



THE US CONTACT CENTER DECISION-MAKERS' GUIDE 2016

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“The 2016 US Contact Center Decision-Makers’ Guide (9th edition)”

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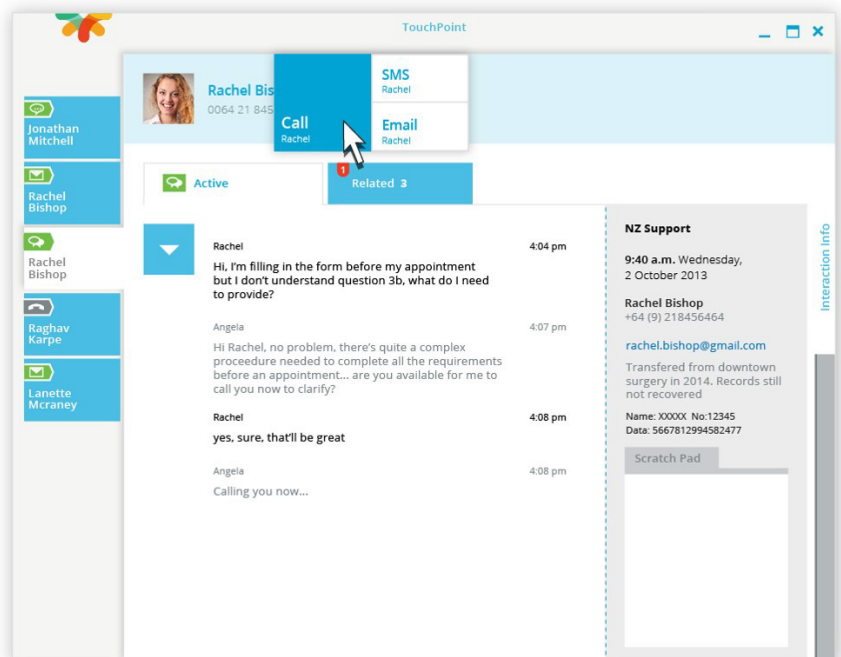
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Enghouse Interactive (www.enghouseinteractive.com) delivers technology and expertise to maximize the value of every customer interaction. The company develops a comprehensive portfolio of customer interaction management solutions. Core technologies include contact center, attendant console, predictive outbound dialer, knowledge management, IVR and call recording solutions that support any telephony environment, on premise or in the cloud. Enghouse Interactive has thousands of customers worldwide, supported by a global network of partners and more than 700 dedicated staff across the company's international operations.

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INTRODUCTION AND METHODOLOGY

The *"US Contact Center Decision-Makers' Guide (2016 - 9th edition)"* is the major annual report studying the performance, operations, technology and HR aspects of US contact center operations.

Taking a random sample of the industry, a detailed structured questionnaire was answered by 221 contact center managers and directors between March and June 2016. Analysis of the results was carried out in June 2016. The result is the 9th edition of the largest and most comprehensive study of all aspects of the US contact center industry.

ContactBabel is grateful for the support received from the report's sponsor. However, complete editorial independence has been maintained at all stages, and readers can be confident about the objectivity of the report's findings. Where a sponsor's opinion is given, it is clearly marked as such.

HOW TO USE THE REPORT

"The US Contact Center Decision-Makers' Guide" identifies six of the major pain points and issues that affect the contact center industry:

- Improving quality and performance
- Maximizing efficiency and agent optimization
- New media and the customer of the future
- Increasing profitability
- HR management
- Strategic directions.

Within each section, specific solutions are identified that can be used to solve these issues, along with the analysis of the primary research data that are relevant to this area, including a comprehensive statistical analysis in graphical and tabular form.

Third-party White Papers, case studies and thought leadership pieces may also be used to assist readers who may wish to look more in-depth at specific areas or gain another viewpoint.

The report also contains a Supplier Directory, of organizations which provide services, products and solutions to the US contact center industry, divided by discrete category.

SEGMENTATIONS

Looking at industry averages for contact center statistics is only so useful. Only with a clear understanding of how and why metrics differ between operations can readers see where they stand compared to their competitors. As such, key statistics have been segmented in many different ways where relevant and possible:

- by vertical market (industry sector)
- by contact center size (agent positions)
- by contact center type (e.g. inbound/outbound).

We may also segment data along other lines (e.g. sales / service) where possible and relevant.

VERTICAL MARKETS

Where possible, we have segmented and analyzed data along vertical market (business sector) lines, to highlight the specific issues and environments particular to that vertical industry. Below are the nine vertical markets studied within this report which had sufficient respondents to justify inclusion.

Figure 1: Vertical market definitions

Vertical market	Sub-sector examples
Finance	Banks, credit cards, loans, debt collection, credit checking, corporate
Insurance	Insurance for medical, life, motor, house, corporate, reinsurance, etc.
Manufacturing	Mainly B2B sales and support, along with customer helplines
Medical	Hospitals, pharmaceuticals, medical supplies
Outsourcing	Large full-service outsourcers/BPOs and telemarketing firms
Public Sector	Government (federal, state and city) agencies, emergency services/911
Retail & Distribution	Retailers, home shopping, mail order, parcel carriers, logistics
Services	Non-physical service offerings to public and business
Technology, Media and Telecoms (TMT)	Technology sales and service; Cell and fixed line telco, TV, satellite and cable providers; Broadband/ISP; triple/quad play

SIZE BAND

Almost every survey question is considered from the size aspect, as differences in resources, management techniques and technology vary greatly between size bands.

Contact centers surveyed fit into one of three categories:

- Small - 10 to 50 agent positions
- Medium - 51 to 200 agent positions
- Large - over 200 agent positions.

CONTACT CENTER TYPE

Whether a contact center is predominantly inbound or outbound can fundamentally determine how the contact center is run. Therefore, we sometimes analyze data by contact center type:

- Inbound: at least 75% of activity is inbound
- Outbound: at least 75% of activity is outbound
- Mixed: less than 75% of activity is either inbound or outbound.

THE STRUCTURE OF THE DATASETS

The data provided by the 221 contact centers interviewed in this study were broken down into discrete segments:

Vertical markets

- Finance - 28
- Insurance - 14
- Manufacturing - 16
- Medical - 23
- Outsourcing – 37
- Public Sector - 16
- Retail & Distribution - 13
- Services – 44
- Technology, Media and Telecoms (TMT) – 30.

Size bands

- Small (10 to 50 agent positions) - 99
- Medium (51 to 200 agent positions) - 46
- Large (200+ agent positions) - 76
- Did not answer (not included in size analyzes) - 4.

Inbound / outbound

- Mostly inbound (75%+ inbound) - 148
- Mixed (between 25% and 75% inbound and outbound) - 48
- Mostly outbound (75%+ outbound) – 25.

Sales / service

- Mostly service (75%+ service) - 157
- Mixed (between 25% and 75% service and sales) - 37
- Mostly sales (75%+ sales) - 27.

DISTRIBUTION AND USE OF THIS REPORT

This report is written for the community of people interested in the present and future performance of the US contact center industry. Amongst others, these may include:

- Contact center managers and directors
- HR managers and directors
- Operations managers and directors
- Customer service directors and those involved in contact center strategy
- IT managers and directors
- Contact center solution providers: hardware, software & services
- Outsourcers
- Consultants
- Training providers
- New entrants to the US contact center industry
- Government bodies
- Academic institutions
- Contact center industry organizations
- Regional & national development/inward investment agencies.

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IMPROVING QUALITY AND PERFORMANCE

Within this chapter, methods and solutions are discussed that improve the quality of the customer experience and allow the contact center to gain insight into each customer and agent to improve their own business strategy.

Topics include:

- Multichannel Workforce Management
- Interaction Recording
- Interaction Analytics
- Quality & Performance Management
- Gamification
- Desktop Automation & Analytics
- Customer Experience Measurement & Improvement
- Headsets.

MULTICHANNEL WORKFORCE MANAGEMENT

Workforce management solutions have to deal with environments which have become much more complex, in order to cope with the reality of the work that is being presented to agents. For example, all agents require good listening ability, familiarity with keyboard and IT skills and a knowledge of the business they are working in, but more now need a pool of in-depth and specific skills to be available in order to satisfy customers fully, including:

- Familiarity with either specific customers (e.g. account management) or customer sub-sets (e.g. commercial vs. domestic products)
- Specific product or technical knowledge
- Right level of experience and empowerment for the customer (e.g. “gold-card” customers may demand single-call resolution, meaning senior agents must take the call)
- Language skills (both in domestic and international markets)
- Ability to deal with multichannel interactions (either in real-time - such as web chats - or offline, such as emails).

Fulfilling service levels while managing costs is an iterative cycle, requiring several key processes to be completed. Feedback from each stage means that the enterprise can continually improve its efficiency and become more confident in future predictions.

The modern contact center not only requires the basics of having enough people to answer the phone in a reasonable amount of time, but is increasingly demanding more sophisticated functionality, such as the ability to forecast and schedule agents within the daily activity, accurately staff across both multichannel and voice interactions, and include back-office activities within scheduling as well where relevant.

FORECASTING

Before any staff planning can be done, an enterprise first needs to understand what has happened in the past. A solution which provides historical data from entire customer contacts means that scheduling can take place in a more realistic way. Enterprises should also be able to factor in exceptions, such as advertising campaigns, training and public holidays, view when the best time for a meeting or training session will be, and measure the impact on the rest of the contact center. Running regular hypothetical 'what-if' scenarios can show a scheduler how alterations to shift-patterns would impact performance, as well as assisting in business continuity by seeing what would happen in a flu epidemic, for example.

A great deal of unnecessary agent work can be removed by identifying the types of calls that are being received, and determining whether these could be reduced further up the line, in the departments whose work actively affects the volume and type of calls received, e.g. marketing or IT (for the website). As such, workforce management is increasingly being used as part of an overall quality or performance optimization suite, which can include quality monitoring, speech analytics, HR management and training as well as the traditional workforce management forecasts and schedules, as all of these factors affect each other.

For example, understanding when and how other departments will be operating means that workforce management tools can be used to forecast and schedule accordingly (e.g. a new TV advert may trigger a wave of specific calls). Additionally, contact center management is able to brief agents - via a desktop broadcast if at short notice - about the correct responses and issues, as well as changing IVR prompts and messages to provide answers to the simpler questions, as well as managing agent skill-sets for relevant call groups.

Businesses should look for flexibility in forecasting functionality: situations can develop very quickly which mean that forecasts can become useless without the ability to alter schedules dynamically even at an intraday level to reflect reality.

SCHEDULING

Scheduling is not as simple as it may seem at first glance. The enlightened enterprise takes agent preferences and skill sets into account when scheduling. The “standard agent” approach to solving resource issues (i.e. treating one agent the same as any other) will cause problems with both agent satisfaction and customer service levels. Most companies using advanced workforce management software will have between six and nine skill-sets to work with, although a few contact centers use as many as 50.

