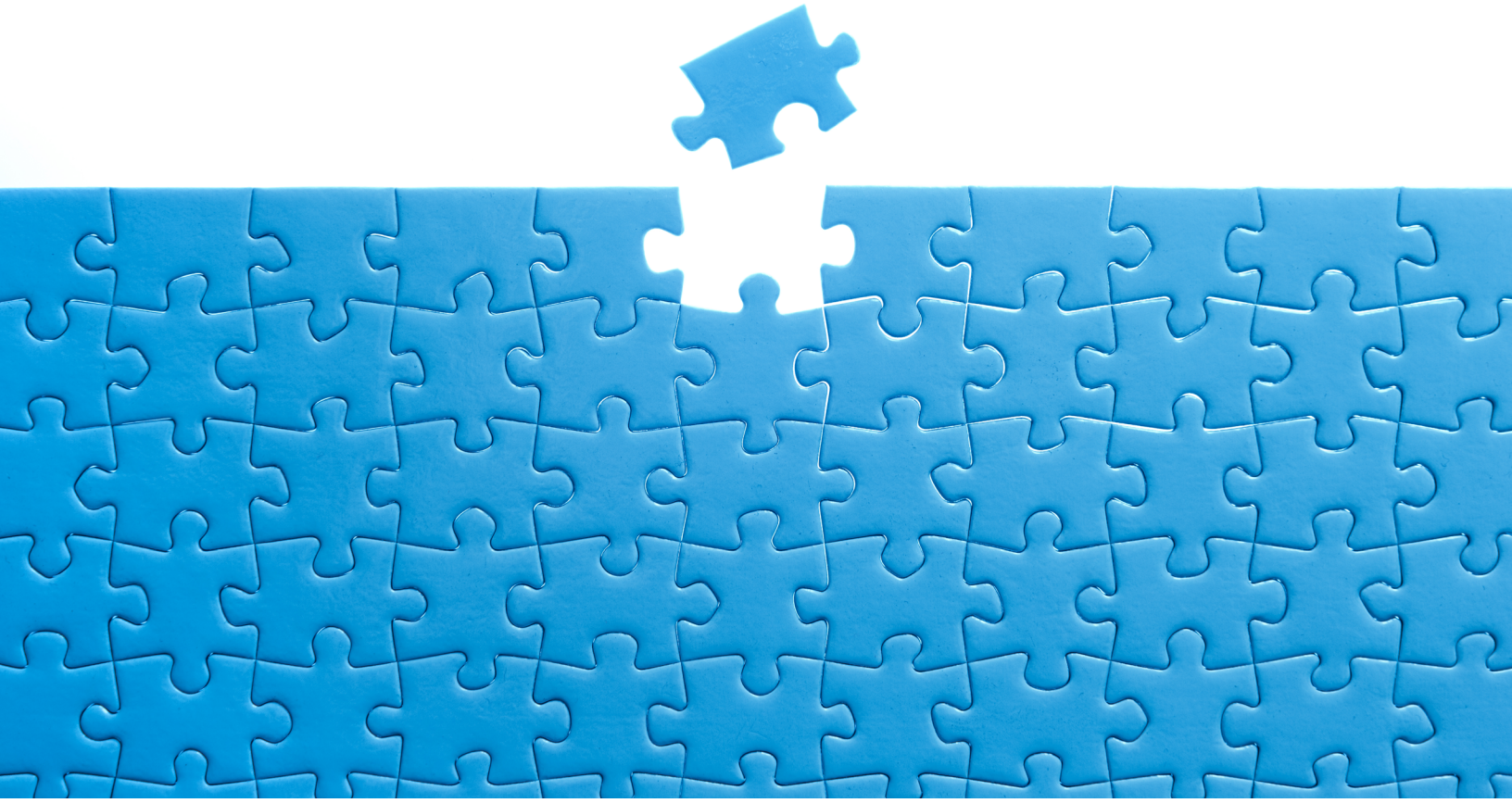
CONTACTBABEL



The Inner Circle Guide to Customer Interaction Analytics

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“The Inner Circle Guide to Customer Interaction Analytics” (2024) – US version

Zadarma

SOURCEFORGE Top Performer Fall 2023

AI-based Speech Recognition and Analytics for your business

Manage phone sales effortlessly without the need to listen to call recordings or create spreadsheets and reports.

Essential tool for sales department, information desk, customer support, or hotlines.

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- Detection of stop-words and obscene language used by operators
- Time-saving for sales managers, analytics, and marketing department
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Zadarma offers:

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Zadarma is a global telecommunication and call analytics provider.

Powered by VoIP, Zadarma provides leading-edge communication technologies to businesses, through a sophisticated Business phone system with supporting calls, integration with 20+ popular CRM systems, as well as its own Teamsale CRM, and call analytical features.

Zadarma has leveraged AI-based technologies to offer such tools as speech analytics and speech recognition. Speech analytics is most commonly used in call center environments to provide fast analysis of recorded calls to gather vital customer information. Speech analytics has proven to increase call and deal conversion rates. Speech recognition is a feature that recognizes voice commands to delegate actions, instead of manually typing the command. Real-time speech-to-text is proving essential for industry sectors that need transcripts of conversations instantly.

Zadarma has been commended by call center managers for offering an all-in-one unified communication solution with built-in AI-based tools such as speech analytics. These vital call management tools are providing visibility around call analytics data allowing managers to easily analyze the efficiency of calls, the quality of calls, and the repeat rates around returning customer calls. These are all critical analytical insights that will help improve sales and customer service call-handling performance.

Contact:

To learn more about Zadarma visit their website, LinkedIn, X, or Facebook for more information.

INTRODUCTION: THE INNER CIRCLE GUIDES

"The Inner Circle Guide to Interaction Analytics (2024)" is one of the Inner Circle series of ContactBabel reports.

Other subjects include:

- Agent Engagement & Empowerment
- AI in the Contact Center
- Cloud-based Contact Centers
- Customer Engagement & Personalization
- First-Contact Resolution
- Fraud Reduction and PCI DSS Compliance
- Next-Generation Customer Contact
- Omnichannel
- Outbound & Call Blending
- Remote & Hybrid Working Contact Center Solutions
- Self-Service
- Voice of the Customer
- Workforce Optimization.

They can be downloaded free of charge from here.

The Inner Circle Guides are a series of analyst reports investigating key customer contact solutions and business issues. The Guides aim to give a detailed and definitive view of the reality of the implementing and using technologies, how best to address these issues, and a view on what the future holds.

Statistics within this report refer to the US industry, unless stated otherwise. There is a version of this report available for download from www.contactbabel.com with equivalent UK statistics.

"Small" contact centers are defined in the report as having 50 or fewer agent positions; "Medium" 51-200 agent positions; and "Large" 200+ agent positions.

WHY USE INTERACTION ANALYTICS?

Customer interaction analytics solutions offer huge opportunities to gain business insight, improve operational efficiency and develop agent performance. In fact, the list of potential applications for this technology is so high that businesses could be forgiven for being confused about how to target and quantify the potential business gains.

Depending on the type of business, the issues being faced and even the type of technology being implemented, drivers, inhibitors and return on investment can differ greatly. While an analytics solution may be implemented to look at one particular pressing issue, such as automating the QA process, it often further develops over time into looking at business intelligence and process optimization.

Interaction analytics can be used in many different ways to address various business issues. This is an advantage – it is hugely flexible – but it can also make its message to the market more complicated. However, depending upon how interaction analytics is used, it can assist in:

- agent improvement and quality assurance
- business process optimization
- avoidance of litigation and fines
- customer satisfaction and experience improvements
- increases in revenue and profitability
- improvements in contact center operational performance, and cost reduction.

Like most contact center applications, analytics can be used to cut costs, but its promise goes far beyond this. No other contact center technology provides the business with this level of potential insight that goes far beyond the boundaries of the contact center, and can offer genuine and quantifiable ways in which sub-optimal business processes can be improved.

This is not to say that the science of interaction analytics is yet at its zenith. Significant improvements are still being made to the accuracy and speed of the speech engines, the sophistication of analytical capabilities, the integration of various data inputs and the usability of report. The integration of sophisticated AI and machine learning capabilities within the analytics solutions offers the chance to take analytics far beyond what was imagined a few years ago.

TYPES OF INTERACTION ANALYTICS

Originally, the use of analytics in the contact center usually meant the post-call analysis of call recordings. As time has passed, this has expanded not only to real-time analysis, but also of multiple channels and areas of the operation.

The next section of the report looks in depth at the areas in which contact centers are using analytics today.

SPEECH ANALYTICS

POST-CALL SPEECH ANALYTICS

Initial implementations of speech analytics were focused upon analyzing large numbers of recorded calls, often long after the actual event. Many of the original users purchased these solutions to assist them with compliance and as part of a larger quality assurance system, and these benefits have not decreased over time. Being able to analyze 100% of calls automatically can provide high quality information for the QA process, giving a fair and accurate reflection of the agent's performance.

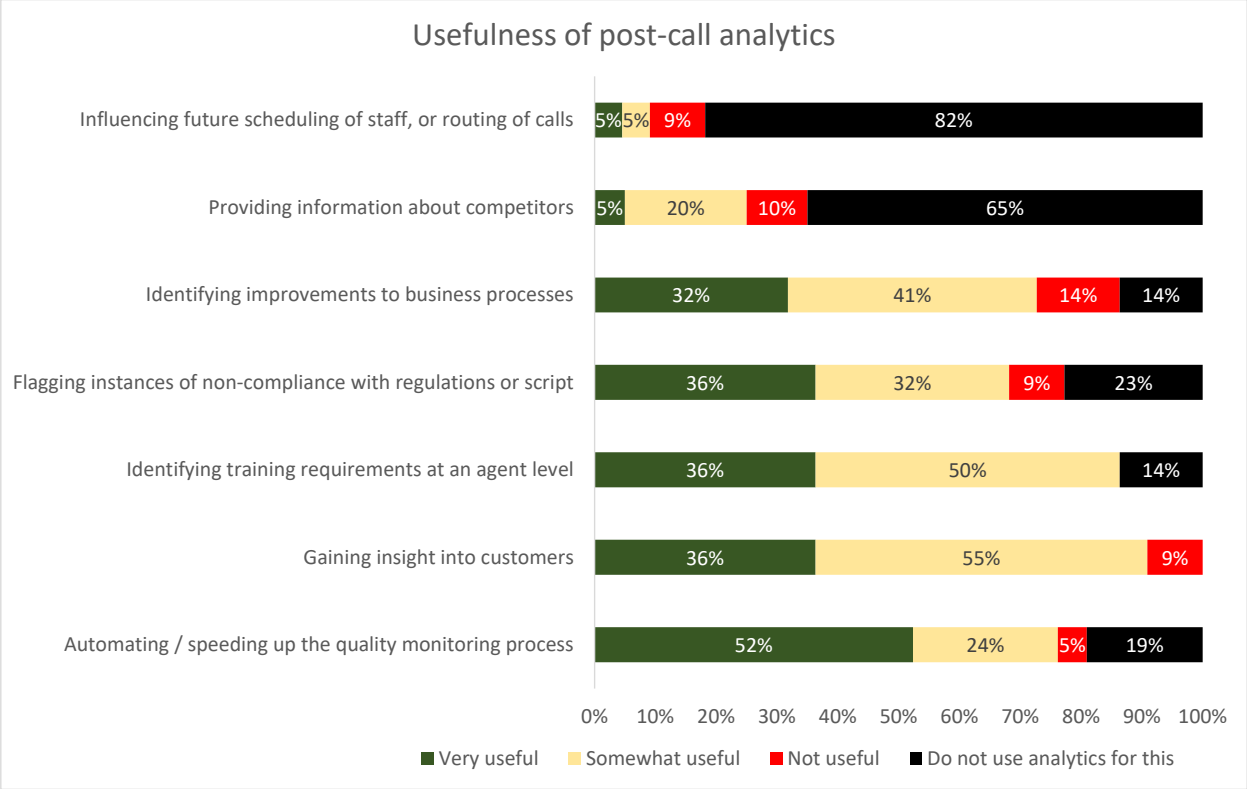
While real-time analytics – driven by AI – has increased hugely in recent years, post-call speech analytics is still vital for business intelligence, performance improvement, QA and compliance. As the majority of contact centers have call recording in place, the raw material is already available. In fact, the amount of recorded voice data available to most businesses can be overwhelming, and post-call speech analytics that analyses 100% of recorded calls is proving hugely valuable.

It should be noted that some recording environments are still mono rather than stereo, meaning that there is no distinction between the caller and the agent except through context. This is a clear disadvantage for effective historical speech analytics, as in order to learn from customer feedback and experience, clearly a business needs to know whether it is the customer talking about products, processes or competitors, rather than the agent. More recording systems are moving to stereo, and this will further improve the accuracy and potential benefit of speech analytics, and some vendors have restructured their solution to offer software-based speaker separation for analytics.

The automated quantification of agent performance and capabilities, feeding into the training and skills upgrades required should be one of the most important outputs for interaction analytics, and all respondents using this state that analytics is either very or somewhat useful for this purpose. 64% of those using analytics for the purpose of speeding up / automating the overall quality monitoring process state that it is very useful for this purpose, and proving compliance is also viewed positively.

37% of the analytics users who use it to identify improvements to business processes state that it is very useful. Optimizing processes and gaining actionable insight that can be applied to the customer journey will become one of the most important uses of analytics, as users' sophistication increases and solutions' capabilities are explored more fully.

Figure 1: Usefulness of post-call analytics



There is little enthusiasm around the use of analytics for providing information about their competitors. This is a very underused area of analytical usage at the moment, and one which we would again expect to see growing significantly in future years.

Few respondents use analytics to influence scheduling or routing strategies, but as more tightly integrated WFO suites become more widespread, we would expect to see this becoming used more often.

The chart above does not provide an exhaustive list of the purposes of interaction analytics: specific business requirements and original considerations about customer contact can provide numerous ways in which greater insight can be extracted from the mass of interactions stored, for example, understanding fully why customers have called, rather than relying on agent call disposition codes.

REAL-TIME SPEECH ANALYTICS

Real-time speech analytics looks for and recognizes predefined words, phrases and sometimes context within a handful of seconds, giving the business the opportunity to act. Solutions supported by AI can be trained to understand intent and recognize patterns through immersion in vast quantities of historical data, so that when a call is taking place, it can draw upon this knowledge and provide advice or action that has proven successful previously, advising and acting in real-time.

AI assists in real-time speech analytics through applying the results of machine learning that have been carried out on large quantities of previously recorded conversations, providing:

- agents with the understanding of where their conversational behavior is falling outside of acceptable and previously successful norms (such as speaking too quickly or slowly, or in a monotonous fashion)
- an assessment of the meaning of non-verbal cues such as intonation, stress patterns, pauses, fluctuations in volume, pitch, timing and tone in order to support sentiment analysis
- understanding the actions and information that have been seen to provide successful outcomes in previous similar interactions, and relaying this to the agent within the call.

For some businesses, real-time analysis is an important and growing part of the armory that they have to improve their efficiency and effectiveness, benefiting from understanding what is happening on the call, and in being able to act while improvements are still possible, rather than being made aware some time after the call of what has happened.

Real-time analysis can be used in many ways:

- monitoring calls for key words and phrases, which can either be acted upon within the conversation, or passed to another department (e.g. Marketing, if the customer indicates something relevant to other products or services sold by the company)
- alerting the agent or supervisor if pre-specified words or phrases occur
- offering guidance to the agent on the next best action for them to take, bringing in CRM data and knowledge bases to suggest answers to the question being asked, or advice on whether to change the tone or speed of the conversation
- escalating calls to a supervisor as appropriate
- detecting negative sentiment through instances of talk-over, negative language, obscenities, increased speaking volume etc., that can be escalated to a supervisor (this is considered more fully in the next section of the report)
- triggering back-office processes and opening agent desktop screens depending on call events. For example, the statement of a product name or serial number within the conversation can open an agent assistant screen that is relevant to that product

- making sure that all required words and phrases have been used, e.g. in the case of compliance or forming a phone-based contract
- suggesting cross-selling or upselling opportunities.

Many solution providers have worked hard to bring to market new or improved solutions to assist with real-time monitoring and alerts, and recognition of key words, phrases, instances of talk-over, emotion and sentiment detection, pitch, tone, speed and audibility of language and many other important variables can be presented on the agent desktop within the call, triggering business-driven alerts and processes if required. Speaker separation and redacted audio output (e.g. stopping sensitive data being included in text transcriptions) further add to real-time analytics' capabilities.

Agent assistance tools are powered by speech and text analytics, eliminating time-consuming manual tasks with automatic notes and data entry, and monitoring and alerting agents with suggested corrective actions. However, agents can only experience all these advantages when the tool is designed to extend agent knowledge rather than overload them with information. The intention is to give the only information that matters the most to the conversation, with an intelligent shortcut to provide agents with contextual recommendations and snippets of knowledge base articles.

The speed of real-time analysis is crucial to its success: long delays can mean missed, inappropriate or sub-optimal sales opportunities being presented; cancellation alerts can show up too late; compliance violations over parts of the script missed-out may occur as the call has already ended. However, it is important not to get carried away with real-time analysis, as there is a danger that businesses can get too enthusiastic and set alert thresholds far too low. This can result in agents being constantly bombarded with cross-selling and upselling offers and/or warnings about customer sentiment or their own communication style, so that it becomes a distraction rather than a help.

To alleviate this, businesses can run a clearly focused use case where ideas are tested with a control group and these ideas improved to ensure the agent is assisted and not overloaded. Pop-up notifications can be offered (where the agent can click a link if they want the information or ignore it if they don't) along with a list of links that the real-time engine has identified from which the relevant one can be picked. This leaves the agent in control but provides fast access to the information required.

There is also the issue of agent training: since contact centers will have agents performing at various levels of competency, it's important that the speech analytics platform is customizable. Using on-screen prompts or emotional alerts that trigger live coaching will depend on factors like agent skill, industry, budget, and technology stack, and as training consumes resources, analytics could be used to grade agents and plan for the level of real-time monitoring based on data uncovered. For example, analytics can show which agents are having trouble closing sales or managing call lengths, and these agents can be gradually trained to improve using live coaching or on-screen prompts.

