherence, and reporting by exception flags non-compliant calls. Risk is reduced effectively and efficiently by focusing compliance monitoring on those calls that lack mandatory elements and away from those calls that are known to be compliant.

Figure 6. Using Speech Analytics to Focus Compliance Monitoring

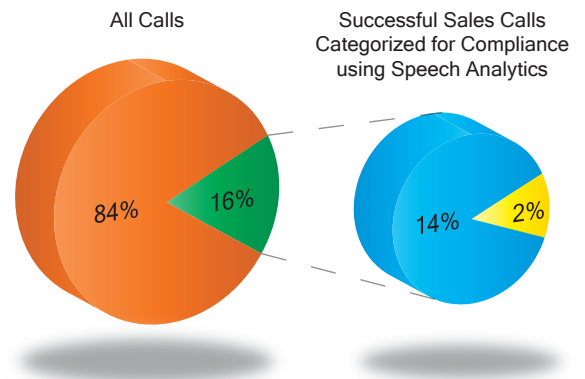


Figure 6, above, shows how Speech Analytics can greatly increase the efficiency of compliance monitoring. Having identified compliant sales calls by confirming the presence of mandatory phrases and statements, it is now necessary to review only 2% of all calls that are potentially non-compliant sales calls. Previously, it had been necessary to review all the successful sales calls (totalling 16%) as the compliance status of each call was unknown.

In a matter of minutes, Speech Analytics can deliver a significant increase in compliance monitoring efficiency as now 1 in 50 of the total calls needs to be reviewed as opposed the 1 in 6 previously. Effectiveness is increased as less manual processing of calls leads to fewer cases of human error.

Ad Hoc Searches

As well as these principal areas, the flexibility of Speech Analytics means it can be put to use to find, search and categorize calls for any reason as and when the need arises. For example, finding that one call in a legal or customer dispute that proves who said what and when can be worth tens of thousands, even millions of dollars. The exact date, time, origin and destination of the call might not be known, but using Speech Analytics, the search can be narrowed and even resolved using the key words, names and phrases used on the call thus removing the need to review or transcribe hundreds or even thousands of hours of audio.

Don't Wait

Speech Analytics is here, the technology is now accessible, and the benefits have been proven by the early adopters. Competitive advantage is being gained in every industry sector as uptake increases - those who are listening to what their customers are telling them are the ones gaining that competitive advantage.

Getting Started

Expert advice is available, and independent consultants will advise on the best solution to fit any operational scenario and any infrastructure regime.

Figure 7. The Four Step Process for Adopting Speech Analytics

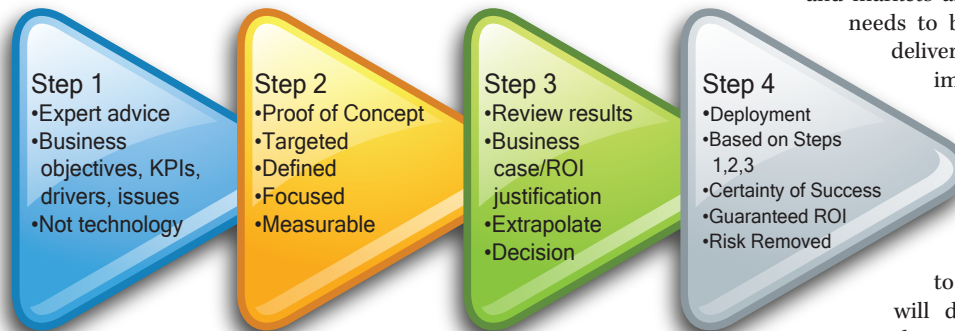


Figure 7 above shows the typical strategy a business may follow in order to justify, test and deploy a Speech Analytics solution. By ensuring the capabilities of the Speech Analytics tool are aligned with the business objectives, an accurate result of any business case evaluation is guaranteed. In fact, once a Speech Analytics solution is deployed, this process can be adapted and applied in an on-going fashion. Every Speech Analytics based project can be designed, tested and conducted after a rigorous investigation of how the technology can best be used to maximise its performance enhancing impact.

Best Practices

Speech Analytics is an advanced technology that requires a commitment in order to succeed. Even with the complexity removed through integration into suites or hosted environments, there will be some input for deployment and operation required from IT departments. It is essential, however, that any analysis project is run by a person or persons who understand the business. Speech Analytics primarily offers hard, tangible commercial benefits to telephony-based operations. With this in mind, the successful application of Speech Analytics is dependent on someone who has detailed knowledge of the business driving the analysis and interpreting results for the use of the business.

What Can I Expect - Definition & Tuning

Once Speech Analytics is deployed, the goalposts will move. Any initial analysis will throw up dozens of new questions which may or may not be directly related to the original investigation. Moreover, issues can be isolated, diagnosed and resolved quickly using Speech Analytics, but the analysis is an on-going process.

In order to obtain on-going, meaningful, business impacting results, it is essential that the Speech Analytics platform is managed and pro-actively driven by the business. To leave it running in a dark corner of the communications room producing the same reports day in and day out will deliver diminishing results. Customers, callers, products, services and markets are all dynamic, and analysis needs to be dynamic too in order to deliver powerful, relevant and impactful insight.

In order to continually optimize the performance of Speech Analytics, the searches used to deliver powerful insight will need to evolve. An initial analysis will deliver insight that can be acted upon. Subsequent analysis will need to take into account any changes implemented as a result of the initial analysis, as well as the shift in focus that will follow. The focus, format and content of each analysis will need to reflect the operational changes Speech Analytics has already driven.

Where Can I go From Here?

The business impacting insight that Speech Analytics can deliver will be a unique contribution to the wider drive to ultimately improve performance. As seen in Figure 8, below, the application of Speech Analytics can be seen as a natural progression. From the simple identification of the most critical calls for quality management purposes, to its use in addressing business impacting issues that lie close to and far from the original telephony based interaction, details of any customer affecting issue can be captured in a recorded call.

Speech Analytics makes the impossible possible. It is impossible to listen to every call in even a medium sized organization, so what is really being said, or not said, is unknown to management except for a small, unrepresentative sample of calls - the 2% of calls that are reviewed.

True insight can be a powerful tool in driving customer satisfaction and business performance, in combating competition and eliminating risk. Only Speech Analytics uses automation to deliver this insight.

Figure 8. Speech Analytics Evolution



Ultimately, the insight that Speech Analytics delivers can be used in conjunction with other performance management or customer satisfaction tools to correlate what is being said on calls with other business metrics and trends. This holistic view will deliver a complete understanding of the organization's strengths and weaknesses while allowing management to make the truly informed decisions and changes required to drive performance.

All too often, organizations are at risk because they can not possibly know all of what is being said to them and by them – Speech Analytics allows them to know.

All too often, organizations do not really hear what their customers are saying – Speech Analytics allows them to really listen, take note, and use the voice of the customer to improve their performance.

Summary

Voices in the world of telephony are often captured by call recording solutions, only to be deleted as a matter of course or stored away for years never to be accessed or reviewed. Speech Analytics allows these voices to be heard, for the opinions, attitudes and intentions customers and employees reveal during everyday conversations, and then extracted and put to use improving performance, reducing risk and driving profitability.