A scheduler will have to find the best way to match the company’s requirements with those of its employees, and agent self-scheduling functionality - which allows an agent to bid for and choose specific shifts and vacations - is not only helpful in terms of forecasting, but has a demonstratively positive effect on agent morale and attrition rates as well.

Scheduling can get particularly complicated in a multimedia environment which usually has agents with multiple media-handling skills (e.g. voice, e-mail, web chat etc.) and multiple business abilities (e.g. sales, service, product knowledge, languages etc.), and which may well be operating within a blended environment.

ADHERENCE AND REPORTING

Adherence is the ability to compare forecasts with reality, and learn from mistakes. Sophisticated scheduling and forecasting is useless without the opportunity for improvement brought about by adherence monitoring. Real-time adherence allows managers to see exactly what is happening, and can alert them to deviations from the expected activity, allowing them to make changes before problems occur. Adherence allows a business to fine-tune its contact center activity, and the more it is used, the more accurate forecasts and schedules become.

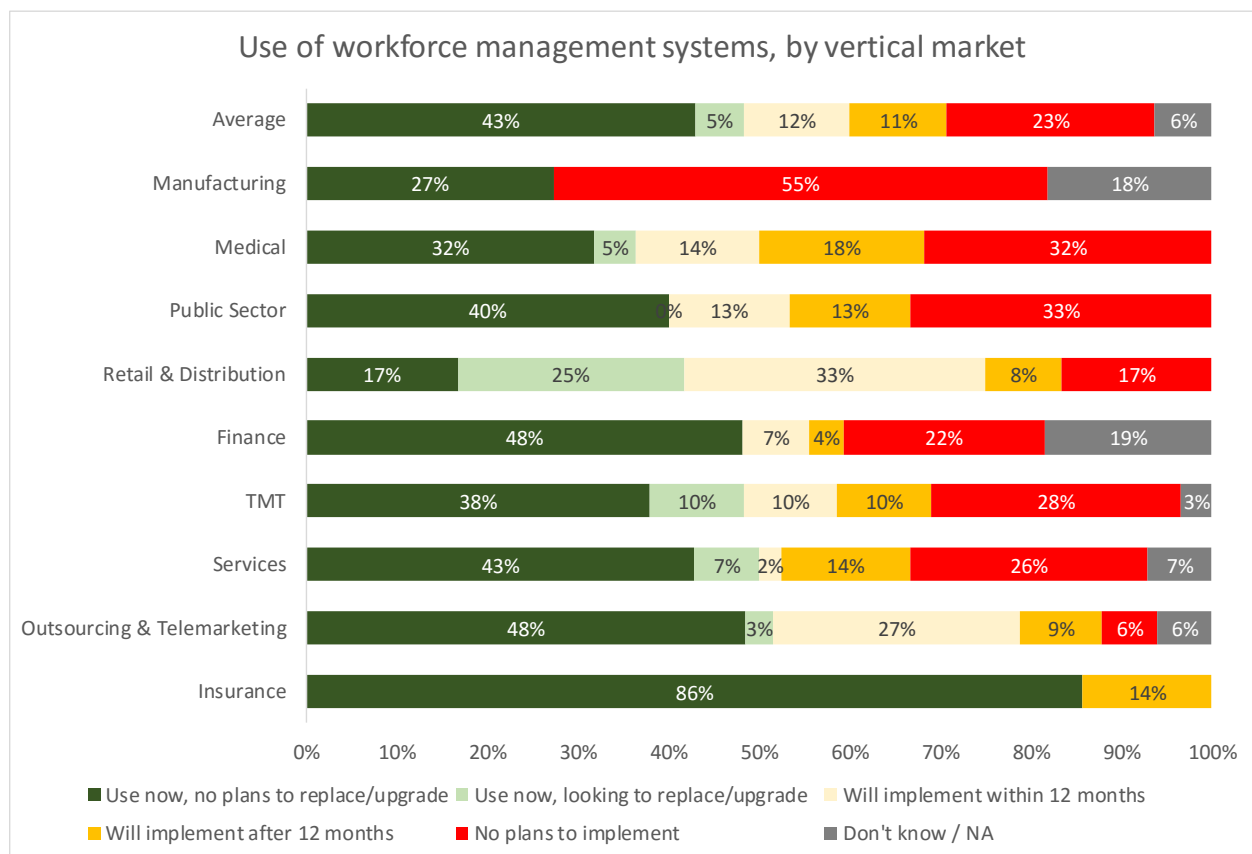
This is another area where the cerebral activity of traditional workforce management has become more dynamic. Real-time reporting on schedule adherence, and the ability to access this information through a web browser or mobile phone means that dynamic changes can be made to the system, with automated intraday changes being used increasingly, taking away the need for human intervention.

WFM solutions enable contact center managers to monitor and manage agent performance in real time by monitoring the status of an agent's activity (for example, time spent logged on, against planned work schedules), even if the agent is working remotely. Agent adherence and non-adherence can then be acted upon quickly, and used to support performance appraisals.

Workforce management systems are common in contact centers, with a penetration rate of 48% industry-wide. Of these users, 10% are actively looking to replace their WFM solution, and a further 12% indicate that they are likely to implement a system for the first time in the next 12 months.

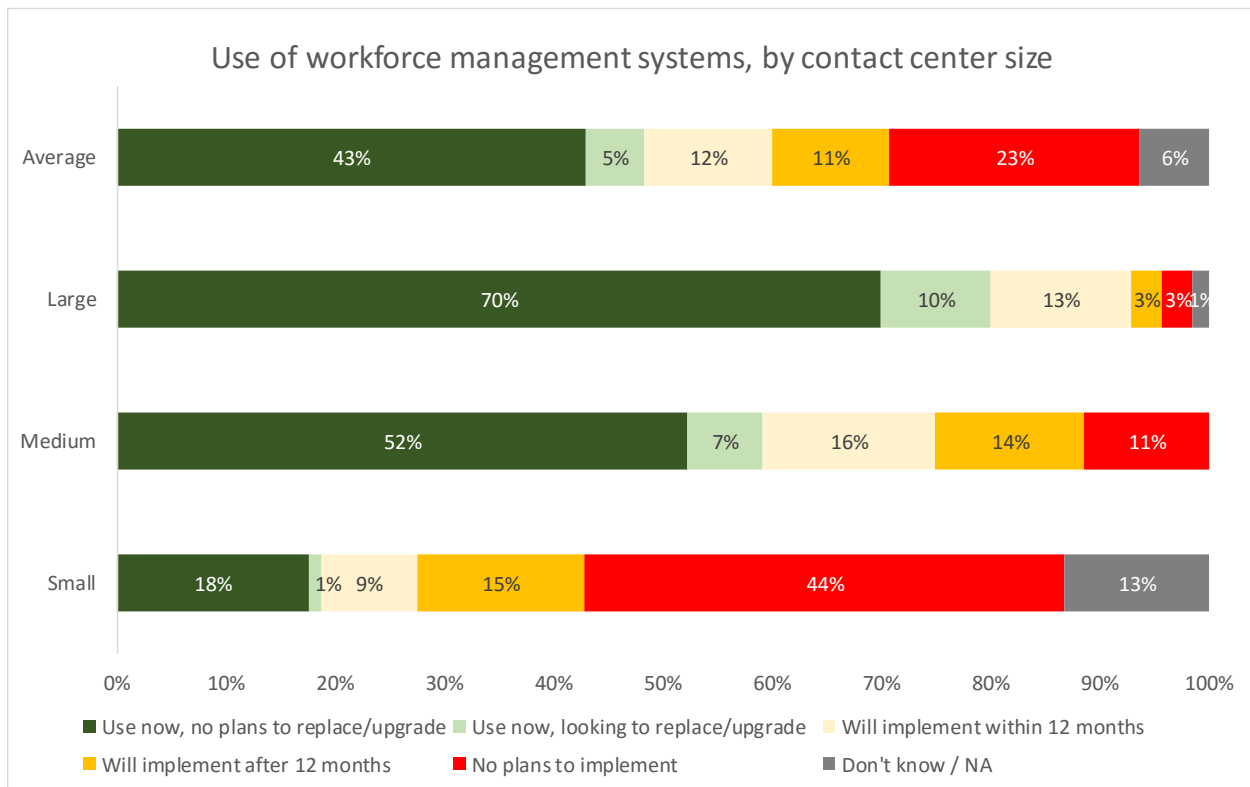
Due to relatively small sample sizes of some of the vertical markets, the figure below should be treated with appropriate caution. However, it is worth noting that as seen elsewhere in the report, the more B2B-focused vertical markets such as manufacturing are more likely to schedule and forecast agents on an ad-hoc, manual basis, rather than using a third-party workforce management solution.

Figure 2: Use of workforce management systems, by vertical market



Small contact centers have traditionally been less likely to have implemented workforce management, due to issues over cost, complexity and whether it was even necessary in small operations. Recent years have seen opportunities via cloud / SaaS (software-as-a-service) models, as well as subscription-based pricing alternatives, which enable accurate forecasting and scheduling options for smaller contact centers. However, there is still a distinct difference between workforce management penetration rates in small contact centers (19%) against large contact centers (80%).

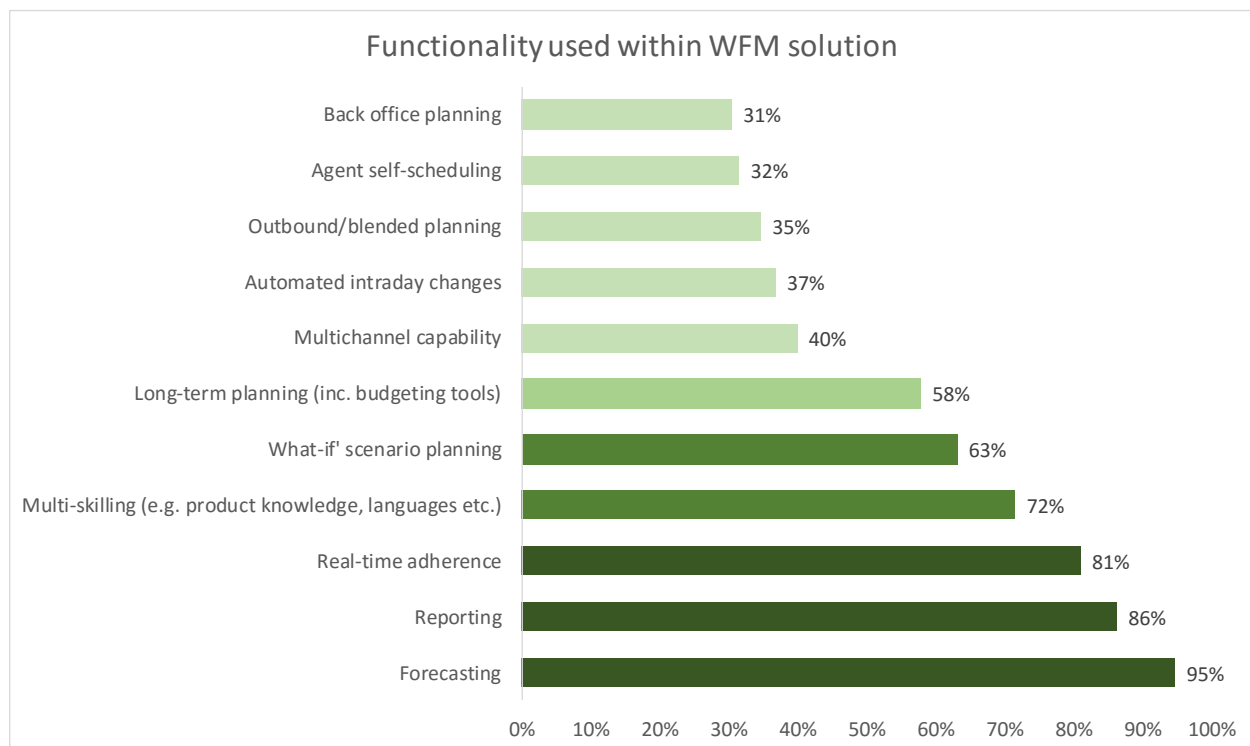
Figure 3: Use of workforce management systems, by contact center size