The effectiveness of real-time analysis may be boosted by post-call analytics taking place as well. For example, by assessing the outcomes of calls where specific cross-selling and upselling approaches were identified and presented to agents in real time, analysis can show the most successful approaches

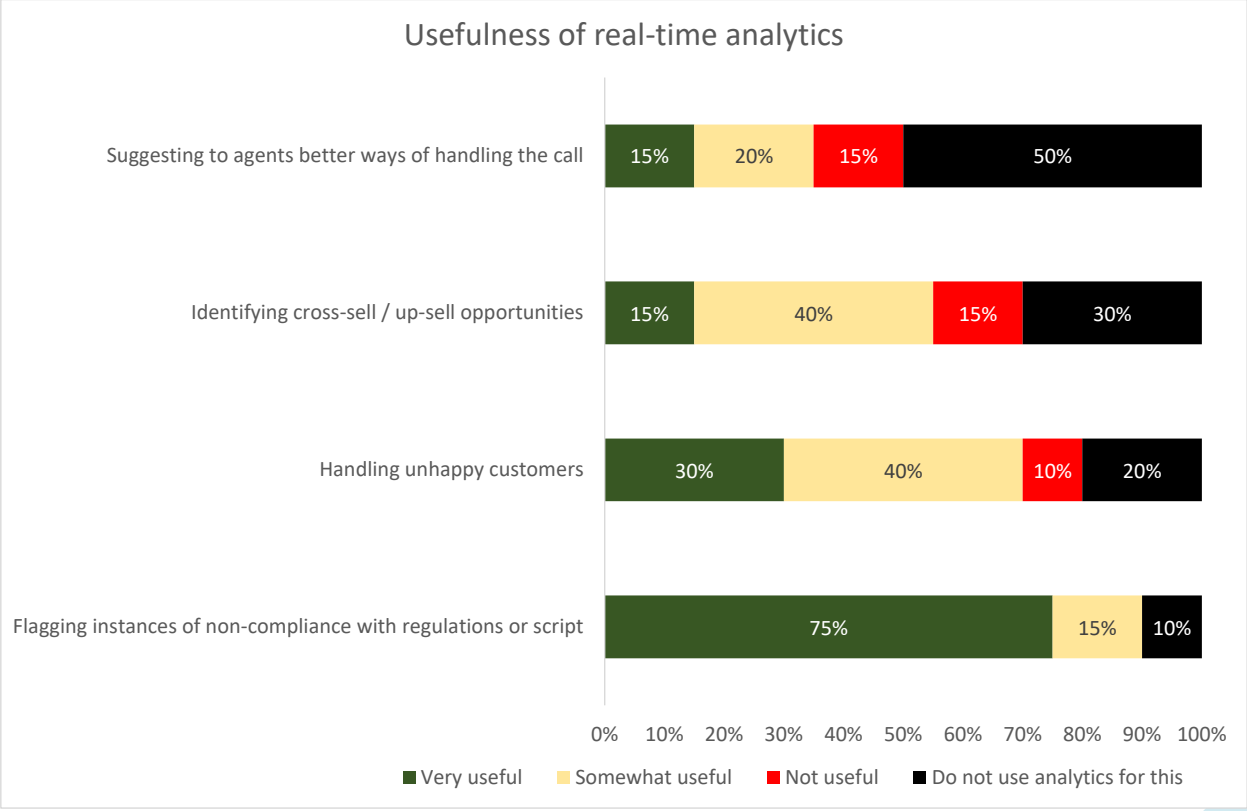
including the use of specific language, customer type, the order of presented offers and many other variables (including metadata from agent desktop applications) in order to fine-tune the approach in the future. Additionally, getting calls right first-time obviously impacts positively upon first-contact resolution rates, and through picking up phrases such as "speak to your supervisor", can escalate calls automatically or flag them for further QA.

Real-time analysis offers a big step up from the traditional, manual call monitoring process, and should be particularly useful for compliance, debt collection, and for forming legally-binding contracts on the phone where specific terms and phrases must be used and any deviation or absence can be flagged to the agent's screen within the call. Finance, telecoms and utilities companies – and indeed, any business where telephone-based contracts are important – are particularly interested in this.

Respondents using real-time analytics report that it is particularly valuable for flagging non-compliance with scripts or regulations in real-time, and also in identifying and handling dissatisfied customers more effectively.

Real-time analytics' ability to identify cross-selling and upselling opportunities is less highly rated, with only 21% of respondents that use analytics for this purpose state that it is very useful. A relatively low proportion of real-time analytics users report that they use it to suggest better ways to the agent of handling the call, a figure which is certain to grow strongly in the near future.

Figure 2: Usefulness of real-time analytics



SENTIMENT DETECTION & ANALYTICS

Sentiment analysis (sometimes known as emotion detection) is a growing part of analytics functionality and can be used in real-time, post-call or as a hybrid approach.

Sentiment analysis is a way of quantifying customer and agent emotions within interactions, whether on the phone or through an alternate channel, for the purpose of uncovering processes, behaviors and situations which cause strong levels of positive or negative sentiment that could affect business outcomes and customer experience. Using analytics and large data sources, datasets can be searched to identify and inspect the types of interaction that have major impacts on customer sentiment.

Agents, especially those with higher levels of empathy and experience, should be able to identify the emotions of the callers, so using technology for sentiment detection could seem at first glance to be an unnecessary elaboration. However, the use of analytics means that the sentiment and emotion of millions of calls can be assessed against their ultimate outcome in order to identify in real-time situations that have a higher likelihood of a negative outcome and to act before it is too late.

While language models can identify ostensibly positive and negative words and phrases, they cannot in themselves identify sarcasm or other less straightforward forms of communication, and they are less likely to identify the actual meaning in a series of conflicting positive and negative comments (e.g. “I’m happy that the product has **finally** arrived – I mean, this is fine now, but not exactly great, you know?”). Sentiment models are further trained to notice changes in tone, volume and speaking rate, instances of agent/customer talkover and the detection of laughter, silences or non-verbal noises expressing emotion, such as a snort of disgust.

Each interaction can then be scored on a sentiment scale from highly positive to highly negative, with nuances such as conversations which start positively and then turn negative able to be selected for root cause analysis. It is interesting to note that sentiment expressed towards the end of the call is a much better prediction of customer satisfaction than any emotions expressed at the beginning of the call: this makes sense, as a customer could easily be stressed if they have had to wait in a long phone queue for an urgent matter about which they are stressed, but if the agent resolves the query to the customer’s satisfaction, there is likely to be a positive sense of relief and gratitude expressed which is likely to indicate a good customer experience overall.

While sentiment analysis captures and analyses every interaction, it is generally thought to be of most use at an aggregated level rather than in judging particular individuals. Sentiment analysis can identify those processes, interactions and subject areas that are causing customers the greatest stress and negativity, and can view trends over time which allows the business to gauge whether any business or process improvements that they have made as a result are actually working. Some businesses do decide to look at sentiment at a team and individual level, but great care must be taken not to attribute negativity to a specific agent rather than the topic or product under discussion.

Sentiment analysis is potentially a very powerful tool and has many potential applications:

- Discovery and categorization: by analyzing numerous interactions, sentiment analysis is able to show the products, processes and topics which most often provoke the strongest negative or positive reactions, categorizing them automatically for root cause analysis
- Quality assurance: interaction analytics is often used to analyze 100% of calls, rather than having a supervisor listen to a random, small selection which may not be representative of agent performance, and which may miss major opportunities to improve. Sentiment analysis plays a part in quality management, but an expectation of a correlation between poor agent performance and negative sentiment should not automatically be assumed. Analyzing metadata such as the topic under discussion should indicate whether this negativity arises from a specific agent performance or is more likely to be linked to the subject matter
- Having said this, sentiment analysis can be a useful tool to use in order to rank agents by capability, in order to understand the behaviors and characteristics of top performing agents so that underperforming employees are able to be coached on these effectively
- As mentioned above, negative sentiment may be linked to a particular topic, product or process. A dataset analyzed by a sentiment model can be searched by product, giving a rapid answer to whether it is seen by customers as being broadly positive or negative. Delving further into the data – for example, looking only at the negative sentiment associated with a particular product – may identify areas for improvement (e.g. while the product performance itself scores highly for positive sentiment, the instruction manual scores negative, identifying an area for improvement)
- Some businesses use sentiment analysis to consider factors such as agent morale and motivation. This can be particularly useful in a sales environment, where the enthusiasm or otherwise of the agent can make a significant difference to the outcome
- Real-time sentiment analysis may be useful for offshore agents who have a different cultural and first-language background to that of the caller
- Sentiment analysis can identify stress in real-time, which may be an indicator that fraud is taking place, prompting the agent to take the caller through more detailed levels of security in order to prove their identity. This can be used in association with voice biometrics and/or phoneprinting, in order to identify the callers requiring stronger authentication
- Sentiment analysis has been shown to be useful in predicting NPS, and is also useful in targeting customer satisfaction surveys. For example, for interactions with negative sentiment around a specific topic, a survey can be sent that asks customers specifically what went wrong with that issue, rather than relying upon a broad-brush general NPS approach with an open-ended question.

Some solution providers have recently noted that it is not only what we might consider the keywords within the conversation that indicate sentiment (e.g. “upset”, “disappointed”, “recommend”), but also the filler words (for example, if the inclusive “we” changes to “you”, which may indicate estrangement from the brand.

TEXT ANALYTICS

As with speech analytics, text analytics can be applied historically or in real time. It can be applied to interactions between customers and agents (as in the case of email, web chat or social media contact), or by looking at customer feedback, whether on the business's own website or on third-party sites. Unlike speech analytics, text analytics does not require a speech recognition engine to identify the words being used, but the general principles and opportunities are similar. Much of the data analyzed by text analysis is unstructured (i.e. is not found in traditional structured databases), such as emails, web chats, message boards, RSS feeds, social media etc. The collection and processing of this data may involve evaluating the text for emotion and sentiment, and categorizes the key terms, concepts and patterns.

Historical text analysis is useful for business intelligence, whether about how the company and its products are perceived, or the effectiveness of the customer contact operation. It is important to note that many uses of historical text analysis work best when they are used shortly after the comment is made, rather than weeks or months afterward: an issue that is commented upon by many customers may need to be acted upon rapidly. For example, confusion about a marketing message, complaints about phone queues, or a case of system failure which prevents customers from buying on a website need to be identified and handled as quickly as possible. For longer-term issues, such as gathering suggestions on new functionality for a product release, such urgency is less important.

Most large companies will have formal customer satisfaction and feedback programs, and also will monitor third-parties such as TripAdvisor or Yelp, which provide structured data in the form of scores, and efforts should be made to identify the most important data sources. Text analytics helps to dig deeper into the actual unstructured comments left by customers, which are otherwise very difficult and time-consuming to categorize and act upon, especially where there are many thousands of comments. Industry-specific vocabularies can be used to identify and understand more of the relevant comments, and place them into the correct context. Solutions should also be more sophisticated than simply to identify key words or phrases: the sentiment of the whole comment should be considered (for example, "loud music" in a shop may be exciting to one customer, but irritating to another). Many comments are mixed-sentiment, and may also mix a 5-star review with some more critical comments, which the analytics solution will have to take into account: the comments are where the real value is found, with both positive and negative insights available to be understood.

Perhaps the most obvious potential contact center use of AI-enabled text analytics is in handling digital enquiries, where web chats can take far longer than phone calls (due to agent multitasking, and typing time) and some email response rates can still be measured in days. As the cost of web chat is broadly similar to other channels such as email, voice and social media, there is considerable room for increasing efficiencies and lowering costs.

Real-time text analytics can be used to assist agents when answering emails or handling web chats, or to identify customers at risk based on feedback comments they have left, initiating an action aimed at alleviating their problem immediately. Some solutions actively monitor feedback as it is being given, using logical branching based on the customer's responses in order to ask more relevant questions. For example, a customer mentioning a particular product may be asked where they first heard of it, or bought it from.

Using real-time text analytics for agents means that they can be provided with suggested responses which have been shown to provide high levels of contact resolution, or cross-selling success. It is particularly useful for less experienced agents, and in cases where there is a rapidly developing situation of which agents may not be aware: incoming requests from customers can be analyzed to identify and predict issues that other agents (or managers) can be made aware of through real-time alerts.

Just as with speech analytics, text analytics solutions aim to categorize comments and interactions to provide actionable insight about a discrete part of the business (e.g. a specific product or store; the online sales experience; the politeness or otherwise of the contact center staff, etc.). The analytics solution should be able to identify the many different ways that people refer to the same thing in order to categorize correctly and make sure that the actual importance of the issue is represented fairly and accurately. Categories can be created automatically by the analytics application, and/or through the input of business experts, and should be revisited regularly to make sure they are still addressing the reality of the business.

PREDICTIVE ANALYTICS & THE ROLE OF AI

Predictive analytics is a branch of analysis that looks at the nature and characteristics of past interactions, either with a specific customer or more widely, in order to identify indicators about the nature of a current interaction so as to make recommendations in real-time about how to handle the customer.

For example, a business can retrospectively analyze interactions in order to identify where customers have defected from the company or not renewed their contract. Typical indicators may include use of the words “unhappy” or “dissatisfied“; customers may have a larger-than-usual volume of calls into the contact center; use multiple channels in a very short space of time (if they grow impatient with one channel, customers may use another); and mention competitors’ names. After analyzing this, and applying it to the customer base, a “propensity to defect” score may be placed against each customer, identifying those customers most at risk. Specific routing and scripting strategies may be put in place so that when the customer next calls, the chances of a high-quality customer experience using a top agent are greater and effective retention strategies are applied.

AI-enabled analytics can be applied across the entire customer journey, including sales, marketing and service, helping organizations understand customer behavior, intent and anticipating their next action. For example, an AI-enabled solution may find a pattern amongst previous customers that they are likely to search for specific information at a particular point in their presales journey, and proactively provide this information (or an incentive) to the customer before they have even asked for it. AI-enabled analytics can also help with customer onboarding through predicting which customers are likely to require specific assistance.

While CTI-like screen popping is useful for cutting time from the early part of a call, the insight that this functionality provides is often limited. AI enables an instantaneous gathering and assessment of data from multiple sources to occur even before the call has been routed, which allows accurate prioritization and delivery of the call.

For example, an AI-enabled analytics solution working in an airline contact center may judge a call to be urgent if the caller:

- Has booked a flight for this day
- Rarely calls the contact center, preferring to use self-service
- Is a frequent flier
- Is calling from a mobile phone rather than a landline
- Shares a similar profile with other customers who only tend to call for very urgent reasons.

In such a case, the solution may consider that there is a likelihood that the call is directly related to the flight that is happening today (e.g. there’s a danger of missing the flight and the customer may need to rebook), and is able to move the call to the front of the queue and route it to an agent experienced in changing flights, and whose communication style suits the situation and customer profile.

Taking this a step further, the AI-enabled analytics solution is able to augment the conversation with suggestions based upon what the agent is doing on the screen and also, through listening to the details of the conversation, is able to provide relevant information without the need for the agent to search for it, such as the next flight to the customer's proposed destination or the refund / transfer options. At the end of the call, the solution can then email or text the agreed solution to the customer without the agent having to do this manually.

AI can recognize recurring language patterns, revealing findings with minimal analyst intervention, automating the identification of important issues and trends that might otherwise go unrecognized. For example, an issue can be identified using AI and machine learning models by picking out patterns from a few isolated conversations with human agents, even though the issue was only mentioned a handful of times to most agents: an occurrence not regular enough for one human agent to detect it.

The self-learning capabilities inherent in AI-enabled analytics are also helping to improve the accuracy of interaction classifications, finding patterns of words, phrases, tone, etc. that accurately predict the classification of interactions into categories such as proper greeting, missing compliance language, customer dissatisfaction, empathy for customer and many others. These categories are crucial building blocks for use cases such as improving sales closures, stricter compliance and better customer service.

Machine learning allows AI-enabled analytics to go beyond simply what it has been programmed to do, seeking out new opportunities and delivering service beyond what has simply been asked of them. Through understanding multiple historical customer journeys, AIs will be able to predict the next most-likely action of a customer in a particular situation, and proactively engage with them so as to avoid an unnecessary inbound interaction, providing a higher level of customer experience and reducing cost to serve.

DESKTOP ANALYTICS

Desktop analytics (also known as screen analytics) allow businesses to record an agent's desktop in order to assist with quality assessments at an agent level, and also to identify areas within systems and processes that cause delays within customer interactions.

Additionally, management can search for examples where agents skipped compulsory screens or ignored guidelines around how best to close the sale, in order to maximize future compliance with regulation and company procedure.

Average call duration is a metric that has been measured in contact centers since their very first inception. However, businesses have had to rely upon anecdotal information in order to decide whether excessively lengthy calls are a factor of agent inexperience or inability to answer the customer's question, or if there is a particular step within the procedure when delays are occurring in an otherwise competently-handled call (for example, from a lack of training about a particular area, or a badly-designed screen layout).

Desktop analytics can provide information about exactly how long each step with an interaction takes, providing management with the insight as to which processes could potentially be automated, and how much time (and thus, cost) would be saved. Businesses would also gain insight into how agents actually research issues that they cannot immediately answer (for example, do they research the company website, a knowledge base or the wider Internet, and if so, which method is the most successful?).

Integrating desktop data analytics into speech analytics allows businesses to tag valuable data automatically – such as account ID, product name and order value – from CRM, helpdesk and other servicing applications to recorded interactions. This additional desktop data can be used to enhance automated classification, which allows more targeted and efficient analysis centered on key business issues, such as customer churn, differences in call handling patterns between employees, frequency of holds/transfers associated with order cancellations and upselling and cross-selling success rates.

The use of desktop data analytics also allows the business to see what the agent is doing on the desktop (for example, are they spending too much time in particular applications, are they navigating the screens in the most efficient way, etc.), and for them to understand how much time is being spent in each section of the call.

BACK-OFFICE ANALYTICS

The back office is the part of the organization that processes activities supporting the rest of the business, such as order processing and fulfilment, payment and billing, and account creation and maintenance. Much of what the back office does is driven by interactions in the contact center which trigger the relevant processes, which the back office then have to deliver upon. ContactBabel research has found that around 4 in 5 complaints are actually about failures occurring within back-office processes rather than within the contact center itself, so analyzing and improving the back office is in the interests of the customer-facing departments as well.

WFO solution providers are developing applications that can be used in the back offices and branches of large organizations as well as their contact centers. Far more employees work in these spaces than in the contact center, although many back offices lack the same focus upon efficiency and the tools to improve it. With the increased focus on the entire customer journey, back office processes are starting to fall within the remit of customer experience professionals, who have the remit to alter and optimize any area of the organization that impact upon the customer experience, no longer being restricted to the physical environment of the contact center. The industry is likely to see back office and contact center workforce management systems being closely integrated, or even working as a single centralized function that can track and analyze the effect of different departments and processes on others throughout the customer journey.

The back office has somewhat different requirements to the contact center, and will require different functionality, including:

- supporting different metrics and deadlines to those of the contact center
- presence management, needed where there are multiple steps within a process that must be carried out by different individuals
- deferred workload and backlog management
- workload allocation based on large batches of work arriving at once, rather than be distributed throughout the day such as is found within the contact center
- forecasts built on contact center events and volumes
- different service levels and resource requirement calculations: many back office processes take considerably longer than a contact center interaction
- adherence to schedule without data from an ACD and capacity modelling (which includes employee skills and resource availability)
- the identification of bottleneck processes.

The use of desktop analytics and screen recording in the back office means that even non-customer-facing employees to have their performance measured and optimized in the same way as their front office colleagues.

CUSTOMER JOURNEY ANALYTICS AND ITS EFFECT ON OMNICHANNEL

Driven by the need to get beyond the siloed nature of multichannel interactions, customer journey analytics aims to gather together the various data sources, triggered processes, and customer touch points involved the customer interaction, in order to optimize the overall customer journey. By fully understanding the customer experience, businesses can identify and rectify inefficiencies, helping to break down the boundaries between channels and between the front office and the back office.

Customer journey analytics goes beyond the measurement of individual interactions and touchpoints. Sophisticated analytics solutions use data inputs from multiple sources, both structured and unstructured, in association with journey maps, which are produced by employees in multiple roles within the organization who document how various processes currently work and how they could be optimized.

In the past few years, a widespread realization amongst businesses that the complexity of the customer journey has increased in line with the number of new devices and channels available to customers to communicate with the business has led to the initiation of customer journey projects, backed by new management positions coming under the wider 'Customer Experience' banner.

This is particularly the case in larger contact center operations, where businesses are increasingly looking at the effectiveness of back office processes that can impact upon whether the customer has to contact the business multiple times.

Customer effort and engagement is very dependent upon effectiveness by which channels work together, as well as the level of first-time contact resolution. Proactively engaging the customer at the appropriate time within the customer journey has an opportunity to reduce the effort required for the customer to fulfil their interaction completely. As part of a wider omnichannel engagement, businesses must seek to understand how and why customers prefer to engage with them, optimizing the flow of information throughout any connected processes and channels so that the organization becomes easy to do business with.

There is an increasing requirement for, and interest in omnichannel analytics, including email, text chat, IVR and web browsing sessions, to get the full picture of the customer's real journey in a single interaction, in order to identify and improve any channels that failed to fulfil their requirements. Improving self-service optimization is often a quick win that can provide immediate economic benefit to businesses: in the US, a mean average of 25% of calls that go into an IVR system are 'zeroed-out' – rejected by the customer in favor of an operator (in the UK, 15% fail the self-service test).