With 10-15% of inbound interactions being email for many organizations, and a substantial proportion of contact centers stating that customers speak with knowledge-workers elsewhere in the business, it is no longer enough for a workforce management system to forecast and schedule based only on voice calls taken by the contact center.

Respondents who said that they used workforce management solutions were asked which functionality they actually used (as opposed to what was bundled in with the solution, but which was not used).

Figure 4: Functionality used within WFM solution



As would be expected, forecasting and reporting scored very highly, with real-time adherence to schedule and multiskilled forecasting/scheduling also seen as being very useful.

Over half of respondents used workforce management solutions for more strategic aims including 'what if' scenario planning and longer term forecasting.

Only around a third used agent self-scheduling, which can be seen as a potential win-win for both agent and scheduler, in that it provides a more realistic schedule as well as giving the agent an element of control over when they wish to work.

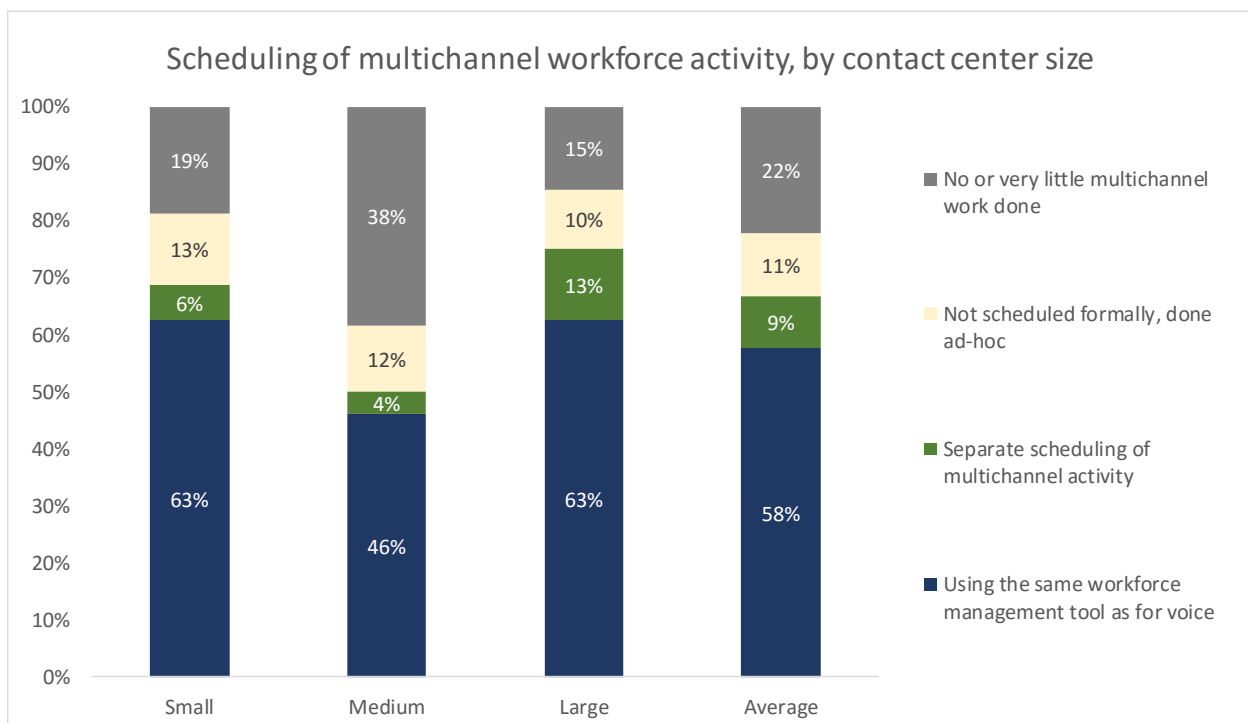
Similar proportions used more recent forms of functionality such as multichannel scheduling, automated intraday changes, blending, and back office forecasting and scheduling.

63% of respondents from large contact centers use a combined voice and multimedia workforce management application, with a minority of these types of respondent using an ad-hoc approach. This year's respondents do not indicate a major difference between small and large operations.

There has historically been a noticeable use of standalone forecasting and scheduling for multichannel activity, usually in larger operations which may run their non-voice operation as a separate part of the customer contact environment, and for whom this segregated approach would make sense.

Small contact centers that handle multichannel work are most likely to take an ad-hoc approach, depending on volumes of calls or multichannel interactions, although these proportions are lower than previous years.

Figure 5: Scheduling of multichannel workforce activity, by contact center size



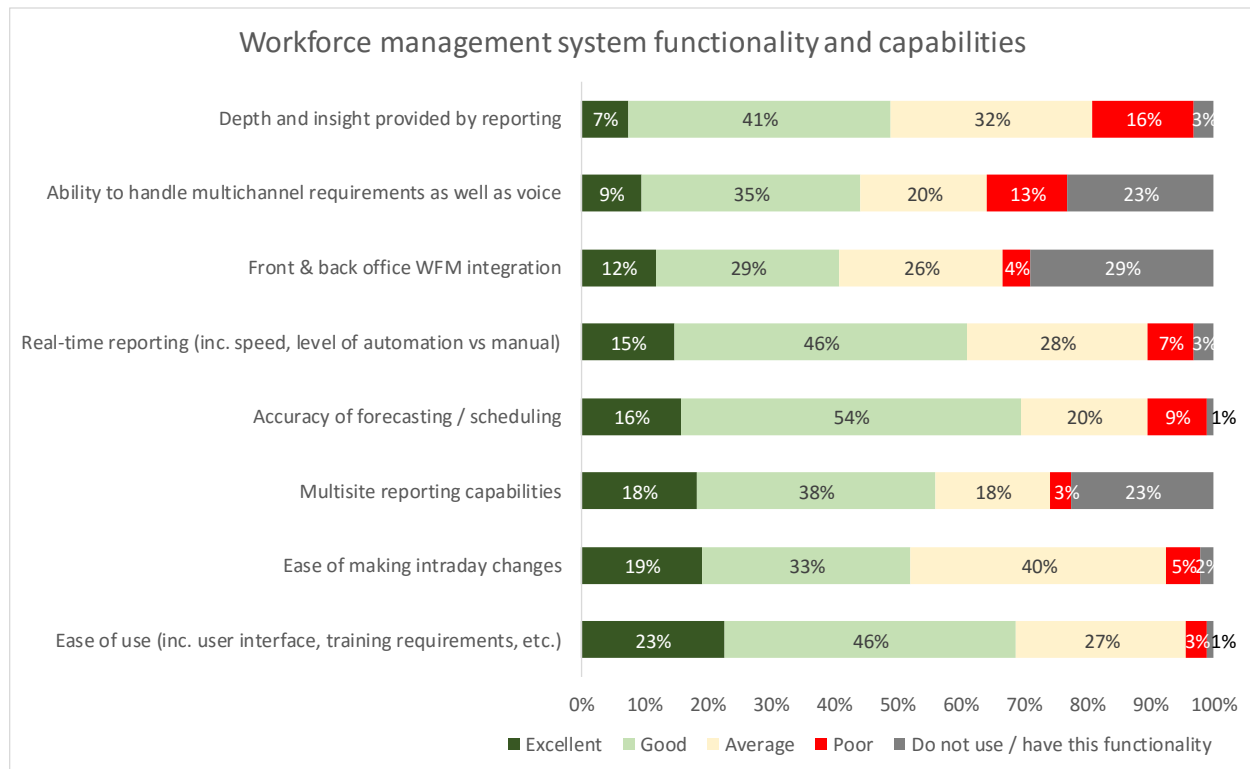
Respondents were asked to comment upon their opinion of the functionality and capabilities of their workforce management system as it stands.

The positive news is that the majority of respondents find the solution easy-to-use, with the accuracy of forecasting and scheduling generally seen to be either excellent or good. As workforce management has been around for many years, these characteristics should by now be part of a good workforce management solution's DNA.

While there are relatively few respondents who commented negatively about any functionality (i.e. actively rating it as 'poor'), it is our view that functionality graded as being 'average' should be viewed in a similar context to 'poor', in that no organization or business should be satisfied if their products or services are merely rated as average by their customers.

Looking at where respondents believe that there are gaps in their system's functionality, the integration between front and back office (of concern to 50% of large operations), the ability to handle both multichannel and voice requirements and concerns over the depth and insight provided by reporting are the three main areas of concern, although there seems to be room for improvement across the board.

Figure 6: Workforce management system functionality and capabilities



INTERACTION RECORDING

Call recording and monitoring may have been around for a long time, but are still at the forefront of the battle to improve quality and thus customer satisfaction and loyalty. The new generation of interaction recording solutions brings the whole contact center into play, potentially gaining at several levels of the business through using the solution in different ways.

Recording solutions have moved on from the days of simple bulk recording, and the phrase 'call recording' is no longer an accurate description of the solution, and it is certainly more realistic to talk of 'interaction recording', which captures and synchronizes what is happening on the agent's screen with what is happening in the audio channel, and allows recording of after-call work, email and web chat, and can be used to identify areas of workflow improvement.

The new generation of interaction recording solutions brings the whole contact center into play, potentially gaining at several levels of the business through using the solution in different ways.

The traditional user of interaction recording solutions has been the contact center supervisor or team leader. The **supervisor** deals heavily with quality monitoring at the agent and team level, using the recording facility along with data about the call (e.g. call outcome) to provide examples of best practice to other team members. This means the supervisor does not have to listen in live to the call, but can choose which to listen to, considerably reducing cost.