Businesses using customer interaction analytics to review these failed self-service sessions will be able to categorize many of them in order to improve the processes at a macro-level. Common findings from the analysis of these calls is that the IVR system was poorly worded, menu choices were not intuitive, or did not match current service choices. Other failures occur through mistakes in IVR routing, and there may also be problems with a lack of customer awareness that various activities can be carried out by self-service.

The next step is to get rid of the silos between channels, allowing the customer to be identified at the beginning of their 'journey', and for the business to be able to analyze the efficiency and effectiveness at each stage, whether mobile app, website, self-service application or live call. The end goal is for businesses to understand where customers make their choice, where they drop out, and where the profit is within the multiple processes along the customer journey.

Many solution providers refer to 'the customer journey' as one of the major places where analytics will surely go in the longer term, once businesses have used analytics to handle shorter-term, more operational issues. Future customer contact is likely to continue its move to polarization: for everyday, mundane tasks, the customer will choose the website or mobile app for self-service, leaving the contact center to deal with those interactions which are complex or emotive for the customer (as well as there being demographics for whom the contact center will continue to be primary). With the website becoming the first port-of-call for many customers, the analysis and understanding of the success (or otherwise) of pre-call web activity is a valuable source of knowledge about how effective the main portal to the business is being, as well as being able to give businesses greater insight into why people are calling.

Manually analyzing thousands of web sessions and linking them with specific customers and their phone calls is impossible, so there is a great potential for omnichannel analysis. Adding in relatively minor channels such as social media, web chat, SMS and email will make the mix more complex, and more potentially suitable for analysis. It is also certainly worth mentioning that some solutions also analyze the customer's pre-call use of self-service via IVR, providing the agent with a background on the caller's recent experience and offering the chance to improve self-service process failures.

Including social media, email and text chat into the analytics equation is increasingly important, and while many vendors have omnichannel analytics within their overall customer contact analytics solution, this functionality is not yet used to the same extent as speech analytics.

This lack of uptake in omnichannel analytics may have many reasons:

- there may not be a single unified view of the customers' interactions across channels, as is the case in a siloed operation
- it can be more difficult to identify customer in non-voice channels such as text chat or casual web browsing, so the depth of insight available may be that much less
- the social media channel has historically been the responsibility of the marketing function within a business, whereas customer contact analytics – being focused on speech at the moment – is usually under the remit of the customer contact operation, meaning that harmonious, integrated analysis across channels can be that much more difficult
- for most businesses, interaction volumes for email, chat, social media and other non-voice channels are far lower than for speech, so consequently there has been less urgency in analyzing these.

Having said that, most solution providers seem quite definite that omnichannel analytics will grow in importance. While being able to optimize customer contact within each siloed channel, or being able to monitor the quality of an email or chat agent in the same way that businesses are now using analytics to improve the performance of a phone-based agent is useful, the real key is to include all of the stages along the customer journey. For example, understanding where potential customers drop out; the overall effort that the customer has to put in; the point at which buying decisions are made; bottlenecks in processes; the suboptimal points where customers get confused and have to place a call into the business: these are the promises that customer journey analysis makes.

There will come a time when all data generated within a business will be able to be cross-correlated to provide insights not only to the customer contact department but also to parties such as marketing, operations and finance, so they have greater insight about issues such as price elasticity and revenue maximization. The ability to prove to senior management that the actions and insight held within the contact center has a distinct and measurable impact on the entire company – and as such is not simply a cost center – is likely to improve its visibility and credibility which should help to create a long-term holistic view and assist further investment.

The 'tell-me-why' and discovery modes of customer contact analytics will improve over time as AI, better accuracy and more powerful processing provide richer and more joined-up data for analysis, and the inclusion of non-voice channels show the full picture of customer contact and its intent. There will also be major efforts to link analytics to proving profitability, including identifying “moments of truth” (points at which buying decisions are made, and long-term loyalty can be won or lost), and being able to predict and manage customer churn.

VOICE OF THE CUSTOMER ANALYTICS

Customer surveys have been an integral part of most businesses since time immemorial. Recently, there has been a great increase in the number of organizations implementing "Voice of the Customer" (VoC) programs, increasingly based around large-scale analysis of call recordings, as well as using formal surveys of customer experience to offer the customer a chance to feed-back, and the business to learn.

VoC programs strive to capture customer feedback across multiple channels of engagement (IVR, live agent, email, etc.), while enabling closed-loop strategies to support customer retention, employee development and omnichannel experience optimization. VoC programs typically trigger alerts with role-based delivery via the use of text and speech analytics, offer statistical modelling services to pinpoint root causes, and digitally track progress and results with case management.

The definition of what a VoC program includes runs the gamut across vendors from simply sending alerts based on key words derived from a survey, to more complete solutions that directly contribute to contact center optimization and overall CX improvement. Examples of more complete VoC program features include:

Closed Loop

- Automated Alerts: as surveys are completed, real-time alerting capabilities will immediately identify and inform teams of customers in need, while assigning ownership for follow-up
- Callback Manager: an interactive system that enables callback teams to conduct detailed case reviews and disposition follow-up activities for eventual root-cause analysis
- Case Management: root-cause exploration tools enable back-end analysis of the customer's initial concern, enabling operational support teams to proactively uncover, track and mitigate systemic problems.

Coaching

- In-The-Moment Coaching Tools: as surveys are completed, real-time alerting capabilities will identify when a frontline employee is in need of immediate coaching intervention
- Performance Ranker: the performance ranker helps managers develop weekly and monthly coaching plans by outlining strengths and weaknesses for each employee, while identifying opportunities for peer-based knowledge sharing
- Behavior Playbooks: playbooks with scorecards help managers coach to specific behaviors by outlining how to best demonstrate each behavior, showcasing best-practice examples and suggesting sample role-plays.

Reporting

- Real-time Insight – text analytics zeroes in on key issues from multichannel survey feedback
- Role-based Reporting – define type and frequency of report delivery based on responsibility, title, geography and more
- Call Recording – drill-down detail can include IVR and live agent call recording for additional insight.

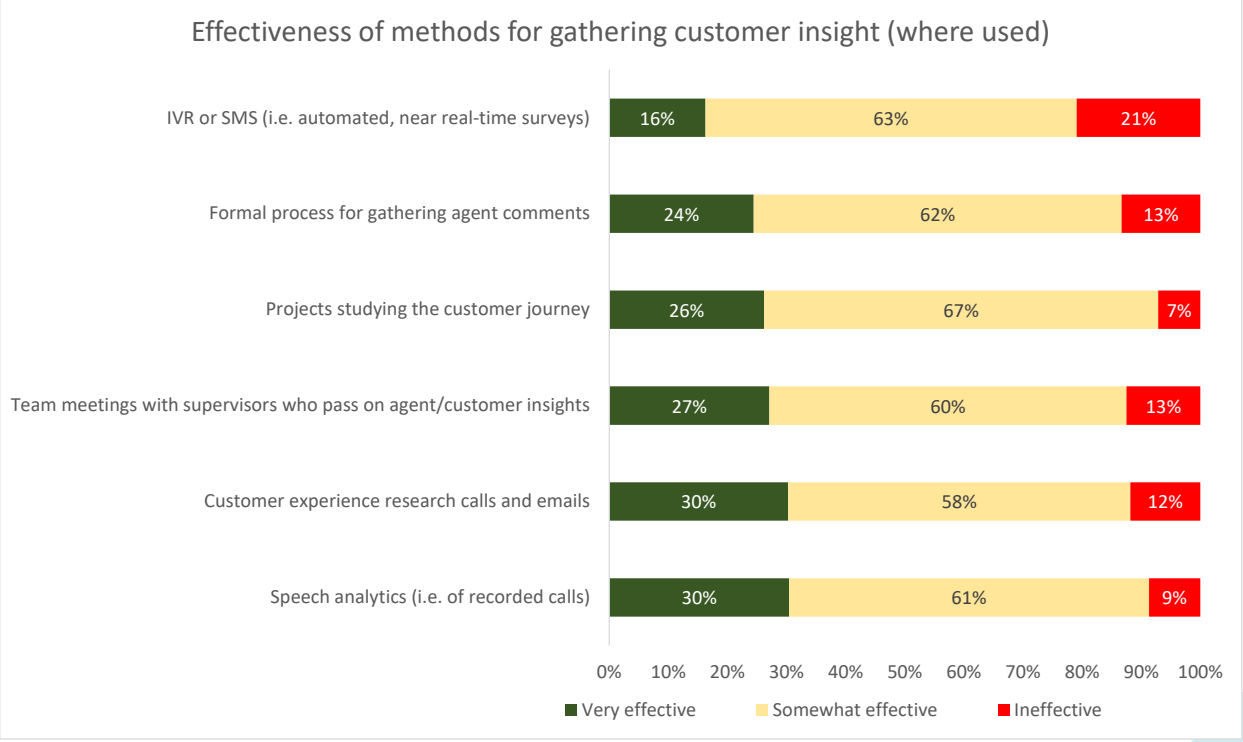
VoC programs are frequently ongoing engagements with result measured by internal CSAT scores, NPS benchmarks and efficiency improvements. Alongside customer surveys, VoC analytics solutions can also gather insight from recorded digital and voice channels. Aggregation of customer surveys and analytical results can identify the root cause of any issues identified, and provide actionable insight for changing processes and/or agent handling techniques. VoC should be seen as a continuous process, rather than a one-off project, and ongoing analysis allows the business to operate a closed-loop system, whereby identified issues can be actioned and continuously checked to make sure that the problem does not reoccur.

The following chart takes into account the respondents' opinions of the effectiveness of each method of gathering customer insight. Customer experience research calls and emails are rated fairly highly, with 30% of those using this method of customer feedback finding it very effective and 12% ineffective.

Speech analytics – which in this case also includes supervisors analyzing call recordings as well as the use of automated speech analytics solutions – also gets considerable approval (with 30% of those using this method stating it to be very effective and only 9% ineffective). IVR/SMS surveys are seen as much less useful, with only 16% of those using them stating that they are very effective.

Despite the higher incidence of their use, the informal gathering of insight from agents via supervisors is not judged as being especially useful, with 27% of those using this insight method stating that they are very effective compared to 13% ineffective. A formal process for gathering agent insights is seen as slightly less positive.

Figure 3: Effectiveness of methods for gathering customer insight (where used)



THE USE CASES OF ANALYTICS

Most contact center solutions have a specific, easily-communicated reason for purchase, usually around cost savings. Popular and widespread solutions, such as IVR, workforce management and outbound dialing, have all had a clear and quantifiable route to cost savings and improved efficiency.

Interaction analytics has a different appeal to contact centers, and can be used in many different ways to address various business issues. This is an advantage – it is hugely flexible – but it can also make its message to the market more complicated, and to the cynical, it can seem as though analytics is claiming to solve every problem that a contact center could possibly have.

While many businesses initially implement interaction analytics to solve a specific problem, successful usage of analytics solutions often encourage a more strategic approach to the technology later on. One way to segment the use cases for analytics is to look at those that are around solving a specific known problem, and those which are of a more strategic, long-term nature, although there is some crossover between the two groups.

Figure 4: Uses of customer contact analytics

Problem-solving/issue resolution	Strategic/long-term
Compliance with regulations	Gathering competitive intelligence
Verbal contracts/repudiation	Feedback on campaign effectiveness and pricing information
Redaction of card information for PCI purposes	Understanding the customer journey
Adherence to script	Understanding why customers are calling
Identifying agent training requirements	Improving contact center performance metrics
Reducing the cost of QA	Optimizing multichannel/inter-department communication
Identifying and handling problem calls	Deepening the power and functionality of the workforce optimization suite
Estimating customer satisfaction and first call resolution rates	Identification and dissemination of best practice
Predictive routing	Identification and handling of dissatisfied customers, and those at high risk of churn
Real-time monitoring and in-call feedback	Maximizing profitability by managing customer incentives
One-off discovery/analysis via managed service	'Tell-me-why'/root cause analysis

Another method of segmenting analytics use cases is to look at the wider business or operational issue that analytics looks to solve:

- Improving customer experience
- Improving efficiency / decreasing cost
- Increasing revenue
- Reducing risk
- Improving quality
- Increasing business insight.

The rest of this section looks at each of these drivers in depth.

IMPROVING CUSTOMER EXPERIENCE

While many of the initial implementations of analytics were aimed at improving quality assurance or guaranteeing compliance, most solution providers note that the improvement of customer experience has grown rapidly in popularity and is a key reason for many of the analytics implementations today.

Providing assistance through conversational AI

Within the contact center, AI involves technologies such as machine learning, speech-to-text, deep learning, analytics, chatbots and natural language understanding, all closely integrated and working together, aiming to provide outcomes similar or even superior to those achievable by human agents. As such, these solutions have enormous potential to improve quality and customer experience.

Some of the typical characteristics of AI-enabled solutions include:

- An understanding of the customer's meaning and intent, rather than just accurately decoding the syntax of the request
- Use of multiple questions in a conversational format to improve understanding
- Using past outcomes to predict and deliver the likeliest most successful output
- The use of confidence levels rather than a binary right/wrong output
- The ability to improve future outcomes without constant human input or monitoring.

Conversational AI can be deployed as chatbots, voicebots or through a self-service system and can use the full range of customer contact channels (voice, email, IVT, messaging, chat etc.). While most conversational AI projects start off as purely informational (for example FAQs), they often evolve into transactional and conversational automation, which can learn about specific customers and make recommendations.

Conversational AI virtual agents can benefit businesses through handling large quantities of queries 24/7, in any language, consistently. This not only benefits the business through reducing the number of unnecessary calls, but also improves customer experience and drives loyalty. The more sophisticated chatbots or virtual agents encourage the visitor to engage with them using natural language, rather than keywords. The virtual agent parses, analyses and searches for the answer which is deemed to be most suitable, returning this to the customer instantly. Many virtual agent applications will allow customers to give all sorts of information in any order, and either work with what it has been given, or ask the user for more detail about what they actually meant. Having been unconsciously trained over the years to provide their queries in a way which standard search functionality is more likely to be able to handle (for example, a couple of quite specific keywords), customers must be encouraged and educated to use natural language queries in order for virtual agents to be able to deliver to their full potential.

Sophisticated AI applications attempt to look for the actual intent behind the customer's question, trying to deliver a single correct answer (or at least a relatively small number of possible answers), rather than a list of dozens of potential answers contained in documents which may happen to contain some of the keywords that the customer has used. The virtual agent application may also try to exceed its brief by providing a list of related questions and answers to the original question, as it is well known that one question can lead to another.

When the virtual agent application has low confidence that it has returned the correct result, it is able to escalate the customers query seamlessly to a live chat agent, who then has access to the self-service session history, enabling a greater chance of a successful resolution without repetition. (It is generally considered best practice that escalations to real agents are not hidden from customers). The eventual correct response can be fed back to the automated virtual agent (and the knowledge base underlying it), which will make it more likely that future similar requests can be handled successfully through automated agents.

First-contact resolution

One of the major drivers of contact center and customer experience success, first-contact resolution (FCR) can be increased by identifying repeat callers and eliminating the root cause of repeat calls.

First-contact resolution rates are not simple to understand, but have to be viewed in context. An improving business may well see its FCR rate actually decline after it implements process improvements, which is counter-intuitive, but if the business had been handling live calls that were more suited to self-service or avoidable through better marketing communications, getting rid of these 'easy' calls entirely will make the FCR rate decline. If many calls are about the same issue, and are answered quickly and accurately, it improves FCR rates, but of course piles up cost and impacts negatively upon other performance metrics, such as queue length and call abandonment rate.

Businesses should consider using analytics to understand the reasons for these unnecessary calls, rather than just focusing upon a single metric, as high first-contact resolution rates may actually be masking underlying problems:

- The contact center is handling simple and repetitive calls that could be moved to self-service, or which could be addressed on a website and through better marketing communications
- Callers are dropping out of self-service to speak with agents because the self-service application is failing in its task and should be re-engineered
- Unclear marketing communications are causing customers to call
- Calls are being received that are actually driven by mistakes from elsewhere in the enterprise.

When businesses begin stopping unnecessary calls at the source, those left are usually of a more complex nature. This will lower first-call resolution rates initially, allowing a clearer picture of what is really happening in the contact center to emerge, which can then be addressed more fully.

An example of this was an organization where they had identified repeat issues as being a problem. Analyzing the calls categorized as such, it was found that agents were saying "we'll call you back within 3 hours". As the callers were very keen to get the issue resolved, they were prone to overestimate the time passing, so analysis found that many called back before the three hours were up. By changing the script to e.g. "It's now 11.45am, we'll call you back by 2.45pm", customer expectations were set and call-backs dropped immediately. A few weeks later, call-backs went back up, and it was found that many agents had gone back to the 'old ways', and had forgotten to give the exact time.

Customer Satisfaction Analytics

There has been a great increase in customer satisfaction surveys in recent years, with the widespread uptake of Net Promoter Score® being a good example of companies' desire to learn what their customers actually think about them. However, research has shown that a 'satisfied' customer isn't necessarily a profitable or loyal one, and the results of customer surveys, particularly the written or telephone-based variety (the latter of which, despite its limitations and expense, is still seen as the best method), are carried out at a time when any feelings about the original interaction may have changed or dissipated, are prone to inaccuracy, delay and lack of detail.

With all of the methods of customer surveys, the questions are fixed in advance, and if the right questions aren't asked, the level of actionable insight is low. In many cases, a business might know that x% of its customers are satisfied, and y% dissatisfied, but it still has no real idea why this is, or even how it will impact upon their profitability. As an alternative to customer satisfaction surveys, interaction analytics allows a business to gather customers' views within the interaction itself – guaranteeing immediacy and accuracy – and can be applied across 100% of calls, rather than focusing on the outlying 'very dissatisfied' or 'delighted' customers. Furthermore, through widespread and detailed analysis of what the call is about, the type of language or messages used in the call, how the customer was handled, and the eventual outcome, businesses will be able to learn how to improve their customer retention and satisfaction in real-life, by-passing the standard metric (e.g. "83% of customers are satisfied") and getting to the root causes of satisfaction or dissatisfaction and sharing the results with the rest of the operation.

Some solutions use historical analysis of call characteristics, agent behaviors and interaction outcomes to estimate customer satisfaction or NPS on every call, and can also predict the attrition of customers based on what they have said and what has happened within the call, allowing the business to act swiftly.

Complaints handling

Complaints are a potentially rich environment for businesses to understand where they are going wrong, and which issues are in danger of turning a customer into an ex-customer. For many businesses, each complaint is dealt with on a case-by-case basis, with little in the way of categorization or structure being put in place formally, and little chance of communicating findings in an actionable way to the relevant department.

Interaction analytics gives businesses a chance to quantify the reasons that customers complain, identifying the most important factors, assessing trends and spikes, and providing hard recommendations based on every call taken. Around 15% of US calls and 10% of UK calls received by contact centers are complaints, with around 80-85% of each of these figures being about problems elsewhere in the enterprise (rather than in the contact center). Understanding and acting upon what is driving these complaints will clearly make a huge difference to cost and customer satisfaction.

On an individual-call basis, real-time analytics allow businesses to track words and phrases related to complaints (such as 'supervisor', 'manager', 'complain', 'unhappy' etc.), allowing escalation to a supervisor, or screen-pop to the agent to provide them with a revised script or suggestions of how to handle the call.

Emotion detection and sentiment analysis is also used to identify unhappy or wavering customers within the call, updating supervisors who can then break into the conversation or advising the agent accordingly, or popping suggestions onto the agent's screen automatically.

Predictive behavioral routing

A sub-branch of predictive analytics, predictive behavioral routing uses insights gathered from historical calls and the analysis of customer communication types in order to choose the agent whose skills and characteristics are most likely to achieve a positive response from the next caller in the queue.

Predictive behavioral routing uses millions of algorithms to decode the language used by agents and customers, in order to understand their state of mind, personality, communication style, engagement levels, empathy and transactional attributes (such as ability to overcome objections, willingness to sell, success rates, the number of times supervisor assistance is required, etc.). Through analyzing historical interactions, each customer can be matched against a specific personality style. When this customer calls again, they are identified through the IVR or the dialing number, and the call is then routed through to an agent whose performance when interacting with this specific personality type has been seen to be positive. This increase in empathy and the matching of communication styles has seen these matched agent-customer pairings get significantly higher sales closure rates and better customer satisfaction scores. By tracking agent performance across various personality types, information can be fed into the performance management process to help that agent improve, and agent capabilities are regularly reassessed to promote optimal routing.

IMPROVING EFFICIENCY AND DECREASING COST

Average handle time

Average call duration / average handle time has traditionally been one of the main measures of a contact center's success, at least when judged by those outside the operation whose focus has often been on cost reduction. In recent years, an increasing focus on the customer experience and first-call resolution has meant that AHT is viewed as less important than previously. However, almost every contact center still tracks this familiar metric, as it is closely linked with cost and performance.

Long call durations may be linked with poor agent abilities, lack of knowledge, navigation between systems or very complicated calls, and of course, impact on cost, queue times and the customer experience. Short AHTs can be as bad, if not worse, as they can indicate lack of agent capabilities (so agents pass the call to a colleague or even deliberately lose the connection); that the contact center is handling too many simple calls that might be better handled by self-service; or that there is a quick and easily resolved common issue, the solution to which could be propagated in the IVR announcement, on the website or via email/SMS. The problem for businesses is that they often don't know with any level of confidence why call durations differ.

Analytics allows businesses to categorize each type of call, and through root-cause analysis, determine what a reasonable length for each type of call is. The anomalies can then be studied either on an agent level, or more widely by comparing the amount of time taken on each category of call now compared to the past. The identification of calls resolved successfully in a reasonable amount of time will also provide the training department with examples of best practice. Analytics solutions also look for examples of calls with long silences which may indicate agent unfamiliarity with the subject or excessive searching through multiple desktop applications, both of which increase call length and costs, and decrease customer satisfaction.

Solving issues is much easier when the situation is understood and evidence presented, especially if this issue is associated with an area outside the contact center's control, and interdepartmental politics have to be considered. Agents may give some indication if they see something happening in recent calls, but that does not provide enough information to act upon. Businesses will find it difficult to justify changing a whole campaign because an agent said that he had two customers struggling to understand it. Analytics helps to find out whether these issues are taking place across the entire call volume, allowing businesses to quantify and prioritize issues.

Improved operational efficiency and reducing cost to serve

Some of the most sophisticated users of analytics use it to optimize handle time, rather than simply reducing it. That is to say, they investigate the causes of longer calls – often using desktop analytics as well as speech analytics – weighing up the profitability or any other positive element within each segment of the call, and aiming to minimize the time spent on any part of the call which does not add value.

Understanding root causes offers businesses huge opportunities to improve their efficiency and effectiveness, such as:

- understanding any failures in cost containment processes, e.g. why doesn't self-service work as we want it to?
- improving first-contact resolution rates, and reducing unnecessary callbacks
- microcategorisation of elements within the call, which when linked with desktop analytics and metadata can identify those parts of the call which are most profitable and crucial to success
- identify the reasons that customers are calling, and see if some of these calls can be avoided without damaging profitability or the customer experience.

While voice of the customer/customer journey analytics is starting to become more widely used, many current analytics implementations are as yet based around activities where ROI measurement is more immediate and easily understood, particularly agent and contact center performance KPIs although a wider use of analytics for CX purposes can certainly be seen.

Crisis management and reaction

A solution with automated root-cause analysis capabilities – constantly looking for anomalies and new patterns – can identify spikes in unusual activity shortly after it happens, alerting specific users to the key issues so as to handle them before they run out of control, damaging brand or customer satisfaction.

Call transfers

Rather than making an agent use a call disposition code when they pass a call to another agent (which they may forget to do, or code inaccurately), analytics can identify the reasons for passing calls to other agents and putting customers on hold (whether lack of training, broken processes or lack of access to the right systems). Interaction analytics can also uncover patterns of customer requests for a transfer that were not acted upon by an agent, indicating at-risk customers or agents with knowledge gaps.

Cost reduction through automating QA

Solution providers comment that cost reduction is often the initial driver for investigating customer contact analytics, particularly when looking at automating the quality assurance (QA) process, as contact centers look for an alternative to making decisions based on minimal data, and monitoring quality manually and patchily.

By monitoring and categorizing 100% of calls, only the most relevant can be passed through to the supervisor, greatly reducing the amount of time, and in some cases headcount, required to carry out QA. The resulting insights into individual agent's performance, and business processes in general, are of a far higher standard than is possible through manual QA processes. Automated QA that focuses on specific call categories can also speed up the improvement cycle by automatically selecting personalized eLearning assignments for agents.

For some businesses, automating the QA/QM process has enabled large contact centers to decrease headcount of these teams by as much as 75%, making very significant cost savings, although others prefer to use analytics to guide their QA teams toward more insightful data.

Self-service optimization

Customer journey analytics looks at how analyzing the various channels in a holistic manner can identify the bottlenecks and sticking points within the customer contact process, and the reasons why people unexpectedly jump between channels.

As we would expect, there is an increasing interest in omnichannel analytics, including considering email, web chat, IVR and web browsing sessions to get the full picture of the customer's real journey in a single interaction, in order to identify and improve any channels that failed to fulfil their requirements. Improving self-service optimization is often a quick win that can provide immediate economic benefit to businesses: more than 1 in 4 calls that go into an IVR system are 'zeroed-out': rejected by the customer in favor of a human agent.

Businesses using interaction analytics to review these failed self-service sessions can categorize many of them in order to improve the processes at a macro-level. Common findings from the analysis of these calls is that the IVR system was poorly worded or menu choices are not intuitive or match current service choices. Other failures occur through mistakes in IVR routing, and there may also be problems with a lack of customer awareness that various activities can be carried out by self-service.

Analytics can identify the information that customers are most likely to search for in a self-service application, and provide them with this earlier within the engagement, reducing customer effort and frustration. IVR menu structures can be optimized with options rearranged, removed and/or introduced to reflect customer demand.

INCREASING REVENUE

Managing customers at risk of churn

Using real-time analytics linked with a company's own CRM systems, agents can be provided with up-to-the-second advice on how to handle customers identified as being at risk of churn, including linking what the customer is saying on the call back to the transactional model in order to update the best offer available for that customer. Some businesses use interaction analytics to identify phrases or behaviors that have been shown to indicate likely cancellations, but protect their profit margins by making sure that agents are only offering incentives such as money-off coupons at appropriate points within the conversation to those customers that are at risk of churning.

Integrating speech and desktop analytics allows CRM information such as the value of the customer to be added to the decisioning engine, providing extra accuracy and confidence that any offer made will be the right one.

Improved profitability

Interaction analytics has a provable ROI even for smaller businesses that carry out a lot of outbound, revenue-focused work, such as sales or debt collection. Quite apart from any regulatory need for script compliance, analysis of the sales techniques and terminology used by those identified as the most successful agents can be shared amongst the agent population, with either real-time monitoring or post-call analysis ensuring ongoing compliance.

Analytics can also be used to identify those customers who are most at risk from churn or contract cancellation, based on historical analysis of calls with similar customers, linked with metadata including customer segmentation. It is also possible to discover the reasons for the different sales conversion rates between agents by analyzing many more calls than would be possible in a purely manual process. Sales conversion may be as much a matter of correctly identifying a sales opportunity as it is about being an effective and persuasive sales person, and analysis of 100% of calls allows managers to understand where their agents' strengths and weaknesses are and to deliver the correct training or feedback.

Quantification of the opportunity – carried out through large-scale analysis of all relevant data, rather than relying on anecdotes or partial data – means that senior management can be persuaded that analytics provides a real and measurable opportunity to impact profitability.

Debt collection and improving cross-selling & up-selling

Although many debt collection firms have detailed scripts for their agents – often driven by the need to comply with regulations – the results such as the promise-to-pay ratio can differ widely by agent. Speech analytics provides two benefits for debt collectors: the ability to prove compliance (which is usually the initial reason for purchase), and through the analysis of successful and unsuccessful calls, the chance to understand the type of agent language and behavior that yields the best results, and share these with underperforming agents.

The same principle of matching successful outcomes with particular call traits can be used for improving cross-selling and up-selling rates in sales environments.

REDUCING RISK

Compliance with legal regulations

Many businesses, especially those in finance, insurance, public sector and debt collection, have become encumbered with regulations which they must follow strictly, with potentially expensive penalties for failure including heavy fines and possible prosecution. Contact centers have tried to reduce their risk through scripting, call monitoring and call recording, but these do not offer any guarantees or proof of compliance. Speech analytics means that 100% of calls can be verified as compliant – and be proven to be so – preventing disputes or escalation of enquiries by monitoring the exact language used within each call.

This is true for both inbound and outbound operations: for example, purchasing insurance may require a long script to be read by the agent and agreed to by the customer, whereas outbound debt collection agencies may have to identify themselves and the purpose of the call clearly or else be found to be in breach of regulations. In such cases, using analytics to check and be able to prove that 100% of calls are compliant is a popular option.

Return on investment comes from the avoidance of litigation and fines, and the use of speech analytics for compliance is very prevalent, especially in North America.

Fine avoidance

In a potentially litigious market, companies are very aware of the risk of ruinous lawsuits, so a solution that goes some way to guaranteeing compliance has enjoyed a good audience. For example, US debt collection firms have to read a 'mini-Miranda' statement on each call, identifying that they are a debt collector and that information gathered in the call will be used for collecting the debt. Failure to do so can easily incur significant fines, and both post-call historical analysis and real-time monitoring may be used to ensure compliance.

Real-time compliance and adherence to script

Real-time analysis means that phone-based contracts can be seen to be completed first-time, with all relevant information provided to the customer on the call, and red-flags on the agent's screen if they have missed saying anything vital or made an error. This reduces the need to call a customer back and avoids any dispute over whether a legitimate contract has been made.

While analytics solutions have certainly been successfully used for regulatory compliance, there is an increasing interest and use of the solution for internal compliance purposes: adherence and compliance to script. For example, a business that has identified the most successful terms, characteristics and behaviors for increasing sales conversions or debt collections can use real-time monitoring to check the agent is using the right terminology on the call.

While some compliance solutions use historical analysis to check that regulations have been adhered to, other solution providers take the view that compliance should be enforced within the conversation itself, and trigger alerts to the agent desktop to make sure that all of the relevant script and customer responses have been included.

Redaction and blocking of card information from recordings to assist with PCI compliance

PCI guidelines prohibit the storage of sensitive authentication and payment card data (such as the 3- or 4-digit code found on payment cards). If the contact center does not use pause and resume recording, or similar functionality within the original call, some speech analytics solutions offer an option to be run retrospectively against recordings in order to identify payment card information and any other sensitive data that should not be stored, redacting it from the recordings. It is also possible to remove this information from transcriptions as well.

Other analytics solutions look for predetermined phrases within the conversation as it occurs, blocking the voice within the call recording, or will pause the transcription once an agent goes to a specific data field in their desktop application.

IMPROVING QUALITY

Improve the quality monitoring program

The number of interactions typically observed as part of a traditional QA model do not represent a statistically valid sample set. Most contact centers score a sample of interactions, which is then used to estimate the score for all interactions of the same type, for the same group or for the same agent.

When using a sample to make inferences about the entire set of interactions, larger sample sizes will consistently result in a more precise estimate. Using one or two recordings per week may be enough to facilitate an effective coaching session with an agent, but just a few interactions out of hundreds is not a fair and valid measure, especially when such a small sample is used to affect an employee performance review and compensation, or when the sample is being used to make critical and costly business decisions.

Before an analytics implementation, a coach will evaluate random examples (particularly the most recent calls so the topic is fresh on the employee's mind), spend time finding the 'right' call and risk end up spending more time searching than coaching. With interaction analytics, the coach can evaluate specific interactions that have been tailored to the coaching plan, including those with problematic workflows or topics. The agent and coach work from a scorecard based on 100% of the interactions in order to spot trend, meaning that there is more time for coaching.

Interaction analytics tries to take the guesswork out of improving customer experience, agent performance and customer insight. By moving from anecdote-based decisions, from qualitative to quantitative information, some order is put on the millions of interactions that many large contact centers have in their recording systems, improving the reliability of the intelligence provided to decision-makers. The need to listen to calls is still there, but those listened to are far more likely to be the right ones, whether for agent evaluation or business insight.

Organizations using interaction analytics can carry out an evaluation of chosen calls – for example, unhappy customers – the results of which can be then be fed back into the existing quality assurance process. These are then treated in the same way, without upheaval or any need for altering the QA/QM process, only improving the quality and accuracy of the data used by the existing solution.

Being able to monitor 100% of calls with 100% of agents means that it is possible to make sure that agents comply with all business rules as well as regulations. Linking this information with metadata such as call outcomes, sales success rates and other business metrics means that the most successful behaviors and characteristics can be identified and shared across agent groups.

Interaction analytics is of great potential value to a business in terms of discovery, compliance and business process optimization, but the improvements that the outputs from analytics can offer to other elements of the WFO suite, such as agent performance and training should not be overlooked. Scorecards based on 100% of calls rather than a small sample are much more accurate, and support better training and eLearning techniques, and have great potential to cut the cost of manual call QA.

Analyzing all interactions also means that QA professionals are made aware of any outliers – either very good or very bad customer communications – providing great opportunities for the propagation of best practice or identifying urgent training needs.

By monitoring and scoring 100% of calls, the opportunity exists to connect analytics, quality assurance and performance management, collecting information right down to the individual agent level. Automatic evaluation of all calls means that businesses will no longer rely on anecdotal evidence, and will be able to break the call down into constituent parts, studying and optimizing each element of each type of call, offering a far more scientific, evidence-based approach to improving KPIs than has previously been possible.

Solution providers also believe that embedding analytics more closely into WFO is relatively culturally unchallenging (for the QA team at least), in that the operation is automating and improving something that they've done for many years. Some businesses also use analytics to provide an estimated NPS score for every call, based on what similar calls and customers have scored in the past.

Identification of training needs

Apart from 100% monitoring of calls, speech analytics can be used to flag cases of talk-over, as well as silence detection. The former can be a source of irritation to the customer or an indicator of stress, and long silences can indicate lack of agent knowledge, although long system navigation times or delays in system response times can also cause this. The analysis of these types of call alongside desktop/screen analytics will identify which of these issues is really the problem, with the opportunity to reduce handling times as well as improving customer experience.

Interaction analytics also makes the training and coaching received by new agents far more effective and targeted. This is especially important for this class of agent, as many operations report that half of their overall staff turnover occurs in the first 90 days of the job, when agents are obviously less skilled or confident about their role or the organization.

Analytics can identify the types of behavior – good and bad – that lead to successful call resolution or otherwise, and these can be presented in a targeted way to the new agent to fast-track them to a level of competency that should reduce attrition and improve quality. ContactBabel surveys show that most analytics users state that interaction analytics is very useful for identifying training requirements at an individual agent level, being one of the highest-ranking uses of analytics.

There is also increased interest in agent self-assessment of calls, where they can view automated quality scoring results, and request relevant training.

Manage and monitor digital channels

With around 25% of industry-wide inbound interactions coming through digital channels, analytics can be used to route, prioritize, automatically answer, monitor and supervise digital interactions.

As more and more companies move to AI-based solutions (chatbot, voicebot, conversational IVR, etc.), real time analytics will be used to ensure customers continue to have great experiences by monitoring and supervising these interactions. Companies will begin to demand that every component of their contact center solution is enhanced with analytic intelligence.

Improve the workforce optimization suite

One of the strongest messages to come out from the research carried out for this report was the long-term view that solution providers have of the integral role of interaction analytics as an enabler and optimizer for other solutions. Many analytics vendors have a complete workforce optimization suite, and are constantly working to automate and integrate findings and actions from the analytics solution into their overall WFO suite.

AI is also being woven into solutions that identify current pitfalls or potential customer experience improvements and predict trends that may affect customer experience and contact center operational efficiency. With the introduction of AI and machine learning techniques, questions like "how many agents do I need on a Monday morning" can be better (and faster) answered by automatically identifying patterns in large datasets.

Business Intelligence

Analytics allows businesses to seek out key words and phrases, such as competitors' names or any instances of pricing, or to gather feedback after a marketing campaign goes out. Some businesses are actively using speech analytics to uncover competitive intelligence as well. For example, one wholesaler uses analytics to identify when competitors' pricing information is mentioned on a call, and passes this back to the commercial team to revisit their own pricing structure.

Some businesses carry out detailed and sophisticated analytics looking at a combination of variables in order to seek out correlations. For example, a business may discover that a combination of two issues mentioned by the customer on a call, as well as the mention of a competitor's name is correlated with an extremely high churn rate. In these cases, businesses may choose to use real-time monitoring to trigger a customer offer to be made if these factors are identified within the call, or may use post-call analytics in order to trigger a post-call event such as an email, phone call or text message offering incentives to remain loyal to the company.

Customer Intent

No other contact center solution apart from customer interaction analytics can provide a solid understanding of **why** customers are calling. Categorizing types of calls, and then analyzing them for the occurrence of similar types of words and phrases can give an insight into the reasons for customers' calls. For example, a category such as 'sales' might be analyzed for patterns, and it is discovered that the words 'delivery' and 'website' are mentioned in a disproportionate number of them. Listening to some of these conversations, it may be found that the website does not highlight delivery times effectively enough, leading to unnecessary calls to the contact center, rather than the customer purchasing on the website.

The automatic categorization of calls, based on the types of words and phrases that typically get used within these types of calls, is a starting point. Analytics solutions can then add non-audio data, such as desktop activity or account status, and the tracking of word usage compared with its historical use (e.g. a ten-fold rise in the use of the phrase "can't log-on" after a software upgrade) can quickly indicate and identify issues that can be handed to the relevant department much more quickly than typical inter-department channels could usually manage.

Regular references to competitors and their products can be captured, analyzed and passed to the marketing or pricing teams to provide them with real-life, rapid and accurate information upon which to base decisions. This categorization gives a starting point for analysis, meaning that businesses can listen to the right calls rather than selecting them randomly or employing large numbers of people to get insight from customers' calls.

Customer journey analytics

There is a great deal of enthusiasm and belief among solution providers that the long-term usage of customer contact analytics will be to improve the customer journey, one of many business process improvements enabled by the complete understanding of what is happening each step of the way, whether within the customer interaction cycle, or through one of the many processes kicked off elsewhere within the organization.

Businesses that understand the reasons that customers are contacting them are able to staff and train agents appropriately, provide feedback on company products and services to relevant departments and identify suitable self-service opportunities. They are also able to understand the various levels of customer effort required at each stage within the interaction process.

While it is impossible to quantify ROI upfront, there is a strong argument that "you don't know what you don't know". An agent may not notice a trend that something new is happening until they receive several calls about it, but even if they are proactive, they may not receive that type of call again for several hours or even days. Analytics identifies trends across the entire operation as they occur, instead of waiting on agents to realize something out of the ordinary is happening.

However there is no guarantee what will be found, and few businesses will initially implement analytics in the hope that optimizing the customer journey and hopefully gaining insight will save costs and increase revenue. Many solution providers comment that early adopters of analytics – who often started with compliance and agent quality assurance – are now looking at how they understand sales effectiveness, marketing campaigns and process improvements. Longer term, understanding and optimizing each part of the customer journey will become a key use of analytics.

Identifying actionable insight

Solution providers are at pains to point out that knowledge and data gained from analytics in itself means nothing. The key word is "actionable".