The supervisor may also be responsible for the initial stages of customer dispute resolution, and can find out exactly what has been said by customer and agent in order to deal with the matter accurately. In industries where recording may be a legal requirement - an increasing trend - businesses may have **compliance officers** to deal with disputes. Even in areas which do not require bulk recording, many companies look upon this solution as a tool to protect against an increasingly litigious world.

With some of the more sophisticated interaction recording solutions available, the supervisor can move into a more analytical role, understanding not only what has happened, but the reasons for it as well. Taking a top-level view of team performance, a supervisor may see that certain types of call have been dealt with very quickly by a specific agent. Standard management information systems may show this as a positive situation, but the use of interaction recording capabilities may find that the agent is unable to help the customers, and is simply passing the calls through to colleagues. Now the supervisor has a chance to improve the situation, rather than missing the problem altogether.

Agents can be given the chance to add to the value which interaction recording can provide. By using agent-initiated tagging of calls, your front-line team can add to the store of useful information which can be acted upon by the company as a whole. For example, if customers talk about the competition and what they are offering specifically, these agent-tagged calls can be reviewed for possible action by a business's commercial team. This has the added benefit of making agents feel a key part of the overall business.

A strategic use of call recording may occur at the **management or executive** level. When all interactions are recorded and analyzed, a complete performance management program may be put in place. Agent performance can be viewed by supervisors, team performances can be analyzed by the operational manager, and contact center performance can be evaluated by executives. Analysis of interactions is also vital as part of a wider process optimization strategy, to identify good and bad business practices and business process bottle-necks.

Using interaction recording, the performance of the contact center as a whole can be viewed in terms of quality, not just quantity. Key performance indicators can be set and reviewed (such as average revenue per call), which are directly relevant to the needs of a business as a whole. Contrast this with the traditional efficiency measures of a contact center's success: average speed to answer, average call duration and occupancy rate. Measurement and improvement in key performance indicators, due to interaction recording analysis, will help to **prove** the contact center capable of making a real impact on a company's profit.

Of those contact centers which use interaction recording, the majority use it for both quality assurance and training purposes, so that the supervisor and the agent can both learn from it. Many of those using interaction recording solutions are trying to get their senior management involved in what goes on within the contact center. Compliance has also been a major reason to implement call recording.

Call recording may be used in three modes:

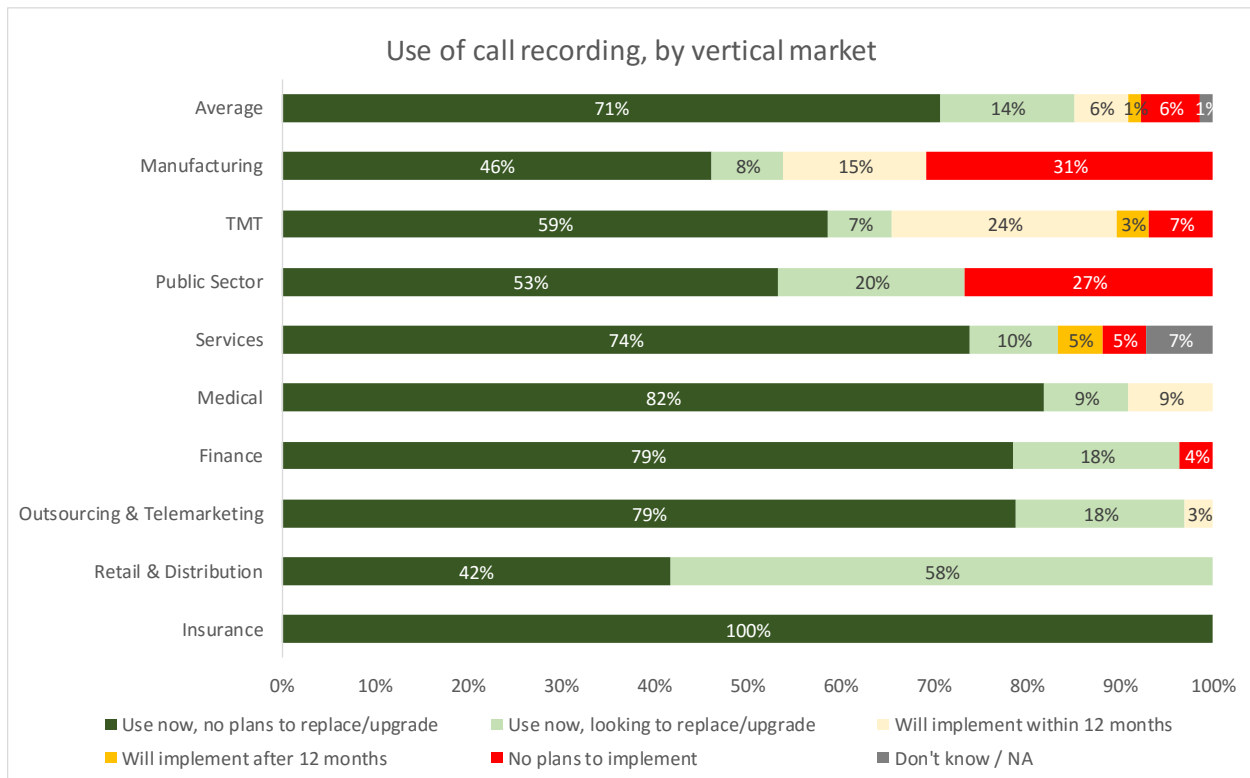
- 100% call recording: often used for compliance purposes, this records the entirety of every call
- Random / Scheduled Call Recording: priority-based call recording schedules can be defined based on business rules, using multiple criteria on each schedule
- On-Demand Call Recording: contact centers may have situations where they do not need to record an entire call. On-demand recording can be customized to support agent-initiated call recording through a desktop interface, or automated through call recording triggers sent from third-party software.

Call recording is used by 85% of this year's respondents, 16% of which state that they wish to replace or upgrade their current system. Only 6% of respondents have no intention of using call recording.

While some of the vertical market sample sizes are too small for high degree of confidence, it is worth considering some of the patterns. The manufacturing sector, which often has small contact center operations and which handles a lot of B2B work, seems to be the least enthusiastic in the take-up of call recording.

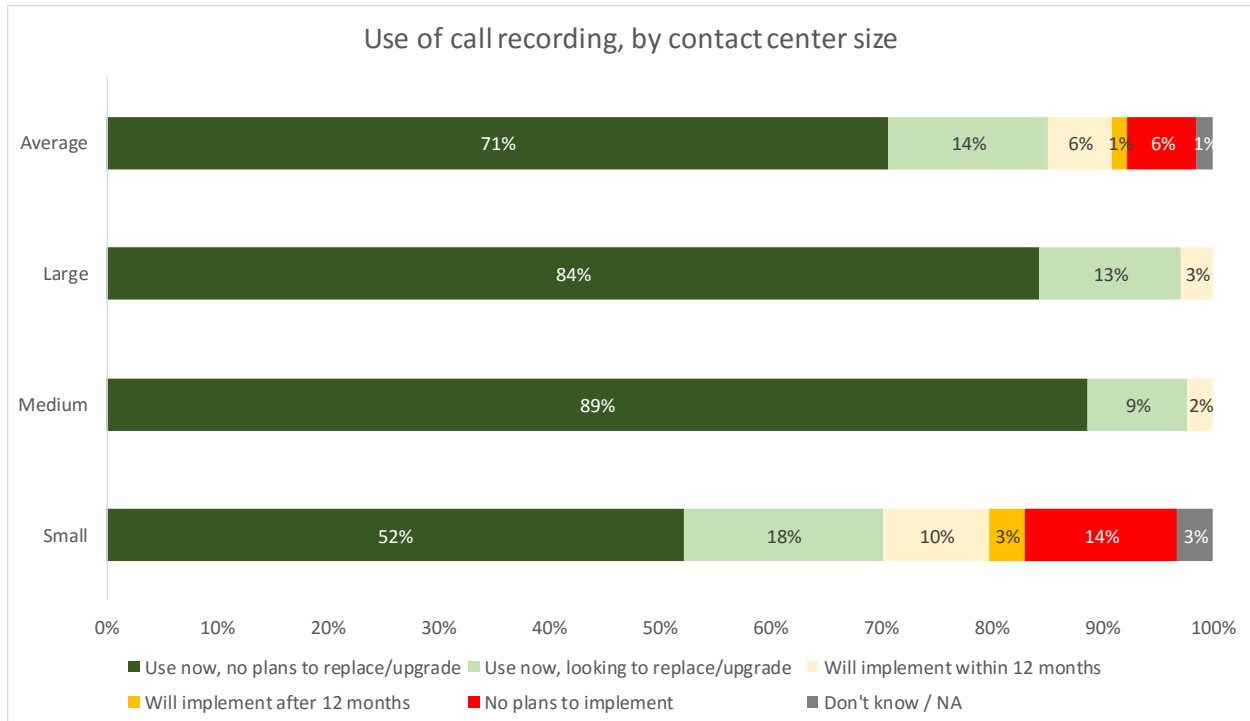
This year, all insurance and retail & distribution respondents report using recording.

Figure 7: Use of call recording, by vertical market



The use of call recording is strongly influenced by the size of the contact center operation, although the figure of 73% penetration in small operations shows that vendors have been able to offer solutions successfully at various price points and deployment methods. Call recording in contact centers with at least 50 seats is almost ubiquitous.

Figure 8: Use of call recording, by contact center size



82% of respondents that use call recording do so for all calls, with 18% recording only a part of their overall voice interactions. Of the respondents that record only a part of their voice traffic, half will choose to record based on the call profile (i.e. business rules based on the nature of the call), and almost half will do so based on the inbound number called, or the outbound number dialed.

Figure 9: Situational recording choices

Situation	% respondents choosing to record or not record
Call profile (e.g. do not record calls made to HR; outbound calls to states with 2-party recording regulations; etc.)	43%
Based on ANI (automatic number ID, i.e. the number calling in)	32%
Based on DNIS (dialed number ID service, i.e. the number being called)	51%

As with any form of recorded and potentially sensitive customer data, the secure storage of recorded calls must be taken into account. A third of respondents choose to store their recorded calls offsite, either as part of a cloud-based call recording solution, or through a dedicated backup facility as part of a wider disaster recovery plan. This is somewhat more likely to be the case in large operations, although there is generally not a great difference found across size bands. The majority of respondents in all sizes of operation state that they have dedicated secure hardware on-site in which to store their call recordings, and some choose both on-site and offsite duplication of storage. A small proportion of respondents, usually in smaller contact centers, state that the call recordings are stored onsite on standard hardware (e.g. in hardware that is also be used for other purposes).