Being able to change the flow and nature of a conversation – improving the chances of first call resolution, better customer satisfaction or, probably most interesting to businesses, improved sales revenue – is one of the most potentially appealing uses of interaction analytics.

Being able to use metadata such as call outcomes, the product being discussed, the nature of the customer, etc., as well as analyzing the call itself, can reveal patterns that would otherwise be very difficult to identify. Optimal agent behavior and training can be identified and replicated, using insights that would otherwise be unavailable.

Analytics can also help organizations to identify which key performance indicators (KPIs) are actually most important to their business by correlating various performance and operational benchmarks against required business outcomes, such as understanding which operational KPIs and/or agent behaviors are linked with high levels of contract renewals or NPS scores.

Improving the effectiveness of calls is one of the areas focused upon by providers of real-time analytics and monitoring solutions, many of which search for keywords or phrases occurring within the conversation, which can trigger an event such as a pop-up on the agent's screen prompting them to sell a relevant product, or – in cases where raised voices, talk over or obscene language is detected – an escalation to a supervisor is triggered. Some solutions offer an agent dashboard, showing in-call performance such as speed of speech, instances of talk-over, volume and stress.

Real-time monitoring can require significant processing power, so customers would do well to check what additional IT resource is required, apart from user licenses. However, the ability to affect the outcome of the call rather than wait till afterwards to analyze what should have been done is something which is of growing interest to many businesses, and many vendors now offer this to the market.

Voice of the Customer Analytics

Analysis of calls and digital interactions can reveal customer satisfaction with the service received, how customers feel about products or services, uncover product complaints and suggestions, and get insight into what drives customers away and what keeps them happy.

Customer experience and marketing departments are taking the opportunity to understand the customer perspective in relation to communications, web site usage and product feedback, and having the ability to analyze all interactions in a single solution and find patterns and trends across all interactions has provided a new 'voice of the customer', moving away from relying on separate silos of data about the customer journey.

INHIBITORS TO ANALYTICS

As not all interaction analytics projects are the same – using different types of technology to address specific business issues – it is not the case that there are one or two easily identified inhibitors to implementation. However, most come into one or more of the categories: cost; complexity; business value; and change management.

Cost

There is a widespread belief that customer interaction analytics is an expensive option. There is more detail in the following section on return on investment that shows the type of expenses that businesses should be prepared for, and reader would do well to bear in mind the total cost of ownership as certain projects may do better with ongoing professional services being included. Certainly, the cost of analytics is not just about software licenses.

There is little consistent message from the vendor community as to what ongoing costs might be expected. Some aim for customers to become self-sufficient as soon as possible; others offer ongoing support and upgrades as part of a monthly subscription fee; some state that some projects may be extremely complex, and will require a considerable amount of expertise – whether in-house or through a cloud-based approach – in order to maximize return on investment. Quite simply, there is no 'typical price' for interaction analytics: it depends on what you want to do with it.

As such, solution providers offer various options of pilots and proofs of concept based around delivering tightly defined results in a specific area, at a fixed cost, as well as various real-life ROI calculators. Most note that proving cost savings through QA/QM improvement is easier than through business intelligence, although the improvements in profitability for the latter are often potentially much higher.

Complexity

A major inhibitor to uptake is a belief within the company that their environment is not yet ready for analytics, in that they may still not have a reliable recording environment or an optimized QM or QA process. Some potential customers want to improve their recording environment, including having stereo recording and full metadata, and if the telephony system is at end-of-life, this can also delay a decision. As analytics is usually not a simple plug-and-play application, there can be frustration with understanding where to start. With other, potentially more urgent projects taking up IT resource, it is easy to let initial enthusiasm and vision drift to one side.

Solution providers are becoming better at hiding the complexity of analytics, improving the presentation layer (using 'wizards' or simple text entry options to write queries, for example), without losing the power and functionality, and this democratization of interaction analytics has encouraged greater uptake and usage. In recent years, the graphical user interfaces of analytical tools have improved hugely, encouraging non-technical staff and management to understand and share insights.

In an omnichannel environment, businesses gain most understanding not only from the insights which each channel can provide, but also what the overall picture looks like, thus understanding the customer journey. In a multivendor environment, it can take longer to get all of the pieces fitted together, which can be a problem for smaller and under-resourced technology departments.

Concerns over business value

Some businesses consider that their existing call recording and manual quality monitoring processes are sufficient, and fail to understand the potential business value of interaction analytics. In such cases, it is possible to demonstrate how automating existing processes can improve quality and performance while reducing the time and cost necessary to carry out QA/QM processes, and in fact this is one of the major initial purposes that analytics solutions are used for.

However, for an organization to make an investment in analytics where the end goal is improving business processes and finding out what is sub-optimal in the customer journey, proving business value to everyone's satisfaction can be extremely difficult: trying to quantify the unknown is by its very nature impossible, and requires something of a leap of faith.

Change management and business culture

Solution providers and successful users of analytics solutions point out that analytics is not a self-contained solution: it identifies the areas in which businesses can improve their agent's capabilities, their business processes, their customer's experience and their contact center performance.

Customer interaction analytics is a change enabler. Whether a business has the will or capability to act upon the insight that analytics can give them is not a matter for software companies but something for the business to address itself. This is particularly the case with wider business insights, which are likely to cross over several departments and 'fiefdoms', and for large organizations where inertia and resistance to cultural change can be enormously important. Analytics can open a can of worms, and businesses need to consider whether they actually have the will to act upon what is discovered. Perhaps the greatest challenge for organizations is to be able to manage the change that analytics can demand: does it have the right people and attitude; is it willing to act; is there a person with the responsibility and enthusiasm to do what needs to be done regardless of where it takes them?

The choice of whether to implement interaction analytics should not be left to the IT department, or even the business users, except perhaps in clearly defined cases of QA automation or compliance monitoring. Many solution providers offer executive-level consulting programs that help companies to structure their processes and strategies to take advantage of the findings of analytics, and before any implementation takes place, businesses should try to anticipate possible insights and outcomes in order to prepare for change.

THE USE OF ANALYTICS

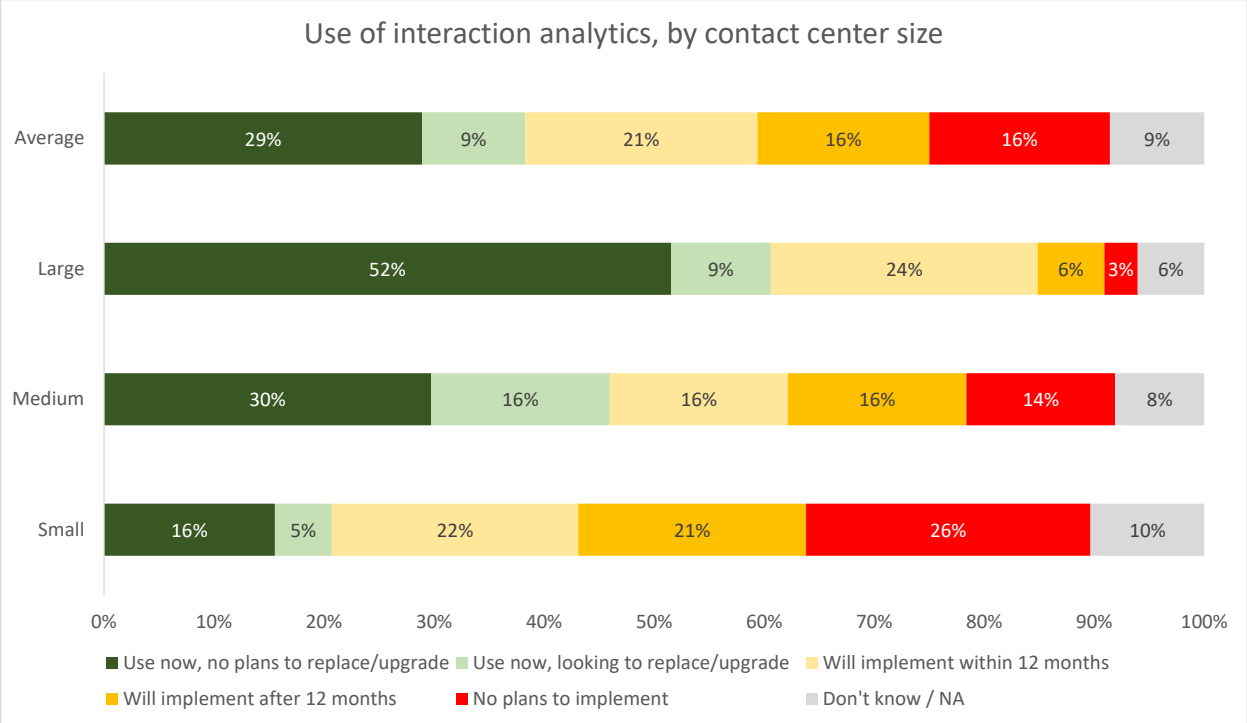
CURRENT AND FUTURE USE OF ANALYTICS

Compared to recording-based functionality which has penetration rates of over 90% in most sectors, interaction analytics (especially of the omnichannel variety) is still to reach its full maturity, although the general long-term increase in penetration rates and the enthusiasm shown by contact centers to learn more about the subject is very positive.

The positive correlation between size and penetration rate is very noticeable for interaction analytics, which may require significant investments. As importantly, having huge volumes of recorded interactions and a large customer base to learn from means that business patterns can be identified more accurately, and any improvements reap correspondingly higher rewards.

Large operations are also more likely to have the budget and resource to use analytics to its potential, although there is also a significant level of long-term interest in implementing analytics in the small and medium contact center sectors.

Figure 5: Use of interaction analytics, by contact center size

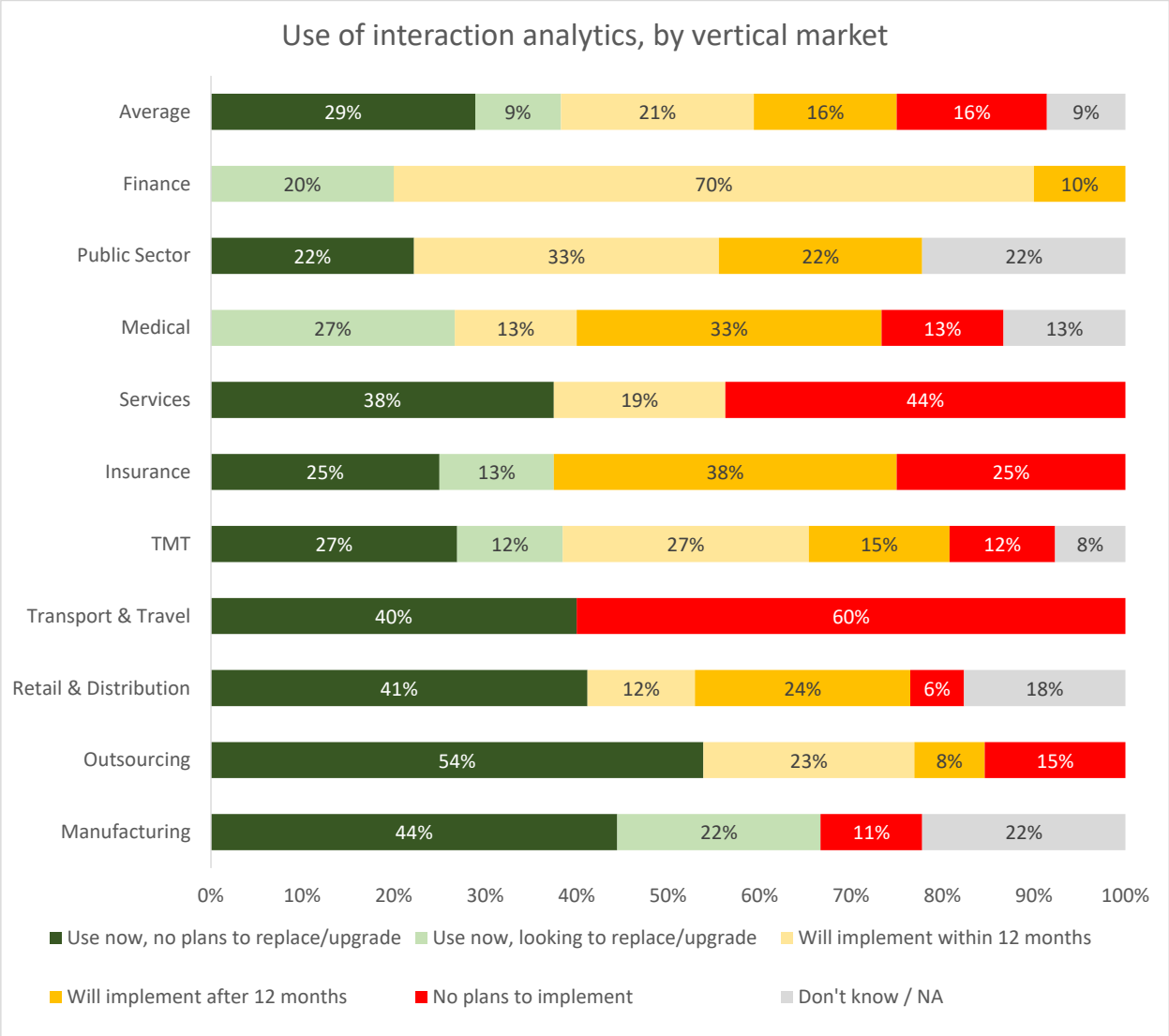


Against a virtual ubiquity of call recording, the penetration rates of interaction analytics are much lower: 38% of this year's respondents use it now, with a further 37% stating that they have plans for implementation.

Respondents from the manufacturing, retail and outsourcing sectors report the greatest use of analytics this year, with those in the finance and public sectors least likely to be doing so.

It is probable that the use of interaction analytics is driven more by contact center size in call volumes than through the requirements of specific types of business.

Figure 6: Use of interaction analytics, by vertical market



As we might expect, the use of post-call speech analytics – the bulk analysis of call recordings – is the most widely used type of interaction analytics functionality. 27% of analytics users have also implemented functionality which can analyze the agent desktop activity which is linked to these calls.

Real-time (or near real-time, i.e. within the call) speech analytics is used by only 12% of this year's interaction analytics users. 33% of respondents that state that they use multichannel analytics.

The rise in non-voice interaction volumes has meant that there is an increased requirement to understand and analyze the customer journey, and there is strong interest being shown in optimizing the back office and its processes.

Figure 7: Use of various interaction analytics functionality (from only those respondents who use analytics)

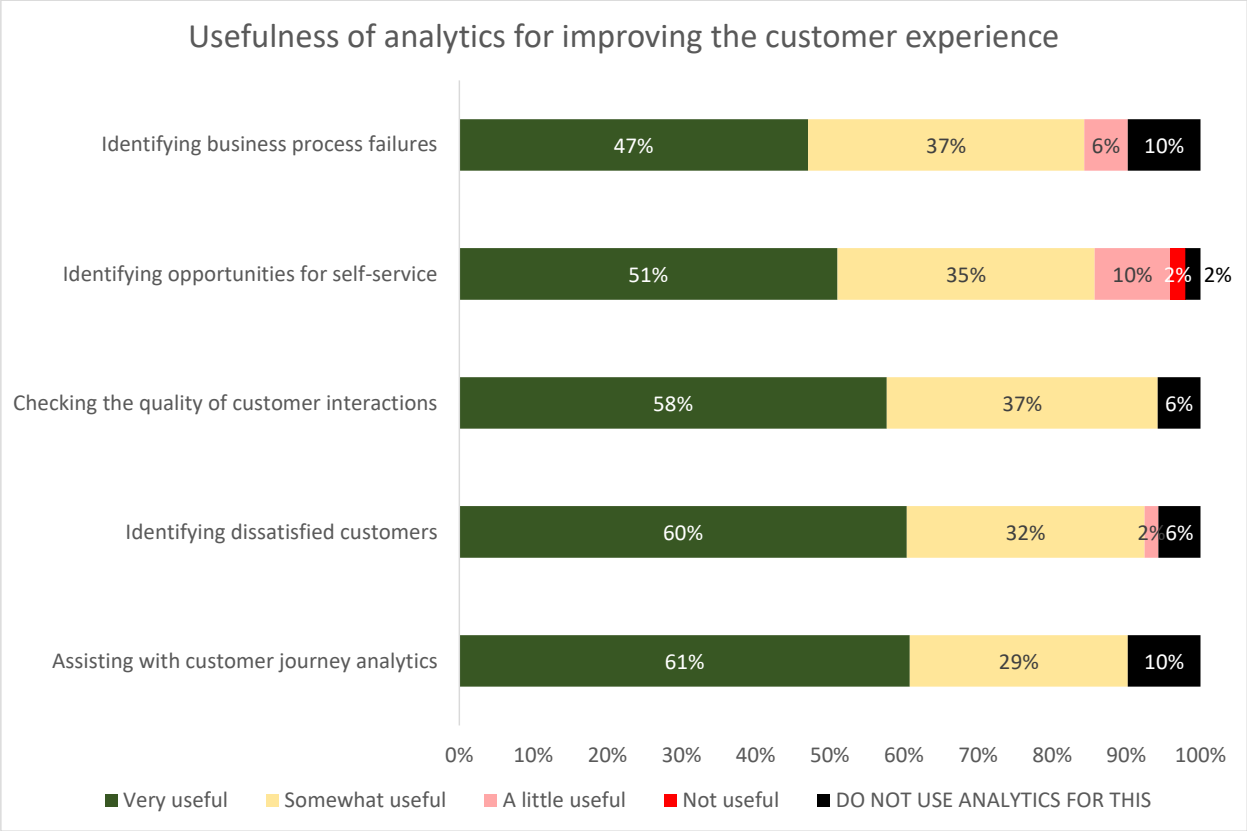
Interaction analytics type	% respondents using this functionality
Post-call speech analytics	67%
Back office analytics	48%
Multichannel analytics (i.e. email, web chat, social media, etc.)	33%
Customer journey analytics	33%
Desktop analytics	27%
Real-time speech analytics	12%

USEFULNESS OF ANALYTICS FOR IMPROVING CX

Organizations using analytics were asked how useful the solution was for improving various aspects of the customer experience, either directly, or through improving internal processes which then had a impact upon the overall customer experience.

This year, the use of analytics for the identification of dissatisfied customers, business process failures and customer journey analytics improvement were all rated very highly, as was the widely used assistance with QA. It seems as though businesses are beginning to use analytics effectively for more than just compliance and agent quality.

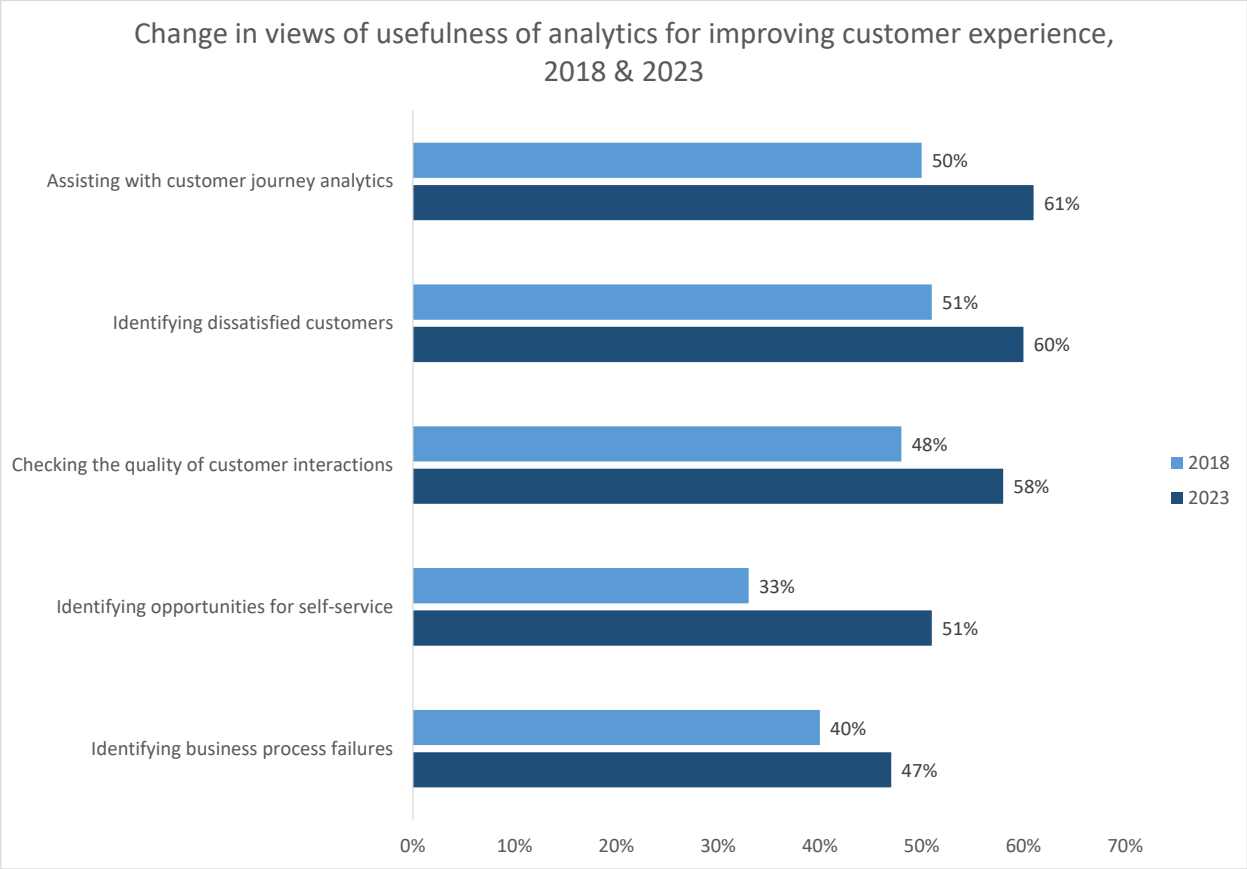
Figure 8: Usefulness of analytics for improving customer experience



It is interesting to note that survey respondents' views of the usefulness of analytics for CX improvements have improved since 2018.

All of the use cases listed have seen a jump in the proportion of companies stating that they are 'very useful', particularly the identification of self-service opportunities, where 51% of businesses using analytics for this purpose now state that it is very useful, compared to only 33% in 2018.

Figure 9: Change in views of usefulness of analytics for improving customer experience, 2018 & 2023

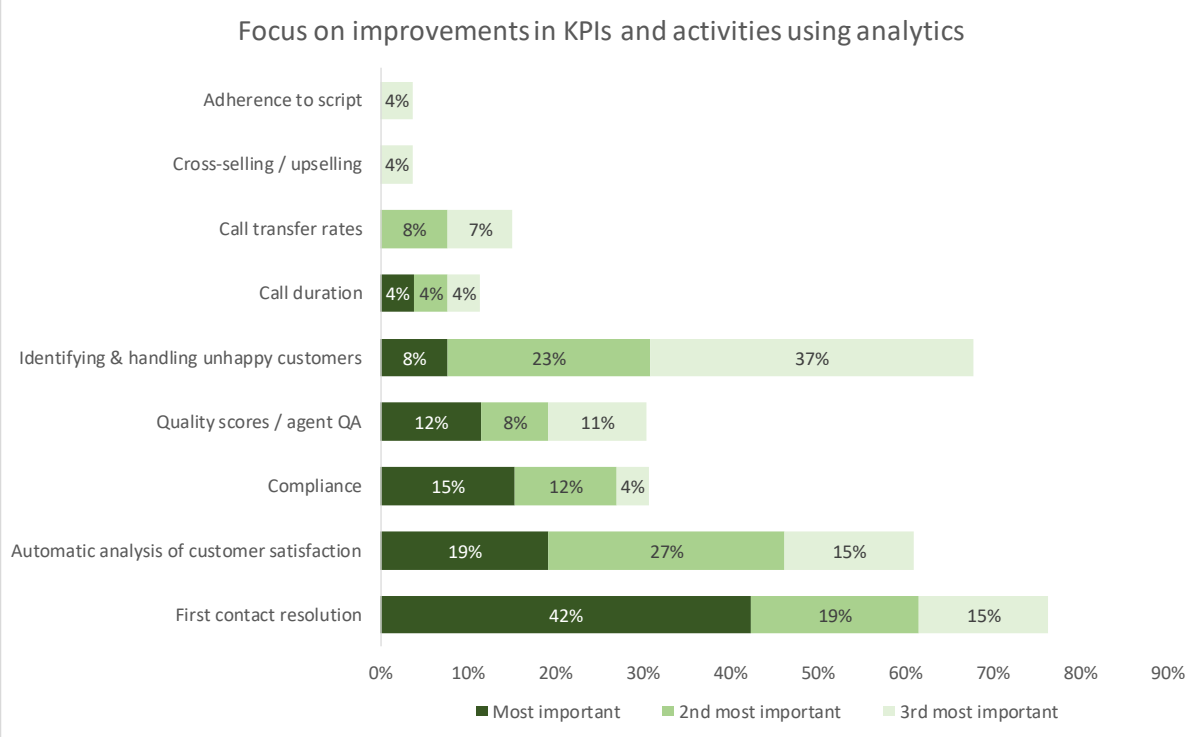


FOCUS OF ANALYTICS IMPROVEMENTS

Throughout ContactBabel research, most respondents state that one of their main business focuses is to improve the customer experience, and while this is laudable, the real question is perhaps "How can analytics achieve this aim?".

Our research has consistently shown that first-contact resolution (FCR) is seen as being key to customer satisfaction. Interaction analytics can assist with this goal through automatically grouping and assessing the nature of the enquiries that required multiple customer callbacks, and through identifying whether the call should be classed as a callback in the first place (e.g. by searching for relevant words or phrases, such as "I've called about this before", or "this is the second time I've called"), which would further assist in the notoriously difficult process of accurately calculating first contact resolution rates. As FCR and customer satisfaction ratings are closely linked – being consistently stated to be the no.1 method of achieving high customer satisfaction ratings – the use of analytics to identify FCR accuracy and improvements is a very positive finding.

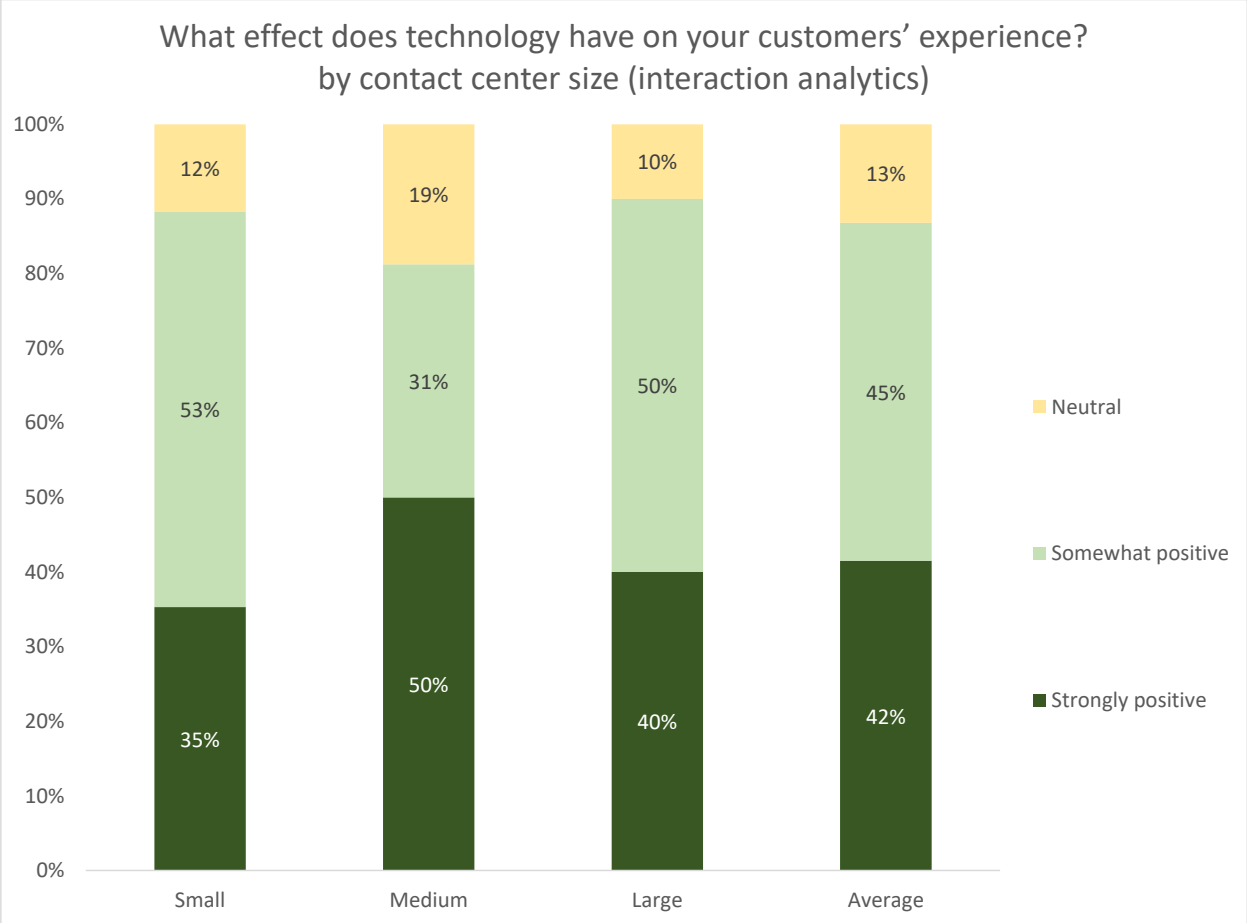
Figure 10: Focus on improvements in KPIs and activities using analytics



It is positive to find that the second and third greatest focuses on improving KPIs (automatic customer satisfaction analysis, and the identification and handling of unhappy customers) are also related to customer satisfaction.

Amongst the survey respondents which use interaction analytics, there is a general feeling that it impacts directly and positively upon the customer experience, despite the fact that as a large amount of interaction analytics is done historically, the immediate benefits to the customer may not be apparent.

Figure 11: What effect does technology have on your customers' experience? by contact center size (interaction analytics)



IMPLEMENTING INTERACTION ANALYTICS

Interaction analytics offers huge opportunity to gain business insight, improve operational efficiency and develop agent performance. In fact, the list of potential applications for this technology is so high that businesses could be forgiven for being confused about how to target and quantify the potential business gains.

Depending on the type of business, the issues being faced and even the type of technology being implemented, drivers, inhibitors and return on investment can differ greatly. It is also likely that while an analytics solution will be implemented to look at one particular pressing issue, such as compliance or automating the QA process, it will further develop over time into looking at business intelligence, process optimization, customer experience improvements and revenue increase.

PRE-IMPLEMENTATION

With so many possible use cases, the business should have a clear idea of what they want the analytics implementation to achieve and the KPIs by which they will gauge success. At this stage, discussions with prospective solution providers can begin, and will look at the solutions' capabilities, proving ROI, costs, IT resources, deployment models and the practicalities of how analytics will change operations.

It is vitally important even at this early stage to have a plan in place to deal with any insights and recommendations that the analytics process may create. Solution providers and consultants are in full agreement of the necessity to have a 'project champion': someone of sufficient cross-departmental seniority, vision and gravitas to carry out necessary change. Such a person is probably already in high demand, yet businesses that want to gain the most from analytics need to find a way to get that person involved.

Unlike some other technology implementations, analytics requires more face-to-face time with solution providers, and although some implementation times might be a matter of weeks, the reality is that the most successful projects will require considerable amounts of planning effort on both sides in order to understand what is achievable, and measure its success.

As analytics is becoming an increasingly important and integrated part of the overall workforce management optimization suite, a considerable proportion of businesses find that they are taking analytics as part of a wider WFO solution.

While the general consensus is that it is wise to take one step at a time with analytics, businesses should also stretch their imaginations to consider how the solution might be used in the future. The scalability of the solution is certainly something to consider: currently, many businesses will keep calls for 90 days or so but there are indications from the market that there is a desire to carry out longer-term analysis. For example, data analysis over a 13 month period allows year-on-year comparisons of contracts and annual events to be made.

INITIATORS AND THE PROJECT CHAMPION

There is no generally-agreed job role that initially identifies the potential requirement for interaction analytics, as any deployment depends upon the nature of the business issue being addressed. Lots of budget is held with marketing, website or customer experience teams rather than at contact center level, although of course the contact center is a big part of many customers' experience of dealing with a company.

Some of the relevant job titles for each implementation type include:

Compliance:

- Legal
- Head of Compliance

Agent performance and QA improvement:

- Contact center manager/director
- QA team
- Training team

Contact center operational improvement:

- Head of Contact Centre / Customer Service
- Operations Director

Business intelligence and Voice of the Customer:

- Marketing
- Head of Insight / Transformation
- Head of Customer Service
- Customer Experience Director
- C-level

Revenue increase:

- Sales Director

Small businesses:

- CEO/COO.

In all cases, although the IT department tends not to be a key initiator, solution providers emphasize that their buy-in is needed at all stages of the process.

Having a senior and empowered contact within the business who knows what they want to achieve through customer contact analytics is vital to the success of the project. The champion must have a strategic view of what analytics can provide, as well as understanding the operational and technical requirements of the contact center and IT teams, and be able to deliver cross-functional business change.

It should also be noted, that post-implementation, well-trained and empowered supervisors, trainers and coaches are also key to getting and maintaining a positive outcome from the use of the solution.

Recent years have seen a new role emerge – Customer Experience Director or VP Customer Care – and it is often this type of job role that has the responsibility, knowledge and credibility within the organization to drive both the use of analytics, and more importantly, any cross-departmental changes identified as necessary by the analytical process.

Once the project champion and any cross-departmental working groups have been identified, along with a clear and realistic understanding what any implementation of analytics might be expected to do, businesses will then talk to vendors to understand if and how they can help, and to get further assistance with developing their business case, including return on investment.

Some milestones in the project include:

- Identify interested cross-functional parties in the organization and get a senior project champion
- Create subject matter experts: large contact centers can find a core user who will be able to manage the application and leverage their business knowledge to find trends and help other users. The quality monitoring team should also be equipped to handle the set-up of evaluation plans to send interactions to the coaches. Bringing in interaction analytics as a benefit to the organization should be based on feedback from supervisors, agents and QM staff
- Choose a specific area of improvement and benchmark the relevant KPIs (baseline analysis). This may be something to consider in trial mode as it is manageable, quick to identify, not reliant on other elements or affecting them, so a fair before-and-after measurement is possible
- Input from relevant departments into deliverables, explaining and agreeing what they have to put into this themselves
- Establish a steering committee to monitor success which should evaluate the use cases presented to make the most of an interaction analytics investment. This committee should include agents, as employee engagement and employee effort are an integral part of the program’s success
- Create a vendor longlist and have informal discussions with them
- Consider technical / data constraints, deployment model (in-house / cloud) and internal cultural preferences; build vendor shortlist / request for proposal

- Selection, including their ability to build an ROI model / proof-of-concept trial for you, plus referenceable sites if required. Check interoperability and willingness to work between incumbent recording vendors and new customer contact analytics vendors. Reference sites using same combination of vendors recommended if possible

- Deployment either as trial or full roll-out.

After gathering the data and running the analysis, organizations can still fall at the final hurdle by not actually doing anything with these insights. In many cases, it is the business culture at senior levels that is the sticking point: disagreements about priorities, squabbles about empire building and boundaries, and a short-term mentality can mean that businesses understand why they have problems but are reluctant or unable to do anything about it.

CLOUD OR PREMISE?

The deployment model – cloud or in-house – should of course also be considered. Some solution providers comment that multiple-site organizations are more likely to use a cloud solution, and several state that a significant majority of their new implementations are cloud-based. Figures at the end of this section of the report show how this has changed.

While most solution providers state that the functionality available in the cloud-based solution is similar to that in a CPE environment, there are some issues to consider:

- businesses in the finance and insurance industries have been particularly reticent about letting their data offsite, as are larger, high profile organizations, although the latter at least is changing. Regulations around where data is physically allowed to be stored must also be considered
- most CPE implementations have a significant element of upfront capital expenditure along with ongoing maintenance costs. Cloud-based deployments are likely to offer a reduced implementation cost, although some vendors offer SaaS-based pricing options even for CPE implementations
- cloud is usually quicker to deploy and applications and insights are accessible to everyone at any time on any device, with management of the solution requiring less internal time and resource
- 'Big Data' initiatives, which customer interaction analytics can be a part, draw data from many internal and external sources, and holding it in a single place within the cloud avoids the cost of purchasing and maintaining on-premise infrastructure, allowing the merging and cleaning of data sources in a single place
- the scalability of cloud allows smaller businesses to access the processing power that they need, with the opportunity to expand as the business grows or scale back if required
- cloud deployments mean that upgrades of functionality are handled automatically without the need to affect business continuity
- transmission of call recordings into the cloud is likely to require a large amount of bandwidth, unless calls are being recorded there in any case
- cloud-based deployment allows insights to be shared globally without the requirement for manual consolidation and sharing.

Many solution providers will offer a managed service approach to analytics deployment. This will usually consist of a dedicated analyst or team that will run analysis of a client's call recordings, and report back on insights and actions required. It will also provide any necessary updates to functionality, checking the health of the solution and the effectiveness of the analysis, and making any changes to topics, reports and general solution tuning.

A managed service approach can be particularly useful for certain businesses or circumstances:

- medium-size organizations may not have the necessary analyst or IT resource to use or maintain the solution
- in case of budget restraint or other internal inhibition, managed services can trial the concept and support a business case
- managed services may be used as one-off projects for root cause analysis, which will often lead to a full deployment. Some businesses, especially those in financial services, may use this for fraud investigation purposes and evidence production
- a managed service solution can include ongoing consultancy, which will keep the business at a cutting-edge, rather than allowing alternative business and IT issues to take their eye off the ball
- solution providers emphasize strongly that analytics takes energy and commitment, and it is vital to keep the momentum by reviewing and mapping out new projects and priorities, keeping queries live and relevant to maintain accuracy and build on what has been done before
- a managed service approach can wed the supplier to the customer, keeping the solution provider on their toes and making sure that they earn their money, making sure that the implementation is a mutual success.