Figure 10: Storage of recorded calls, by contact center size

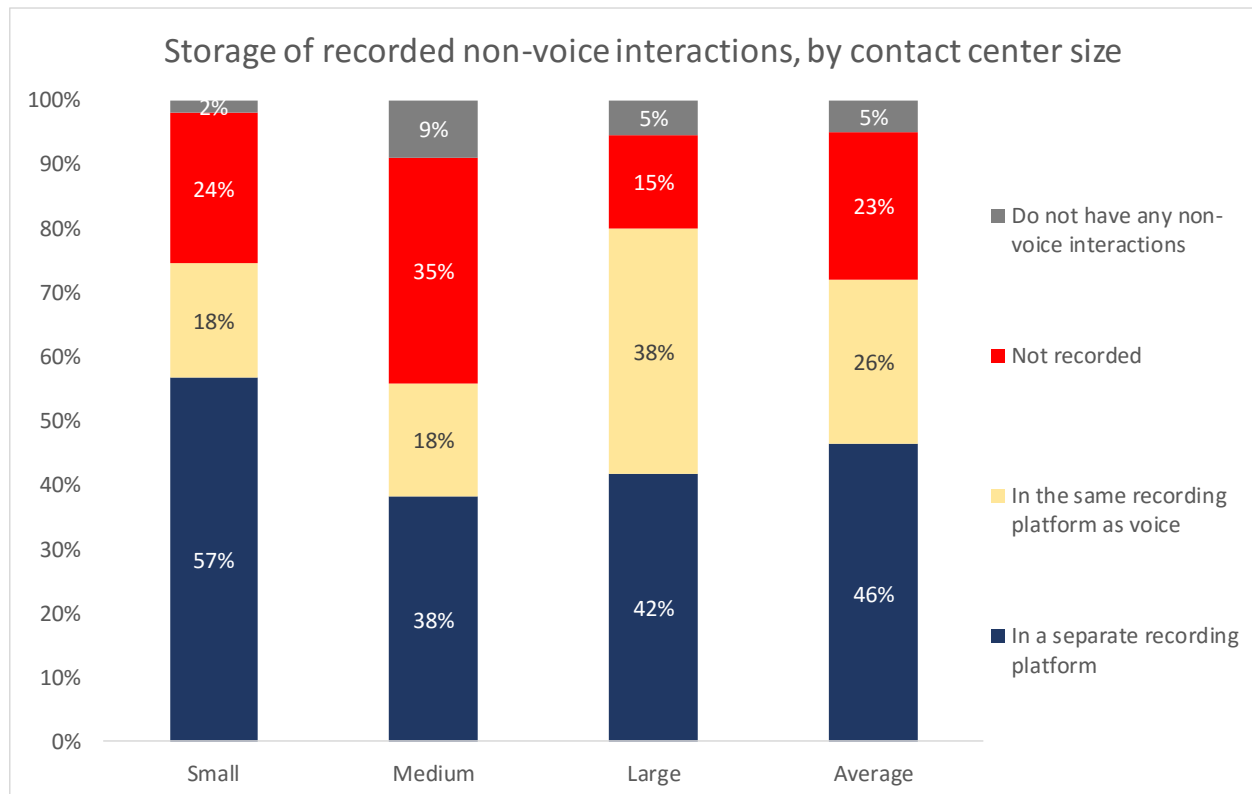
Contact center size	Offsite (hosted / cloud)	Onsite (dedicated secure hardware)	Onsite (on standard hardware)
Small	42%	48%	19%
Medium	32%	71%	0%
Large	31%	81%	0%
Average	35%	67%	7%
NB: multiple choices are allowed - totals may be greater than 100%			

For most vertical markets, there is little pattern shown in where they choose to store recorded voice interactions. However, it should be noted that only 6% of finance respondents choose a hosted offsite option, compared to 50% of outsourcing respondents: this may be indicative of each vertical markets' respective propensity to retain control, or to welcome third-party involvement.

Respondents using interaction recording were asked about non-voice interaction storage, such as screen recording and multichannel interactions. Large contact centers were likely to use a single recording platform that handled the storage of every sort of interaction, offering the opportunity to get a complete picture of a customer interaction by tagging interactions with non-voice metadata about the nature of the call and its outcome, allowing the later application of rich analytical functionality.

A fairly high proportion of small and medium operations stated that they do not record text-based interactions or the agent's screen. This seems strange due to the increasing volumes of email and web chat, and the difficulties in proving what a multichannel agent has said within the conversation.

Figure 11: Storage of recorded non-voice interactions, by contact center size



Survey respondents were asked which interaction recording functionality they would most like to add or improve. Of the seven choices provided, four stood out as the most popular. In order:

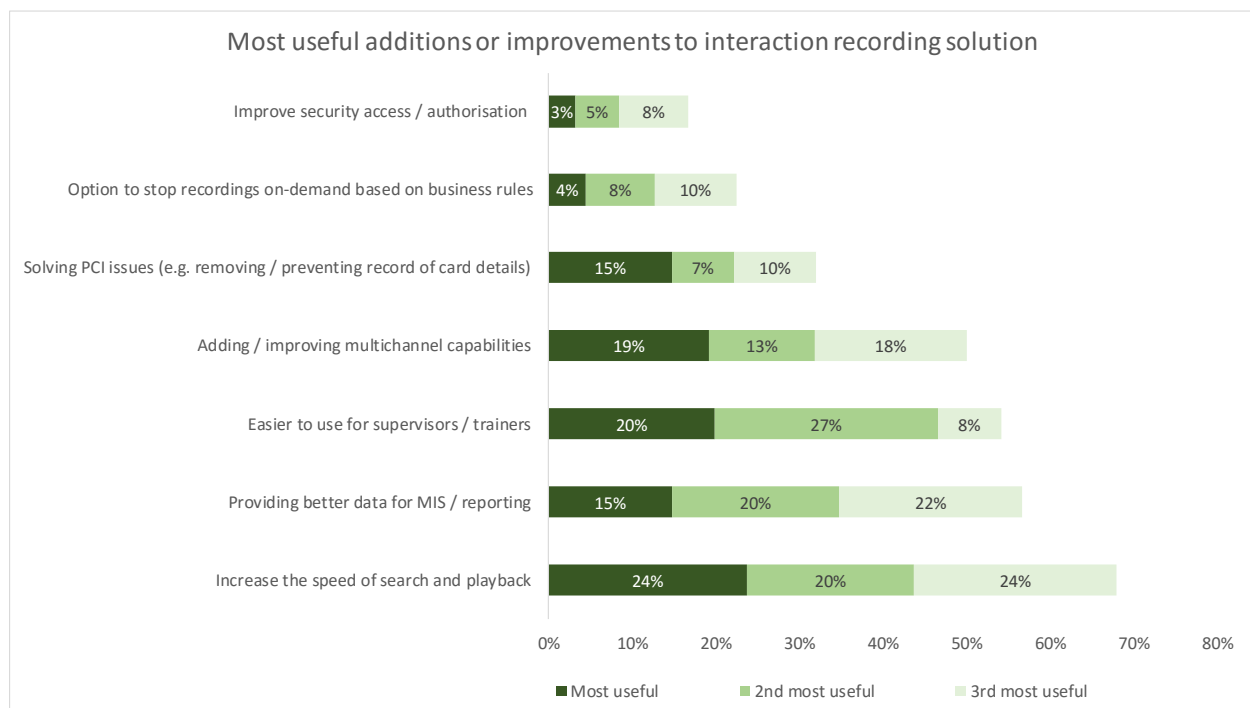
- increasing the speed of search and playback
- providing better data management information systems and reporting
- improving the ease of use for supervisors and trainers
- adding and improving multichannel capabilities.

The focus is mainly on improving the usability of the existing solution, rather than adding any new functionality, with improvements that would impact positively upon the daily experience of supervisors and managers.

There is also significant demand for higher quality of data to feed into the reporting process, and many respondents also acknowledge that recording is moving out of the voice-only territory, and will need to be able to handle multichannel with similarly rich functionality.

32% of respondents state that solving PCI DSS issues through call recording is one of their top three requirements for the solution, through pause-and-resume recording or the redaction of card data from existing recordings. The PCI Compliance chapter later in this report gives more detail.

Figure 12: Most useful additions or improvements to interaction recording solution



CUSTOMER INTERACTION ANALYTICS

The term “Customer Interaction Analytics” refers to the analysis of all interactions between contact centers and customers, whether that interaction was via telephone, email, a web chat session, or even social media. Such conversations are free-form by their nature, hence any data captured from the interaction will be unstructured by definition, which makes this data more difficult to analyze. However, there is an enormous amount of valuable information hidden in this mountain of unstructured data, and the interaction analytics technology available today is becoming very effective at capturing the voice of the customer and improving contact center performance based upon this.

INTERACTION ANALYTICS TECHNOLOGY

There are various elements to customer interaction analytics solutions, many of which 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).
- **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 speech analytics software, defining their requirements and carrying out searches on the indexed data
- **Reporting applications:** the presentation layer of speech 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.

Most customer interaction analytics solutions use speech engines that are either phonetic or speech-to-text / LVCSR (Large Vocabulary Continuous Speech Recognition), also known as ‘transcription-based’.

In **LVCSR**, the call is transcribed into text in order for analysis to take place, and depends upon a language model and dictionary to identify words correctly. Unlike phonetics-based solutions, LVCSR does not require predefinition of words to search for as the content of calls is available in the index. Transcription processing is considerably slower than phonetic indexing (usually in the region of 4-20 x real-time for LVCSR, vs >1,000 x real time for some phonetics-based systems), but the search process is far quicker. It is generally accepted that 60-70% accuracy in word recognition is about average, although the latest technology in LVCSR leveraging Deep Neural Network approaches are seeing a significant improvement in word accuracy rates. This method allows companies to retain the entire content of calls, not just initially specified keywords and phrases, and is generally thought of as best for root cause analysis, and identifying clusters of terms that occur together, giving a starting point for deeper analysis.

Phonetics-based applications - which look for defined sounds or strings of sounds - attempt to match these sounds to target words or phrases in a phonetic index file. The phonetic indexing process converts the audio into symbols that represent the audio and the identification of issues relies upon the predefinition of the terms to search for. The phonetic search process leverages an acoustic model tuned to the specific language, with the search terms converted into phonemes and returns relevancy-ranked results. In circumstances where new phrases or words are frequently being used in conversations - for example, in retail, where new products may be emerging all the time - a phonetics approach means that analytics user can just type in the phonetic spelling of the name and it can be searched upon. Using a transcription approach, the user can use a similar form of aliasing leveraging words or combinations of words that the new name is being recognized as. The language model can be adapted to add new words to the dictionary, and reprocess the audio, which can be time-consuming and may require professional services.

However, a system accurately identifies a key word, there is no guarantee that it will be used in the correct context (for example, the word "website" may not just refer to a company's own site, but to a competitor's or something else entirely), or will be the right word (e.g. it may be a homophone - reed/read - or homonym bank / bank). Phrase recognition (such as 'the website doesn't work', or similar) is used to alleviate this and reduce false positives, putting the words into a context. The longer the phrase, the more accurate and unique the results will be. Searching on a single word will bring back many more results, which can risk lots of false positives unless the word is very distinctive, like a competitor's name, for example. LVCSR leverages context, looking ahead and behind to reduce false positives or substitutions for homophones – this has improved substantially with the advancements in neural network speech recognition.

Solution providers that offer analytics based upon a phonetic speech engine emphasize its usefulness and speed where customers already know the type of words and phrases that they are looking for based on their business needs, and not having to identify the right words in advance to put into a language model means that unknown words and phrases can be found quickly, uncovering trends or events that are relevant to the business. However, a different query will require searching all the data again. Many vendors have significant experience with specific business sectors and call types, and can offer useful advice on how to maximize the volumes of data available for analysis along vertical market lines, also pre-packaging typical words and phrases that are used in specific instances, so that their customers can get off to a quick start in using the application.

There are also solutions where a phrase-driven direct speech recognition engine recognizes entire phrases within recorded calls without first converting the speech into text or phonemes. This approach combines speech and business concept recognition by directly recognizing the phrases spoken during the conversation and comparing them to the phrases that are often found in these types of call (sales, complaints, etc.), or those that have been defined by the client, for example in the case of compliance or scripting which will support a real-time response. As calls are not recorded within this method, searching is not possible, so transcription or phonetic indexing is usually carried out on these calls as well.

Increasingly, solution providers are offering dual phonetic and transcription-based systems, and although these solutions may be referred to as 'hybrid', the reality is that they use both methods in

order to 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).

Businesses should consider the most likely and frequent uses of the analytics solution while deciding upon a vendor. If they are likely to be searching the information many times a day as part of business intelligence or process improvement, then transcription may be preferred as searching is quicker. If the business will be processing large amounts of audio but searching it infrequently, for example in the case of evidence production or proof of compliance, then phonetics may be a more appropriate choice.

However, businesses should be aware that the speed, accuracy and precision of customer interaction analytics technology is continually improving. Even amongst vendors, there is broad agreement that transcription and phonetics both work, and that they will both be around for quite some time to come. System integrators and consultants that implement both types of solution state that accuracy levels and phrase-finding capabilities are similar for each type of technology, and that both are able to provide historical analysis and reporting. There is also consensus that the major issue is not which flavor of analytics solution to choose, but the organization's ability to deliver business change based on the insights that come out of the customer interaction analytics solution.

DRIVERS FOR CUSTOMER 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. There is also the very realistic possibility that while an analytics solution will be implemented to look at one particular pressing issue, such as automating the QA process, it will further develop over time into looking at business intelligence and process optimization.

Most contact center solutions have a specific, easily-communicated reason for purchase, usually around cost savings. The most popular and widespread solutions, such as IVR, workforce management, CTI 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. However, depending upon how interaction analytics is used, it can assist in:

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

AGENT IMPROVEMENT

Improve the quality monitoring program

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.

Customers using customer interaction analytics can carry out an evaluation of chosen calls - for example, unhappy customers - the results of which can then be fed back into the existing quality assurance process. This can take the same existing path, 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.

The limitation of a recording-only quality management approach is that it lacks scale, objectivity and relies on the consistency of multiple supervisors and analysts: the only reason that a business would not want to monitor the quality of every single interaction in and out of the contact center is because it is far too difficult to get reliable, timely and accurate information via human means alone. 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. Some solution providers report that 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.

Identification of training needs

Apart from 100% monitoring of calls, speech analytics is used to flag cases of talk-over, as well as silence detection. The former can be a source of irritation to the customer 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 will identify which of these issues is really the problem.

Speech analytics will also make the training and coaching received by new agents in particular 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. Speech 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 based on concerns that they simply can't do the work to a high-enough quality. There is also increased interest in agent self-assessment of calls, where they can view automated quality scoring results, and request relevant training.

BUSINESS PROCESS OPTIMIZATION & INTELLIGENCE

Cross-departmental insight

Everyone connected with the contact center industry has always known that there is huge insight and knowledge held within the operation and its agents, but which has never before had the ability to be quantified or acted upon by the wider business. Interaction analytics offers the ambitious business the greatest potential for improvements in business processes, but there is a danger of underachievement with so many departments and divisions potentially involved.

The marketing, sales and product development departments are amongst the non-contact center areas most likely to be benefiting currently from insights about customers' views, but there are also examples of how delivery, provisioning, billing and even warehousing departments have learned from the analysis of customers' experiences in the contact center.

The quality of insight and its actionability is totally dependent on a swift reporting process, simple yet rich intelligence, the ownership of process improvement at senior level and before/after comparisons to prove success. Cross-department rivalries or poor communication are a real risk to this, and the importance of having a project champion of sufficient seniority to exercise cross-department control cannot be underestimated.

Categorization

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 300% 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 getting them randomly or employing large numbers of people to get insight from customers' calls.

The customer experience outside the contact center

There is an increasing requirement and interest in multichannel 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: around 1 in 5 calls that go into an IVR system are 'zeroed-out' - rejected by the customer in favor of an operator.

Businesses using 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 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.

COMPLIANCE

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 criminal 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: purchasing insurance, for example, 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.

Real-time compliance and adherence to script

Real-time call monitoring 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-flagged 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 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.

CUSTOMER SATISFACTION & LOYALTY IMPROVEMENTS

There has been a great increase in customer satisfaction surveys in recent years, with the widespread uptake of Net Promoter® 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 their profitability. As an alternative to customer satisfaction surveys, customer 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 Net Promoter® scores 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. Other solution providers use this type of analysis to help online educators predict which students will pass the course, and which will drop out, meaning they are able to target assistance as required.

First-call resolution

A major metric for contact center and customer experience success, first-call resolution can be increased by identifying repeat callers and eliminating the root cause of repeat calls.

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.

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.

Speech 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. 14% of US calls received by contact centers are complaints, with 84% of these 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 may also be used to identify unhappy or wavering customers within the call, updating supervisors who can then break into the conversation or advise the agent accordingly.

REVENUE AND PROFITABILITY

Competitor and product feedback

Customer interaction 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 historical analytics in order to trigger a post-call event, such as an email, phone call or text message offering similar incentives to remain loyal to the company.

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, 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.

Solution providers note that it is common for outbound collections agencies to employ analytics initially in order to check their compliance, but will often move beyond this to improve the efficiency and performance of their collections operation by being able to understand the language, behavior and characteristics of those calls which yield a higher rate of promises to pay, or cash collection.

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.

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 customer interaction analytics to identify phrases or behaviors that indicate potential likely cancellation, 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 analytics with desktop analytics allow 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.

IMPROVEMENTS IN CONTACT CENTER OPERATIONAL PERFORMANCE

On first glance, customer interaction analytics can be seen as providing similar information to management information and reporting systems - taking masses of data and making sense of what they mean to the contact center's performance and perhaps even inside the wider business. However, the vital thing to understand about analytics is that it gives contact centers the answer to 'Why', not just 'What'. Why are average handle times so different across agents? Why are customers of this product upset? Why are people calling the contact center?

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), speech 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).

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 as a 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.

Customer interaction 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, and investigate the outlying anomalies, 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.

It is also the case that 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. Customer interaction analytics helps to find out whether these issues take place across the entire call volume, and allows businesses to quantify and prioritize issues.

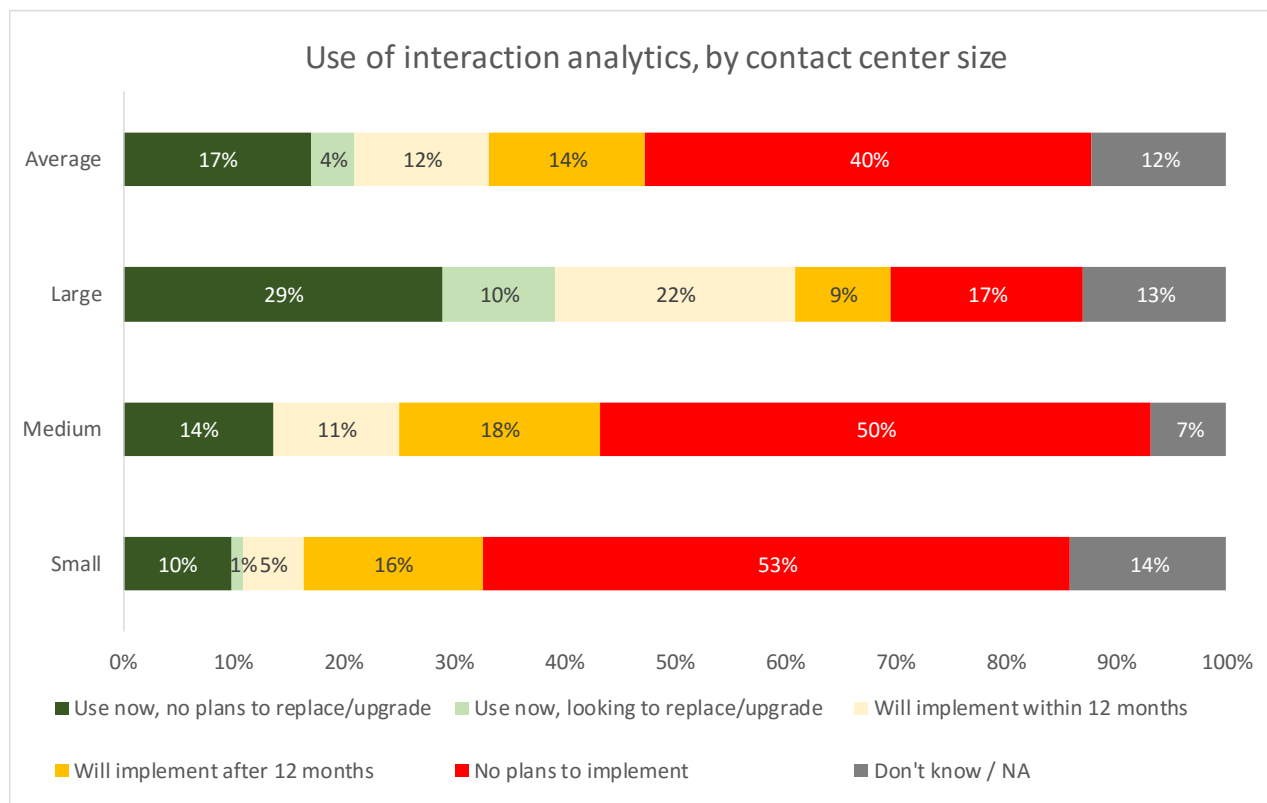
USE OF INTERACTION ANALYTICS

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

The correlation between size and penetration rate is very noticeable for interaction analytics, which may require significant investments. Having huge volumes of recorded calls and a large customer base to learn from means that business patterns can be identified more accurately, and any improvements will 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 sector.