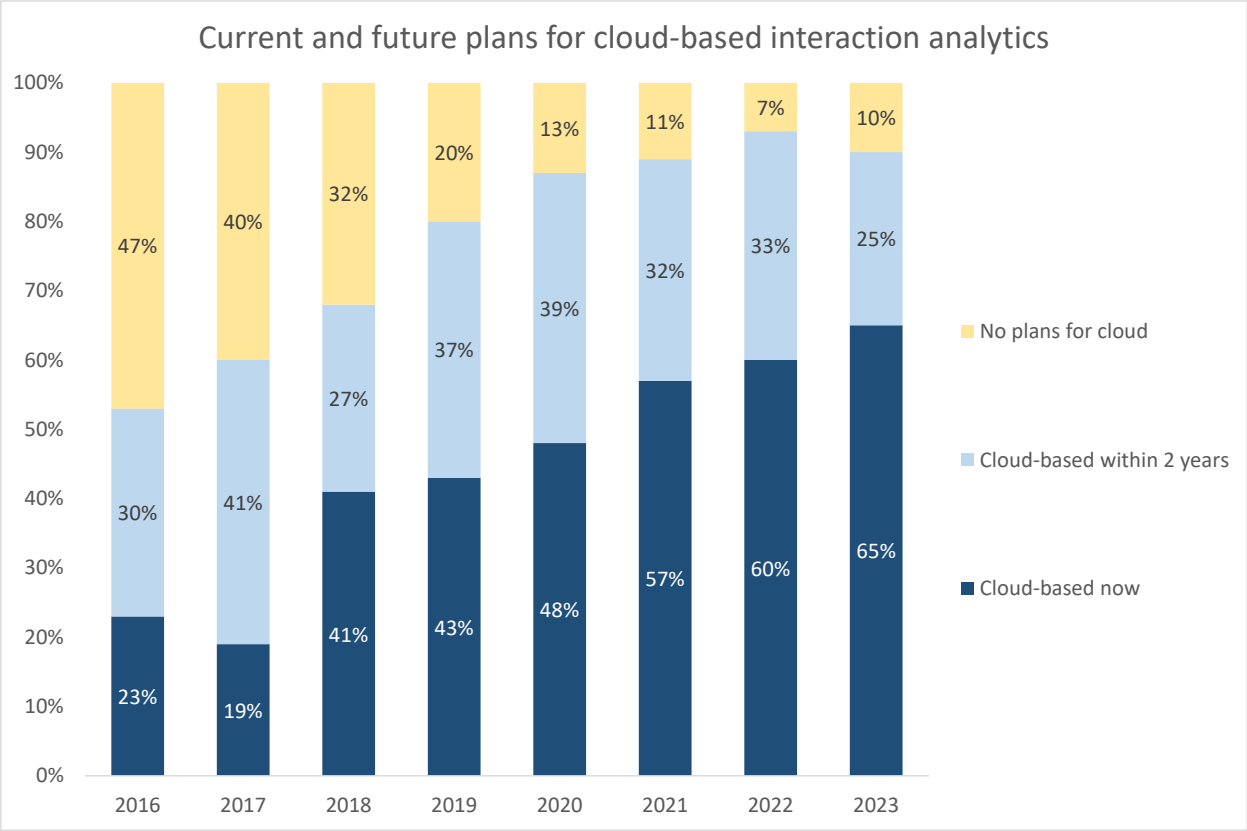
Depending on the contract agreed, a managed services solution can include a regular process of automatic subject discovery, caller intent, root cause analysis and improved categorization.

THE GROWTH OF ANALYTICS IN THE CLOUD

The chart below shows a definite pattern of moving towards cloud-based interaction analytics deployments.

While the expectation to move to cloud has not always been fulfilled entirely, those survey respondents with no plans to move to cloud – 47% in 2016 and only 10% in 2023 – have very much declined in number.

Figure 12: Current and future plans for cloud-based interaction analytics



IMPLEMENTATION

In many cases, customer contact analytics is integrated into an existing call recording environment, although some vendors report that a significant number of their implementations are occurring as part of a wider workforce optimization suite implementation. With 19% of UK and 21% of US contact centers that use call recording stating that they are looking to replace it (figures as of January 2023), there are significant proportion of implementations whereby analytics is included within a new recording environment.

For on-site implementations, additional hardware in form of servers will be required for audio processing and analysis, the number of which is dependent on the volume of calls and the speed which customers require the analysis to be completed by: a stack of servers might be required for multi-thousand agents and real-time monitoring, whereas a smaller and less process-heavy environment might only require a single server. Cloud-based deployments may require large-scale bandwidth to be made available to copy call recordings to the cloud, if cloud-based recording is not being used already (which it currently is in 73% of US contact centers).

As with any new technology or process, the key to successful adoption and usage is to start simple and build up to the more complex. Starting with a single use case such as compliance, or silence, or empathy, the use case can start building agents' 'muscle memory' in leveraging real-time, on-screen prompts as to the next-best action to take during live conversations. Once agents have absorbed that use case and are accustomed to that real-time guidance, more use cases can be layered on top as teams demonstrate the capacity to leverage more and more. This type of progressive approach also helps agents grow and perform better in their own right, ensuring real-time alerts are seen as true support features that drive improved customer experiences as opposed to annoyances that make it harder for agents to do their jobs.

PROOF OF CONCEPT AND SOFT-START IMPLEMENTATION

Most analytics vendors recognize the need of the business to prove the value of an investment and will provide a range of options for interested parties.

Many offerings include running a proof-of-concept implementation, where a specific issue or KPI is targeted, analyzed and the results acted upon, providing proof of the solution's ability to deliver ROI, and engaging the business more closely with the solution. Rather than rely on spreadsheets to demonstrate ROI, interaction analytics vendors are active in engaging potential customers with a real business issue, as a definite and measurable improvement after a trial period makes a fuller implementation much easier to sell internally. Such projects tend to last between two and eight weeks. They may be carried out at the customer's site, or the vendor can take a significant chunk of call recordings, analyze them and present the results and recommendations, thus proving the level of actionable insight that such solutions can provide.

The initial, well-defined business case will tend to be either around cost-reduction or revenue-enhancement, depending on the type of business, and larger contact centers will often be focused upon the former due to potential for economies of scale. For example, an operation with a large and inconsistent spread of call handling times might wish to understand why this is happening, with a view to improving it. The proof of concept could involve identifying that longer calls are far more likely to have the word 'charges' in them, which gives the business a point at which to aim. At this stage, vendors will carry out deeper analysis of these types of call – some will process the calls on the customer's site, others at their own facility – and will perhaps find out that customers are confused by the literature about charges being sent out to them, or that information about charges is not easily available on the website, either of which can be acted upon. Such a proof of concept shows that real results can be achieved, and gives the opportunity to train the business how to use the solution at the same time.

In order to prove the success of the initial project, it is necessary to benchmark before and after implementation, agree on the specific KPI or business issue, and calculate any benefit definitely accruing through the implementation. The pilot project is also an excellent place to identify and train people within the organization on how to use the solution and influence change management. Some solution providers also offer ‘Quick Start’ templates based around the needs of specific vertical markets or business issues (e.g. customer complaints, QA), that can be used as-is or be easily customized.

If for some technical reason, a CPE implementation is not suitable at first, some vendors offer a managed service solution. Although the levels of integration with the user's systems may not be what the more complex solutions would thrive upon, it serves as a base to introduce the benefits of analytics and to train users in how to get the best from it.

Analytics implementations benefit from further review and tweaking further down the line and vendor timescale estimates assume an existing technical environment that does not require any hardware or software upgrades, and that the incumbent recording vendor is open-handed with providing access to the recordings, if they themselves are not the incumbent. In the case of situations where analytics is being put in as part of a wider workforce optimization suite, implementation times will of course be longer. Interestingly, consultancies and system integrators are likely to estimate longer timescales for full implementation, compared to software solution providers, as they are likely to be providing professional services long after the software has been implemented, and point out that it can take many months of familiarization and fine-tuning before the full benefits are reaped.

Key activities for an implementation may include:

- Initial assessment - a non-technical, business-focused discussion with business champions around the existing processes and the goals that the business would like to achieve, matched with the capabilities of the speech analytics solution
- Operational assessment, where the processes of the contact center are observed, and system definition to assess the existing technical environment
- Preliminary targets and ROI estimates created based on baseline metrics
- Call categorizations, main dictionaries and reports are set up
- Out-of-dictionary additions and root-cause analysis, review of initial results
- Ongoing training of key staff in use of solution
- Review of key business, operational and commercial aims set at the beginning of the project
- Hand over to business and full solution activation if not done so already
- Post-implementation support - opportunity to quantify cost savings or other metrics, including review of trends.

As analytics is an ongoing, learning process, businesses should also bear in mind that there will need to be a period of training both for IT and business users, which will probably need to be repeated and revisited over time as the focus of the analytics solution changes.

Once the analytics solution is in place, what then? Businesses will have run through a proof-of-concept trial aimed at understanding and improving one discrete process or element, but after this, the flexibility and power of analytics can be fully explored.

Common pitfalls that businesses make with analytics implementations include:

- failing to engage all relevant stakeholders. Despite all the benefits of AI-powered analytics, a significant number of AI projects struggle to gain traction due to a lack of executive support
- not having a project champion with the vision or capability to carry out cross-departmental change or carry out internal PR to raise awareness and enthusiasm
- failing to pull data from all sources and not running comparisons against the data. For example, if an organization has 4 different databases in 5 sites and the data is not consolidated and filtered correctly, then that customer will end up with unreliable analytics – they won't be able to see the full picture. It's vital to tune your data systems continuously when in full production
- navigating the security and network teams can be challenging, as this data can have a huge impact on privacy and legislation such as GDPR. It is therefore important to address all of these matters prior to any pilot or proof of concept, and identify the key stakeholders for security, privacy, network and business analyst and assign champions

- failing to define the scope of the project, or benchmark the changes in relevant processes before and after implementation. Businesses should start slowly, and look for the quick wins so that they can familiarize themselves with the solution, and point to a track record of success using the solution when having internal debates
- choosing success criteria which are not measurable
- instead of hiring a new resource for the implementation, most organizations require the role to be shared by several people who can't necessarily give it the attention it deserves
- choosing projects that do not deliver significant business change: ask your agents which type of conversations they struggle with or the main reason they think customers get frustrated with your business
- treating this as an IT project rather than getting business analysts to define the objectives and follow through on project delivery. Analytics is not just about having people who can create queries and produce reports: they need to be able to make recommendations for changes within the business as well
- failing to put change management processes and action plans in place that are appropriate in size and scope to the insights emerging from the analytics solution
- not introducing the objective nature of interaction analytics as a benefit to the organization and to the agents that will be using it every day. Businesses must engage agent input from the start to make sure employees understand how analytics will benefit them personally as well as the company
- not having the in-house expertise available to take the solution beyond basic functionality. The use of managed services could alleviate this
- setting unrealistic expectations and over-committing to a ‘Big Bang’ deployment, before having had some measurable and definite success in a smaller and well-defined area, which would also have the benefit of introducing the business to the potential benefits, as well as teaching users how to get the most out of the product in a low-risk environment
- another pitfall results from data-driven decisions that aren't based on a thorough understanding of the user journey. Even though quantitative metrics reflects a true occurrence on the KPI dashboards, it might be deceptive not to dive deeper into the actual conversations. Focusing solely on quantitative measures while neglecting actual dialogues exposes businesses to the risk of making data-driven judgments that aren't based on an in-depth understanding of user journeys.
- not understanding and communicating internally that analytics can be a disruptive process, the end result of which may well be to change the status quo

- in full production, a major pitfall can be the natural language processing (NLP) taxonomy setup. Check that the solution can be customized to your product names, regional differences, customer slang, abbreviations, etc.

- choosing the wrong solution for the business process that is being solved. Complexity, functionality and ease of use should be matched to the issue in hand. For example, using a desktop data analysis module may be a more appropriate and cheaper option than speech analytics in some cases

- once the initial projects and goals have been achieved, it is important that momentum is not lost. Analytics requires dynamism and a continual revisiting and tuning of the solution, as the business environment is changing all the time

- AI analytics projects should plan for operationalizing the AI models' ongoing performance in a practical and cost-efficient way. The accuracy of data models and insights powering tools such as virtual agents needs continuous attention to compensate for changes in contact center interactions and its business environment, like a new market, product or pricing plan.

- Once in production the biggest pitfall is to ‘set it and forget it’ and to not realize that the dynamics of the interactions taking place with customers are ever-changing and can be affected by unknown forces. It’s critical to continue to analyze for new trends, new semantics, new issues, new solutions – and of course continue to optimize in the areas where you’ve already seen improvement and results.

Some solution providers have noted the one of the most common pitfalls to implementation is not having recordings of the required quality (e.g. excessive background noise, mono recordings so that the speaker cannot easily be identified, storage format or problems with coding/decoding). It may be necessary to upgrade recording solutions, or to improve the quality of the existing recordings.

It is important to reiterate that without having realistic, defined and measurable objectives set at the start of the project, and the will and capability to carry out any changes identified, any analytics project is unlikely to succeed.

MULTI-VENDOR ENVIRONMENTS

Businesses may be concerned about what happens when a new analytics solution is to be implemented in a different vendor's recording environment, particularly if recordings are encrypted.

Some recording vendors will provide data extraction tools which will export the audio data from the live production environment without endangering it (a risk that is viewed as being at various levels of importance within the speech analytics vendor community, depending on who is speaking), but this comes at an additional cost per seat and should be considered in any study of total cost of ownership.

Both solution providers and end-users have commented that getting the incumbent recording vendor to provide unencrypted audio data to the speech analytics vendor (which is often a competitor) can be a struggle in some cases and that this can cause delay, although there is usually a solution found in the end. In reality, there is little motivation for an incumbent call recording vendor to make things easy. Potential customers would be advised to talk frankly to both potential speech analytics vendors and incumbent recording vendors before decisions are made, and to gain firm assurances about such matters.

In some cases, the incoming analytics provider will also implement their own recording solution, which is used only for analysis of calls. Running two recording environments side-by-side negates the need to touch the recording production environment at all. In some cases, analytics is simply a part of a larger workforce optimization suite implementation, which would include recording, performance and quality management, workforce management and text analysis, as well as speech analysis.

MEASURING ROI

As part of the research for this report, hundreds of contact center professionals were asked for their views on interaction analytics, particularly about what would hold them back from implementing it. By far the most important issue raised was how to build a strong enough return-on-investment (ROI) case to get the required corporate buy-in.

Return on investment for customer interaction analytics can come from numerous sources, depending upon how the solution is used. Generally, it will come from the avoidance of a specific cost, (including the reduction of a risk in the case of compliance), or the increase in revenue.

The return on investment of customer interaction analytics used for compliance can at first glance be difficult to prove, but it is the avoidance or reduction in litigation and regulatory fines which can be placed against the cost of the solution. Large banks will have funds put away running into the tens of millions of pounds each year against the possibility of paying out, and any significant reduction in fines would pay for a speech analytics solution very quickly. In the UK, the banking industry had put aside several billion pounds to pay compensation for the mis-selling of PPI (payment protection insurance), and having the ability to prove that no regulations had been broken would have been of great use.

Most vendors have tools which can be used to estimate return on investment, often based on what they have seen in similar operations elsewhere, and they are keen to share them with potential customers. Vendors' own estimates of the time taken for the solution to pay for itself vary between 6 and 18 months.

Variables to be considered for ROI measurements include:

Cost reduction:

- Reduction in headcount from automation of call monitoring and compliance checking
- Understanding and minimizing the parts of the call which do not add value
- Avoidance of fines and damages for non-compliance
- Reduction in cost of unnecessary callbacks after improving first-call resolution rates through root cause analysis
- Avoidance of live calls that can be handled by better IVR or website self-service
- Reduced cost of QA and QM
- Understand customer intent. For example, an insurance company received a lot of calls after customers had bought policies from their website. Analysis was able to show that customers were ringing for reassurance that the policy had been started, meaning the company could immediately send an email to new customers with their policy details on it, avoiding the majority of these calls
- Lower cost per call through shortened handle times and fewer transfers
- Lower new staff attrition rates and recruitment costs through early identification of specific training requirements

- Identifying non-optimized business processes (e.g. a confusing website or a high number of callers ringing about delivery) and fix these, avoiding calls and improving revenue
- Discovering opportunities for self-service automation to lower the cost of service
- Finding the issues causing contacts, and then connecting these with actions to prevent them from happening in the first place.

Revenue increase:

- Increase in sales conversion rates and values based on dissemination of best practice across agents, monitored by script compliance
- Increase in promise-to-pay ratios (debt collection)
- Optimized marketing messages through instant customer evaluation
- Reduced customer churn through dynamic screen-pop and real-time analytics
- Increasing revenue opportunities through better personalization
- Quicker response to new competitor and pricing information
- Increase sales revenue by automating manual, non-revenue generating activity by identifying and improving self-service options
- Improving agent performance by linking issues impacting agents' performance with coaching opportunities
- Route specific customer types to the best available agents to optimize empathy by matching communication styles
- Some businesses assign a revenue value to an improvement in customer satisfaction ratings or Net Promoter Score®
- Understand and correlate call outcomes, using metadata and call analysis to see what works and what doesn't.

Also, the improved quality of agents, better complaints handling and improved business processes outside the contact center should be considered.

For example, if businesses keep measuring customer experience with post-interaction surveys, it might translate to low sample rates, not accurately representing the general customer sentiments. Without the right context, agent coaching may not be as effective or accurate. However, with customer interaction analytics powered by natural language understanding and looking at 100% of interactions, contact centers can feel these gaps, making the processes not only automated but also consistent and fair.

It is important for the CFO to see the customer data and brand loyalty as assets, and to consider the effect that complaints and general dissatisfaction have upon those assets. Analytics helps businesses to understand why these assets (i.e. the customer base) may be shrinking over time, and to put actions in place to turn that around. In order to get sign off on an analytics project, these benefits must be monetized.

Against these potential positives, costs to consider include:

- License fees or cost per call analyzed
- IT costs to implement (internal and external)
- Upgrade to call recording environment if required
- Bandwidth if hosted offsite: the recording of calls is usually done on a customer's site, so if the speech analytics solution is to be hosted, it will involve of lot of bandwidth, which will be an additional cost, especially when considering any redundancy
- Maintenance and support agreements, which may be 15-20% annually of the original licensing cost
- Additional users – headcount cost – decide who will own and use it; do you need a speech analyst; etc.
- Extra hardware e.g. servers
- Ongoing and additional training costs if not included
- Extra work generated by findings
- May need extra software to extract data from the call recording production environment, or convert mono to stereo recordings.

Any business case needs to be built with support from the potential end-users, understanding the specific key performance indicators that are important to them, rather than focusing on IT specific issues. Whatever the variables and factors that businesses choose to build the ROI and business case, it is important to gather benchmark data before the solution is deployed, so as to be able to quantify any change accurately.

If possible, use a ‘control and experiment’ approach: for example, one sales team carries on as they were, while the other may have their scripts changed or receive tailored training based on analytical insights. It is also important to get business users involved early in the process, giving them a key part in defining the right business case and the desired ROI.

DEVELOPING THE USE OF ANALYTICS

Once the implementation has been made, businesses then need to make sure the solution delivers what was promised, and hopefully this initial success will provide a platform for the analytics solution to be directed elsewhere.

Vendors strongly recommend that businesses put baseline measurements in place before any implementation takes place, such as how many calls are tagged with a particular issue. The vendor and customer implementation team monitor and suggest changes to processes and approaches based on findings of the initial analysis, and measurement post-implementation will quantify the cost savings or alteration to other key metrics.

If the initial use of analytics is successful, the business can seize the opportunity to use this enthusiasm and positivity to roll analytics into other areas. Analytics can deliver insight which is of use to other parts of the business as well as the contact center, and is an opportunity to demonstrate to the rest of the business that there is a wealth of information that can be mined to support the decisions that other departments have to make. Pointing to examples where customers are changing supplier due to superior products from a competitor, or where another business's marketing campaign is creating a high turnover in your customer base will grab the attention of senior decision-makers elsewhere in the enterprise.

To be successful, analytics must be integrated into the existing systems, processes and structure. Embedding it within the overall culture of the wider business is perhaps the surest way of ensuring success. At a contact center level, connecting analytics output with the quality management process means that the operation can find a place for analytics within their world, which will encourage them to consider it for business intelligence purposes later on. Businesses may also wish to consider solutions where analytics output is shown automatically across the organization, sharing dynamic reports and graphics on a regular or exceptional basis to business owners elsewhere in the enterprise.

Although every user's requirements from analytics will be different in some way, it may be useful to consider looking for some of the following key words and phrases:

- names of competitors
- obscenity or profanity
- names of your specific products or services
- references to management (e.g. "supervisor" or "manager") as this may indicate the customer is dissatisfied with the agent
- active opinion (e.g. "it would be good if", "I would like", "I want")
- key commercial words (e.g. "buy", "purchase", "interested in")
- phrases which indicate compliance, such as those found in the terms and conditions
- customer dissatisfaction (e.g. "I'm not happy", "I want to close my account")
- references to the agent's performance (e.g. "you've been really helpful", "rude").