It is worth noting that the 39% of current users of interaction analytics from large contact centers includes 10% of respondents who are actively looking to improve functionality through upgrading or replacing systems. This suggests that the first wave of users - which perhaps include those using it mainly for compliance and agent QA - are now looking to add more commercially focused insight to the business, which may also include real-time functionality.

Figure 13: Use of interaction analytics, by contact center size



As we might expect, the use of historical speech analytics - the bulk analysis of historical call recordings - is the most widely used type of interaction analytics functionality. Almost half 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 36% of interaction analytics users, with around a quarter stating that they use multichannel analytics. As non-voice interaction volumes increase, and more focus is placed upon understanding and analyzing the entire customer journey, this latter figure in particular is likely to grow rapidly.

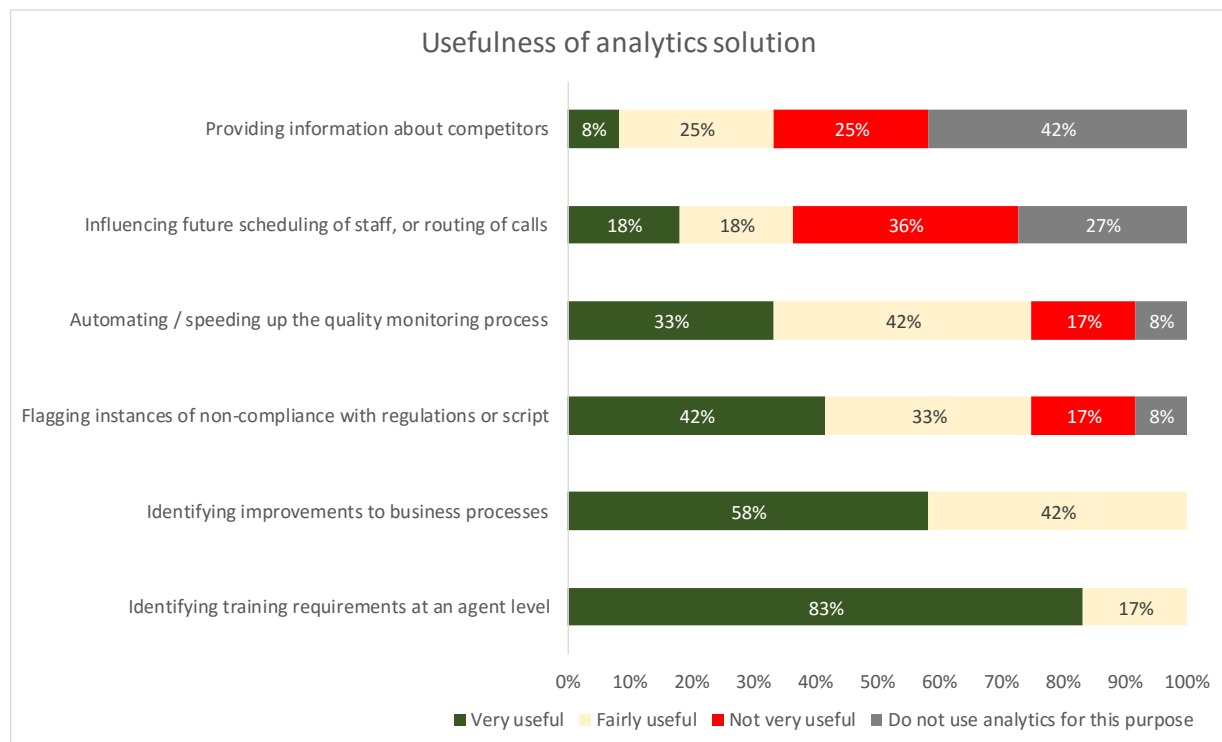
Figure 14: Use of historical, real-time, screen and multichannel interaction analytics functionality (respondents using interaction analytics)

Interaction analytics type	% respondents using this functionality
Historical speech analytics	79%
Screen / text analytics (i.e. agent desktop activity)	45%
Real-time speech analytics	36%
Multichannel analytics (i.e. email, web chat, social media, etc.)	24%

The automated quantification of agent performance and capabilities, feeding into the training and skills upgrades required is one of the most important outputs for interaction analytics, and is reported to be a very important reason for using analytics, as is the identification and improvement of sub-optimal business processes.

Few respondents use analytical insights to improve contact center performance and efficiency: feeding this into integrated workforce optimization solutions and using it to improve routing and scheduling strategies is a major potential area for the future. As usual, analytics is rarely seen as being a good way to learn about the competition, although there is no technical reason for this to be the case.

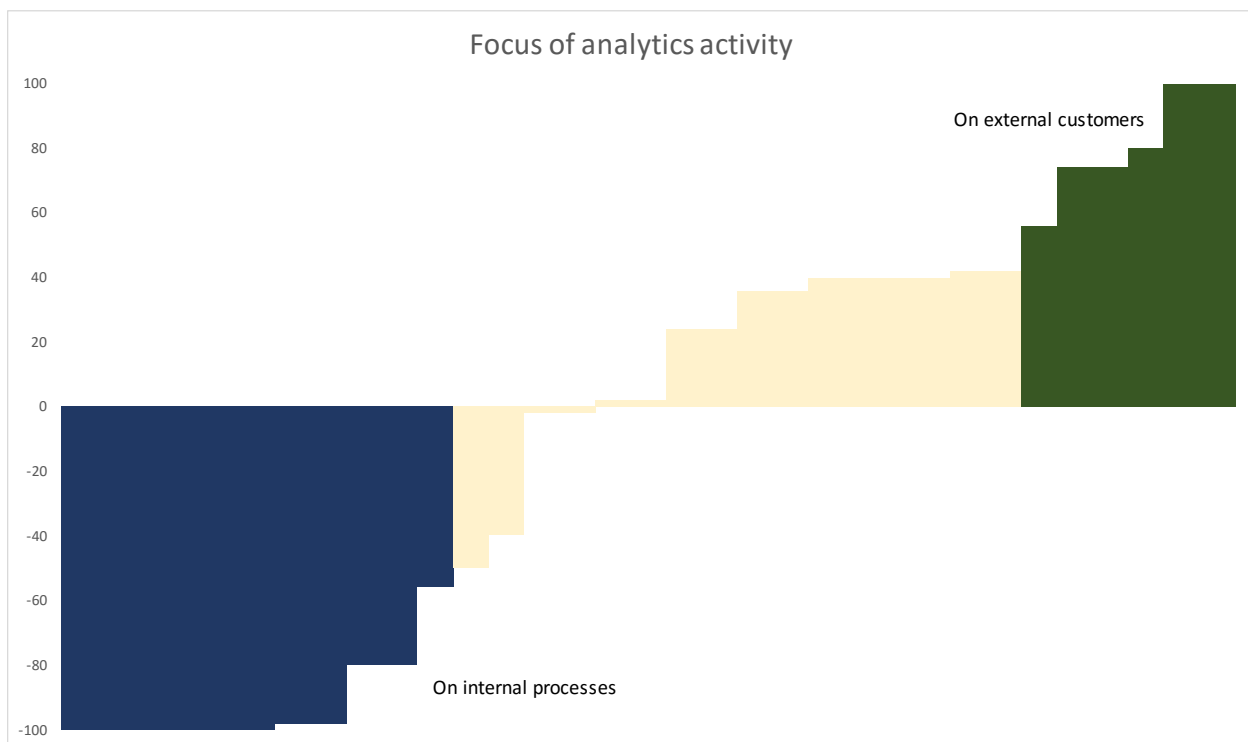
Figure 15: Activities and outputs provided by analytics solution



The following chart shows what happened when interaction analytics users were asked to state the extent to which their analytics activity was used to improve internal business processes or external customer facing activities.

Each bar of the chart represents a single respondent's score, from -100 to 100. Those using interaction analytics mainly for internal activities were asked to score this question as low (those respondents showing a strong focus towards internal improvements are marked in blue), with those using analytics for external customer facing improvements being asked to score towards the top of the range (marked in green).

Figure 16: Focus of analytics activity



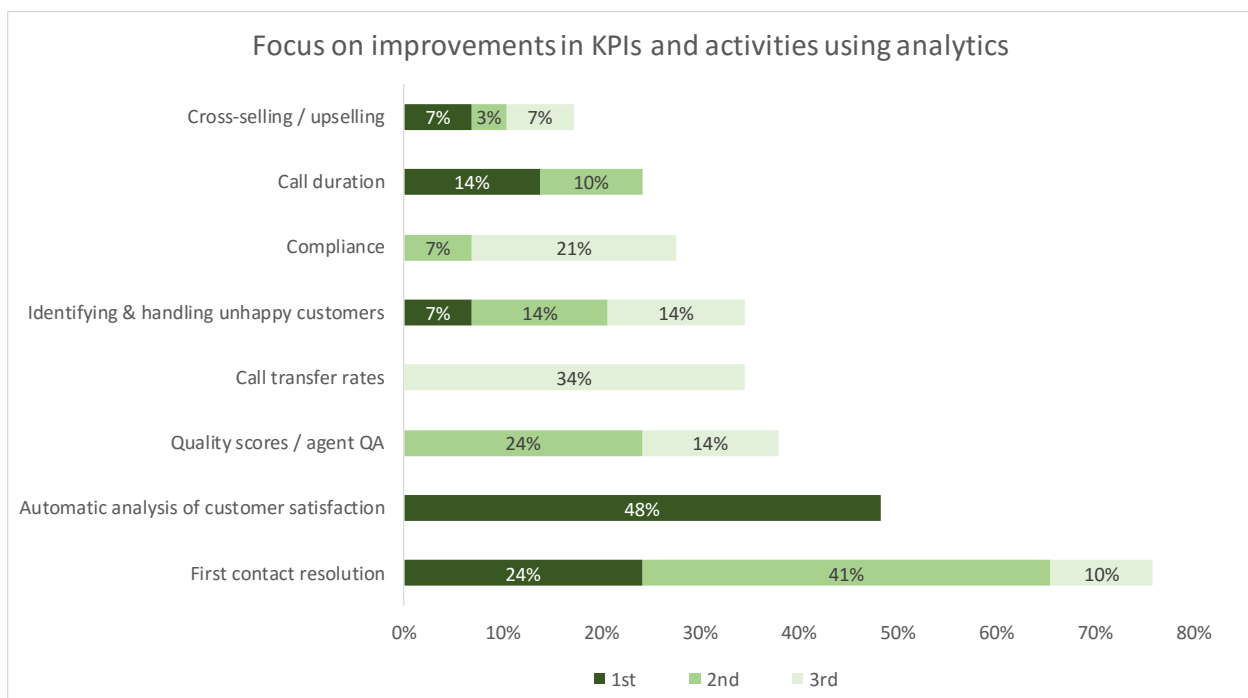
A very slight majority of respondents stated that external customer facing activities were the main focus of the interaction analytics program, which is a real change from the purpose of many initial implementations, which were mainly about compliance and quality assurance. It should be noted that this is a subjective question, and those looking to use interaction analytics to improve QA scores and focus agent training may choose to see these activities as external customer-facing, rather than an internal process.