Two examples of interesting, value-add opportunities that analytics provides are root cause analysis, and discovery.

'Tell-me-why' or root-cause analysis

Tell-me-why is a starting point for analysis. A business which knows it has a problem with its web self-service function can find out more about the problem through automated analysis of calls, rather than through asking agents directly or listening to recordings. Inputting 'website', 'web' or similar, searches the index of words or phrases and returns likely calls. Speech-to-text-based systems can search for other words in the conversation that occur frequently (without the need for users to predefine these searches in advance), and group them together into categories, rated by relevance, importance of words etc. (e.g. if 'website' and 'password' occur together far more frequently the usual, this is probably an area to explore further). The use of speaker separation – whether through having dual channels or using software-based algorithms – means that the system can differentiate the customer from the agent, giving a greater accuracy of results.

Discovery

'Discovery' is a term often used within the customer contact analytics industry, and refers to a deep, automated analysis of trends, patterns and results which are identified by the speech analytics solution rather than the knowledge or insight of the human operators. Discovery will help users to find calls that are similar to each other, perhaps through similar groupings of words or phrases, and explore these links to discover the issues driving them.

The ability to see trends – to know that the instances of the words 'website' and 'password' have increased by 2,000% this week compared to the norms of the past 6 months – quickly identify likely pain points for the customer and potential broken processes. The continual tracking and analysis of similar information or categories over time also allows a business to see whether the remedial action that they put into place has actually worked.

Many solutions offer AI-enabled automated discovery, and this is an area that is improving and becoming more powerful and effective, having huge potential benefits for businesses.

Of course, any analysis where the direct beneficiary is not the contact center must be properly aligned to the organization’s objectives and strategy, encouraging changes to be made to areas that have already been earmarked as needing improvement. Otherwise, if the focus is not aligned with strategic goals, information merely becomes ‘nice to know’, rather than actionable.

Interaction analytics has the ability to tear down the virtual wall between the contact center and other areas of the business, meaning that the business intelligence extracted can be shared and valued by parts of the organization that otherwise have little to do with the contact center. With the historical and ongoing difficulty in getting the business to value the customer contact operation fully, this can only be a good thing politically.

Some real-life examples of where analytics has delivered improvements include:

- an insurer improved first call resolution by over 6 percentage points by understanding and correcting how agents respond to specific types of denied claims issues
- Identifying the types of low-to-medium complexity calls that could be handled less expensively but still effectively via self-service channels. The result can be either reduced headcount or extended service hours
- improved sales conversions by 41% and collections revenue by 20% by identifying the skills that differentiated top performing agents from bottom performing agents, and then focusing training and coaching programs on those key skills
- analyzing and fixing back office processes that were generating unnecessary repeat calls and driving poor customer satisfaction
- highlighting the five key customer queries and developing FAQs for agents, which significantly reduced average handle time on these calls
- reducing call volume by 2% by identifying and fixing issues with the password reset process
- identifying opportunities in verbatim customer feedback to address specific customer segment needs, increasing sales by 30% the following year
- categorizing all customer calls by reason for the call and any subtopics, measuring agent performance (handle time, customer satisfaction rating, and issue resolution) by call type. Identified the type of calls that had excessively high handle time due to sub optimal customer identity verification, and improved coaching and training decreased handle time by an average of 36 seconds, saving $5 million per year
- determining that 57% of calls could be handled through a self-service web portal, but the customers were not aware that they could do this online
- quality program was transformed by providing targeted data on the major reasons for customer dissatisfaction
- discovering that only 2% of calls taken at night were critical, reducing headcount on the night shift
- reducing QA headcount from 40 agents to fewer than 10 by implementing automated scoring on 100% of calls.

Initial training

Solution providers offer courses for both technical and operational staff, targeted at specific user roles and responsibilities, including end-user, reporting, performance management, administration, and maintenance. There is often a choice of on-site or remote training. Ongoing support after implementation is standard for the industry.

Some solution providers recommend that there are always at least two or three people who are trained initially, due to job shifts and attrition. It may be the case that customers do not have anybody appropriate on-site to understand how to work with the output, so managed services is a good stopgap solution in this case.

Some solution providers offer packages that include pre-selected phrases relevant to that particular type of business, which means the initial discovery and implementation time is reduced somewhat.

Vendors offering a complete workforce optimization solution may have developed a new quality framework to assist customers to change and optimize their business processes in such a way that will get the most out of their WFO solution, with the analytics solution being one of several key elements. Analytics – including speech, text, desktop and customer journey – promises to deliver actionable insights at the organizational and individual level. Closer integration of the WFO modules means that a virtuous circle of positive feedback can be established: quality management discovers broken processes and agent training needs; workforce management and predictive analytics will feed into the recruitment and training programs; gamification impacts upon performance; customer journey analytics not only considers the contact center, but also the back office.

Ongoing resource

Vendors' opinions on the requirement for a full-time, dedicated speech analyst differ widely. Some of those offering solutions based on a phonetic speech engine state that an existing business analyst or member of a quality assurance team will be able to handle analytics as well, yet others state that the more a customer can put into the solution (e.g. a full-time speech analyst), the more they will get out of it.

The complexity and sophistication of the solution is only one element to this. Of more importance is what the business wishes to get from customer interaction analytics: managing compliance and improving the QA/QM process is likely to require less full-time support than an ambitious cross-department project to investigate and optimize business processes.

Vendors comment that centers with under 250 seats may see analytics handled by the existing QA team, those with up to 1,000 seats will often have analyst resource in-house already, and super large operations, possibly dotted across several sites, will almost always use at least one dedicated speech analyst.

Requirements for end-user resource depend to some extent on the delivery method: a managed service, by its nature will not require any resources apart from a business-focused liaison contact; a cloud model requires a business owner to specify needs and be able to gain insight from the system; a full CPE deployment is more likely to require two points of contact, one technical and the other business-orientated.

If businesses decide to have dedicated analyst resource, they may come from a specific business unit that is using analysis (for example, collections), the quality management team or an existing analyst function. It has been noted that people with a journalistic, enquiring nature may be best suited for this role, as understanding business transformation is key rather than being technically skilled. It is recommended that they have a certain seniority within the company so that their insights carry authority.

Having said that, for some solutions, a technical resource may also be required to write queries and create reports, although most solution providers have worked hard to make the presentation layer easier to use for business users and have delivered major improvements in recent years.

Analysts will write queries, listen to calls, carry out qualitative analysis and communicate and influence departments and business areas. By far the largest amount of time is spent analyzing data and communicating findings elsewhere, with only around 15 to 20% of an analyst's time said to be spent listening to calls. Of course, the purpose of the implementation makes a great difference to this as well.

Solution providers have tried to simplify and improve the usability of the analytical interface, aiming to get actionable performance-based information out of systems with less effort and training required. Along with new user interfaces, there are widespread efforts to help business users build queries, make changes to the system, write their own bespoke reports and interpret the output, trying to move away from the need to have a technical person sitting between the end-user and the solution. Many solution providers have developed their own templates or playbooks from their experience of helping other businesses achieve specific goals, which businesses can use to get quick wins within their own initial implementation.

Making the use of interaction analytics easier for non-technical people will make it more likely that the solution is used by other departments to address some of their own issues, such as hiring and candidate screening, determining which students are likely to drop out of a course, and detecting fraud (whether internal or external), as well as general commercial issues.

OTHER CONSIDERATIONS

KEY TERMINOLOGY

Like any technology, customer interaction analytics has its own descriptive language, and some of the more common words or phrases someone researching this industry would find include:

- **Speech engine**: a software program that recognizes speech and converts it into data (either phonemes – the sounds that go to make up words – or as a text transcription, although there are solutions which directly recognize entire spoken phrases and categorize calls based upon the occurrence of those phrases). Hybrid solutions benefit from phonetics' rapid identification of key words and phrases, while allowing in-depth discovery and root cause analysis by use of the transcription method. One possible way to use this is to analyze 100% of calls quickly with phonetic indexing, categorizing and viewing trends, then transcribing the calls that are identified as being of particular interest in order to conduct root cause analysis, without having to transcribe 100% of calls (which can require many servers in a high call volume environment)
- **Indexing layer**: a software layer that improves and indexes the output from the speech engine in order to make it searchable
- **Query-and-search user interface**: the desktop application where users interact with the analytics software, defining their requirements and carrying out searches on the indexed data
- **Reporting applications**: the presentation layer of analytics, often in graphical format
- **Business applications**: provided by vendors, these pre-defined modules look at specific issues such as adherence to script, debt collections etc., and provide suggestions on what to look for
- **Text analytics**: this solution combines the transcription of customer calls with other forms of text interactions such as email, web chat and social media. It then uses natural language processing models along with statistical models to find patterns
- **Desktop data analytics**: a solution that gathers metadata from agent desktop and CRM applications – for example, account ID, product order history and order value – and tags them to call recordings or digital records, enabling deeper insight.
- **Categorization:** the activity of grouping conversations according to user-defined topics, such as complaints, billing issues, discussions of specific products, etc. Agent capability can be viewed by these categories, suggesting specific training needs as well as identifying any required changes to processes. Categorization can be done by the business based on their own experiences and requirements, through using vendors' out-of-the-box categorizations for common analytics use cases, or by implementing AI and machine learning to find categories within the business's data
- **Discovery:** requiring a transcription-based solution, AI and machine learning will seek out phrases and words that are showing up in noteworthy patterns, showing how they fit together and how they relate to each other, discovering trends automatically

- **Metadata**: non-audio data, which may be taken from CRM, ACD or agent desktop applications, which is tied to audio recordings or other interactions, improving the ability to correlate, discover patterns and pinpoint specific types of interaction
- **Search:** if the analytics user knows what they want to find, the search function can return a list of calls with these words or phrases within them. Speech-to-text / transcription applications return the sentence or whole interaction so that the user can see the context as to how this has been used, offering the opportunity to run text analytics on top of this as well
- **Closed-loop analytics:** where also known as "closed-loop marketing", this activity involves tracking the entire customer lifecycle (i.e. connecting the initial contact all the way to the sale, and into ongoing support and post-sale activity), in order to draw actionable insights about how elements of the customer lifecycle impact upon sales success and marketing effectiveness. From a perspective more closely focused upon the customer experience, "closed-loop" refers to the continued, iterative use of automated alerts, follow-up of issues (e.g. through call-back) to support root cause analysis, and the identification and resolution of suboptimal processes.

ACCURACY, LANGUAGE AND DIALECTS

Speech-to-text solutions are measured by the word-error rate: how many words are incorrectly identified? A speech-to-text transcript of a conversation can appear wildly inaccurate to the reader, yet will often provide enough accurate reference points and keywords upon which to perform complex and insightful analysis. Potential customers should be aware that there is far more to a successful speech analytics solution than getting close to 100% accuracy for word recognition. Published industry data seems to indicate that the typical current transcription accuracy rate is around 80-90%.

Key measurements to understand, relevant to both phonetic and LVCSR solutions, are made up of precision rate (or accuracy), and recall rate (or detection):

- Precision/accuracy: a measure of correctness. If a search returns 10 items, with 7 of these results matching the search term, the precision rate is 70%.
- Recall/detection: a measure of completeness. If there were 100 instances of the phrase or word, and 60 were returned, the recall rate would be 60%.

If a solution has a high recall rate, but low precision rate – so that it identifies all instances of a phrase or word, but also a great many incorrect results – it is described as having a high number of 'false positives', which can be a particular problem for real time monitoring, where messages to the agent's screen or process initiation can be triggered automatically by the solution.

Phonetic approaches will tend to have high recall rates, as there are many phoneme sequences they can be matched, but with correspondingly lower precision. Transcription will tend to have higher precision since searches are more likely to contain the actual words or phrases that were said, but may have lower recall rates due to word recognition errors.

The balance between precision and recall depends on what the analytics is being used for. If businesses want to find what is being said about a particular type of call, such as those mentioning the word "website", it does not matter too much if a few are not identified, meaning that lower recall rates can be traded for higher precision rates, thus reducing the need to filter out false positives.

If there was a case of fraud detection or evidence production, which required every instance of somebody's name to be identified, then recall rate would be dialed up to maximum so as to minimize the chance of missing any matches.

Solutions can be set at a certain confidence level (i.e. confidence that there will be no more than x% of results as false positives or negatives), depending on the business need, as some issues, such as compliance, require very high confidence levels to be maintained.

When considering which solution to implement, customers should ask not only about the accuracy of the solution, but also about the recall and precision rates.

The call recording environment also has a significant part to play in these results, as digitally-recorded, stereo/dual channel recordings, or software-enabled speaker separation will provide more opportunities for the speech and analytics engines to identify words and phrases correctly.

In businesses with multiple global operations, customer interaction analytics solutions will of course require different searches and dictionaries for each language, but it is possible to unify reporting across languages if required.

If a business has multiple contact centers speaking the same language but with very different accents (for example UK English and US English), it is possible to use the same language model. However, for accents which are very different and has its own cadences and rhythms – for example, Indian English – a different language model may be required, although all the audio can be analyzed centrally within the same application.

Although analytics has become mainstream, especially in large-scale contact center operations, the ability to gain actionable insight from multiple streams of data connected with the customer and the organization still has a very long way to go. Improvements in integrating data sources, as well as the application of artificial intelligence and machine learning mean that interaction analytics can still be thought of as still in its infancy. While speech recognition accuracy will certainly improve, and the user interface become simpler to use (allowing business users to gain greater benefit), the improvements in functionality will not stop there.

More organizations are realizing what a vast, untapped and rich resource that their contact center data is, and have begun to leverage those insights to drive business performance improvement across a range of departments. For example, when sales teams better understand prospect and customer interactions they can shorten sales cycles, improve close rates and generate higher revenue. This mindset is being adopted in other areas of the enterprise, such as finance, product, marketing, and more. We expect more and more enterprises to apply the benefits of analytics in the contact center and beyond.

Artificial Intelligence

Artificial intelligence (AI) does not require structured data in order to make sense of work, and can also self-learn, improving its performance over time. The capabilities of AI allow solutions to read unstructured information, such as email, understand the sense of what is being said, and route the work appropriately. As the AI has access to the entire customer contact solution, it is capable of noticing in real-time whether other customers have the same issues, which is something that even the best contact center agent is unable to determine.

AI can also act as support to an agent while on a call, providing them with relevant information about the customer and their case, and advising them upon different routes the conversation can take. Although there is some discussion about AI identifying and acting upon emotional prompts from the customer, the reality is that agents will still be required to handle complex and high-emotion interactions.

As AI becomes integral to the contact center, there is a growing need for human agents to have the training and skills to operate and extract value from AI. Over the next few years, we expect contact center roles to evolve to enable agents and supervisors not only to operate AI but also be the custodians of automation. The success of AI will be largely dependent on the acceptance and competent use of AI-powered tools by contact center staff.

From self-service perspective, AI avatars/chatbots/virtual agents can attempt to answer customer questions, escalating to a live agent if the required confidence levels are not met. It can then learn from the human agents responses, making it more likely that it will be able to provide the right answer next time.

Using AI for analytics will allow the business to provide customers with service before they even require it. The AI will be able to predict what the customer is likely to meet next, based upon analysis of other customers with similar circumstances in the past. This move to proactive customer service is a step further than what is currently widely-used – automated emails or SMS providing an update about delivery times, for example – anticipating sources of frustration or the need for assistance before the customer has even realized it, on a personalized basis. Machine learning – which will be able to identify patterns within data automatically, without requiring an analyst to direct it – will give analytics even greater scope and power.

Moving beyond predictive analytics, prescriptive analytics will help businesses understand how they are going to remedy a business problem based on the data that has already been collected and analyzed. This is where the adaptability of machine learning comes into play in terms of helping to map out a business's next move, including simulating scenarios based on facts and probabilities rather than a business leader's instinct.

The next level to analytics is unsupervised clustering powered by machine learning models that learn and uncover hidden patterns without human help, grouping words, questions, and phrases with similar meanings. And all this data is more efficiently cleaned through AI-powered anomaly models that identify items, events, or observations that do not conform to an expected pattern or other items in a dataset.

Additionally, AI is helping to discover and surface semantics that brands would have never thought of or discovered otherwise, advancing what's already being looked for within customer interactions through manual human action. This not only provides more data to inform business decisions, but also helps organizations take action on a wider range of conversation indicators and keywords.

Holistic Analytics

The Internet of Things (IoT) could give businesses enormous amounts of data from customer devices, from which only automated analytics would be able to draw insight. Online devices that report faults or events that would require action from a company could be linked with business systems (e.g. finance, distribution, sales, etc.) in order to identify and rectify problems without the customer even having to become directly involved themselves. Analysis of the customer's history and any issues relevant to the product or service mean that proactive service could be provided based upon knowledge of the most effective resolutions that had occurred in similar cases in the past.

The future will see customer conversation insights informing every area of the enterprise including, finance, marketing, sales, product, support – even M&A decisions. AI and machine learning technology will improve and get more effective as companies start to leverage these insights, show results, and create a virtuous loop of feedback to inform even further 'beyond the contact center' performance improvements.

Customer Journey and Omnichannel Analytics

The earlier sections on customer journey and omnichannel analytics indicate that these functional areas expect strong growth as the importance of digital channels continues to increase. The siloed nature of contact center operations is slowly but inexorably breaking down, allowing businesses to take a customer's eye view of the actual experiences that take place. The use of analytics will spread from the voice-centric contact center world into the back office, as well as digital channels. Business processes outside the contact center will be analyzed, especially where they impact directly upon the customer's overall experience, giving companies an opportunity to identify bottlenecks and broken processes that would otherwise be hidden from the contact center itself. Analytics' capability of understanding unstructured data from all channels and environments will increase, supporting an all-around view of the customer and their experiences.

Many solution providers state that they are actively increasing the power and range of the analytics solutions not just within live contact channels such as chat and voice, but also within automated IVR environments as well. This can be used to adapt and personalize the IVR experience in real-time to suit the customer's behavior and preferences, and also to detect and manage fraud.

As more and more use cases in enterprises are handled through conversational AI, and services become largely managed on auto-pilot, it is becoming mission-critical to continuously measure and track interactions, and monitor the bots' performance and ROI. More than that, only a deep and detailed understanding of all communications allows to identify friction in the processes and optimize automated interactions to improve CX. With the ongoing rise of transactional bots (meaning bots that cannot only provide information or route customers to a service agent, but deliver end-to-end services), virtual agents become an essential part of the value chain and directly impact costs, customer retention and more. As a consequence, tracking and optimizing bots moves to the center of attention and powerful analytics becomes indispensable.

One of the key benefits of AI is its ability to automate repetitive processes and workflows that previously required human effort, like identity and account verification, tracking orders, billing, and other routine customer inquiries—that would typically require valuable human agent time. AI can discover unknown friction points in the customer journey by quickly analyzing vast amounts of data. Using that knowledge, contact centers can enable faster, more accurate solutions and streamlined, connected workflows for the type of frictionless experiences customers expect today.

The Democratization of Analytics

The use of interaction analytics in small operations is currently limited: the solution provides most effective insight when it has vast quantities of data to analyze, and cost pressures on smaller operations are generally more severe. Some solution providers are tailoring their offerings to provide entry-level analytics functionality, particularly around the areas of QA, with the longer term view of developing these businesses' use of analytics to address business intelligence as well, with the uptake in cloud-based solutions further helping the widespread use of interaction analytics.

ABOUT CONTACTBABEL

ContactBabel is the contact center industry expert. If you have a question about how the industry works, or where it's heading, the chances are we have the answer.

We help US and UK contact centers compare themselves to their closest competitors so they can understand what they are doing well, what needs to improve and how they can do this.

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