Most respondents state that one of their main focuses when using analytics is to improve customer satisfaction, and while this is laudable, the real question is perhaps “How can analytics achieve this aim?”.

It is noticeable that the greatest focuses - first contact resolution, and customer satisfaction analysis - are judged as being far more important than any other. Interaction analytics can assist with these goals 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 quoted as the number one way to achieve high customer satisfaction ratings - the use of analytics to identify FCR accuracy and improvements is a very positive finding.

Figure 17: Focus on improvements in KPIs and activities using analytics



For more information about interaction analytics, please download ContactBabel's free ["Inner Circle Guide to Customer Contact Analytics"](#).

QUALITY & PERFORMANCE MANAGEMENT

Historically, the success or otherwise of contact centers was measured in terms of efficiency: call throughput, average handle time, calls per hour, etc. In recent years, the focus upon customer satisfaction has grown to such an extent that it is now seen industry-wide as the number one indicator of success, being consistently voted more important than increasing revenues, decreasing costs or hitting target metrics.

Of course, customer satisfaction is also closely linked to efficiency: part of the customer experience is the amount of time spent in the queue, and whether or not the agent can then help them quickly and decisively. As such, internal contact center metrics directly correlate to external customer satisfaction, which also is influenced by the customer's experience of any telephony or web-based self-service, or other pre-call activity such as customer authentication.

The contact center industry has to find a balance between increasing the efficiency of its processes - which in the 'production line' mentality tends to mean following specific processes without deviation - and the need to understand the individual requirements of each customer so as to deliver appropriate service. As such, the measurement and improvement of quality and performance is not straightforward: in fact, even deciding what 'quality' actually means is very much a subjective matter.

Operations driving their performance and quality forward often carry out many of the same types of improvement:

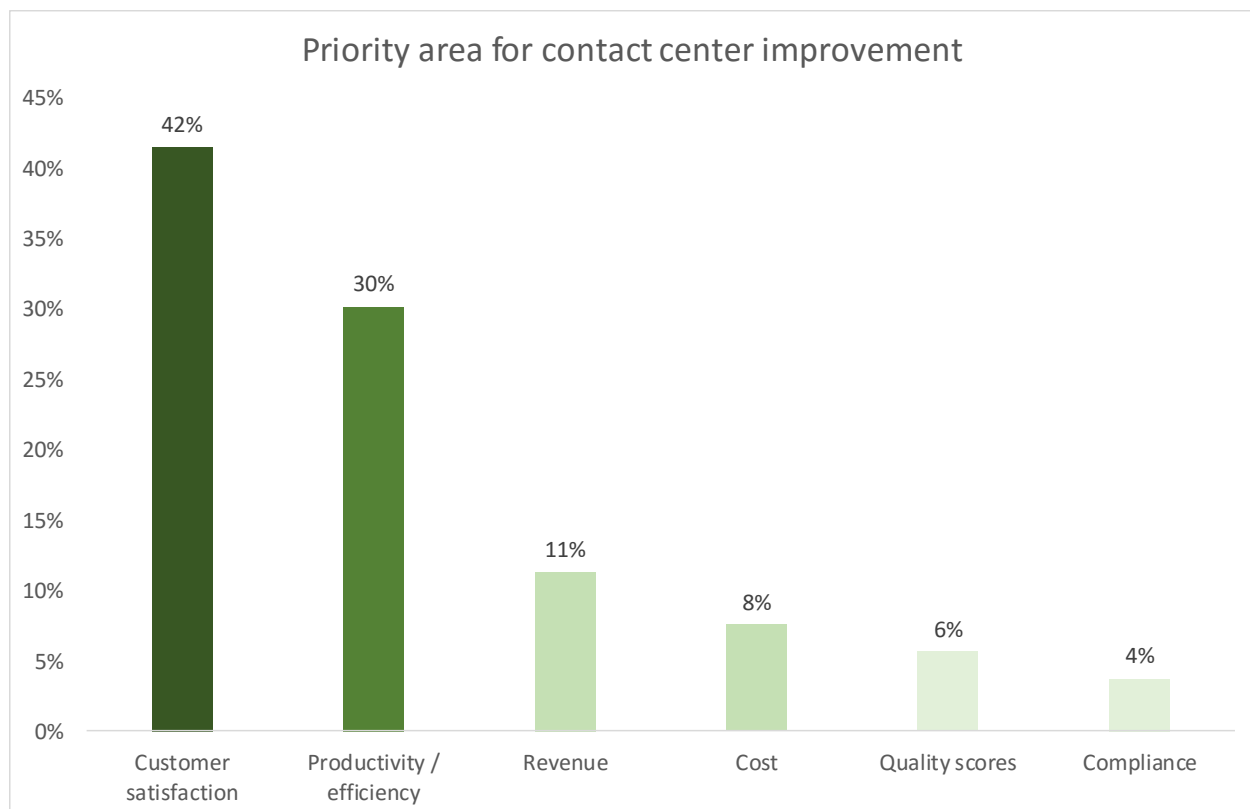
- **Assessment:** changing QA assessment frameworks (the scorecard), not just in the contact center but in some cases across back office functions as well as for emails and other contact types
- **Freedom:** giving advisors the freedom to do what is needed to meet the customers' needs; stepping away from the standard process where this is not appropriate and taking steps to improve processes for the future
- **Development:** creating a cultural change supported by a new coaching and development framework – for example, how the evaluation process is used for performance management and enabling the advisors to make suggestions for improvement
- **Learning:** linking quality into a wider continuous improvement framework, gaining insight about the drivers for customer satisfaction and loyalty which can be shared throughout the organization in a quality-focused 'voice of the customer' program.

There are also some clear critical success factors:

- Organizations need to distinguish compliance from customer satisfaction. Adherence to process and risk management are vital in most industry sectors but they don't necessarily drive customer satisfaction, so there has to be a balance that doesn't impact the customer negatively
- Organizations have to put the customer first: learning from customer feedback mechanisms is essential to driving success
- There has to be a strategic use of quality – aligning QA to strategic goals is extremely important, if businesses are measuring something that doesn't impact upon their strategic aims, then it's a pointless exercise that takes focus away from what's really important.

Respondents were asked which areas of their contact center they considered to need most improvement. As we might expect, customer satisfaction came in top place, with 42% of respondents choosing this. However, 30% stated that productivity and efficiency enhancement was their top priority. While the contact center industry has spent decades, and billions of dollars on cutting unnecessary cost and time to serve customers, it seems it is still not where it wants to be. Larger operations - which have generally spent more time and money streamlining their processes – are a little less inclined to feel this way.

Figure 18: Priority area for contact center improvement



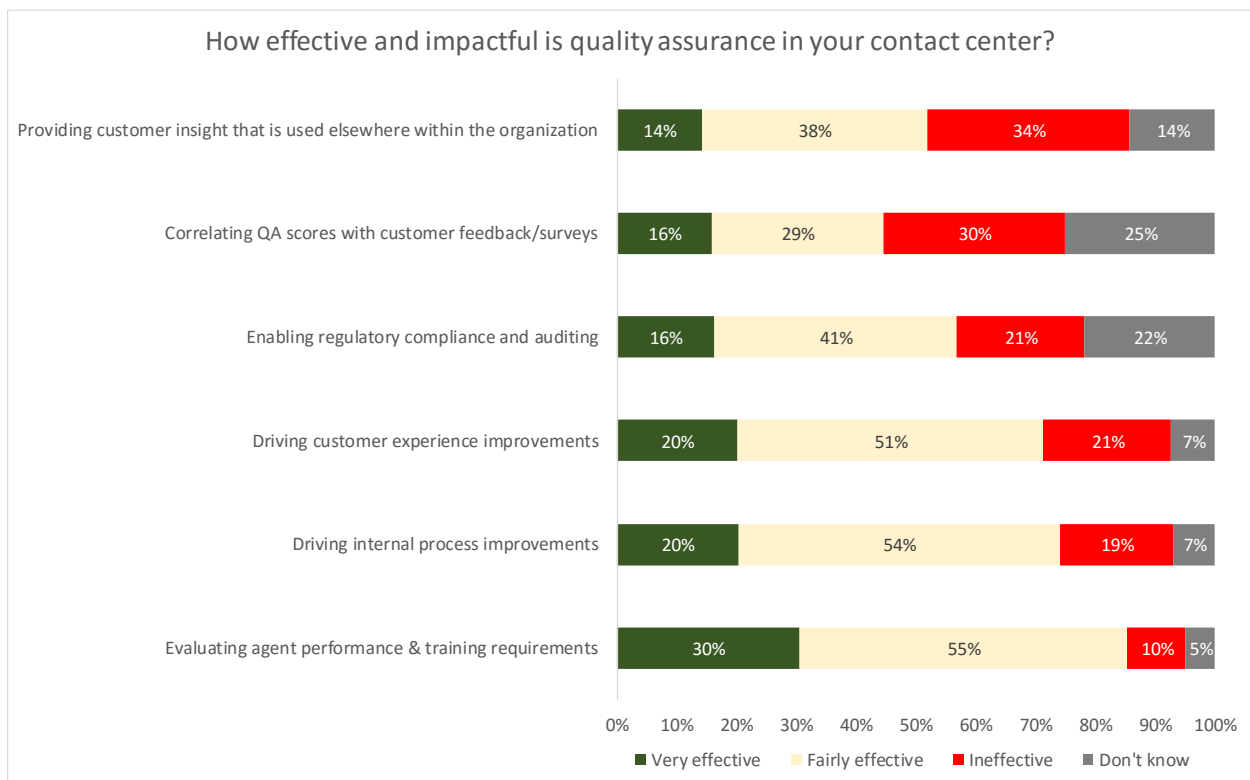
Quality assurance programs and processes should positively affect not just quality scores, but also agent performance, and with them, productivity and customer satisfaction. As such, an effective and impactful QA program should go some way to addressing the major problems shown in the previous chart.

30% of respondents, especially those in larger operations, felt that their contact center QA was very effective in terms of agent performance, with only 10% saying that it was ineffective: the lowest score of any area. Despite the general focus upon customer satisfaction, 21% say that major improvements are needed in the QA process.

It is noticeable however that more of these respondents are lukewarm about the results of their QA processes than are actively enthusiastic: none of the nine categories offered have more respondents judging the QA process as 'very effective' rather than merely 'fairly effective' for this purpose.

There is a major disconnect between matching and correlating quality assurance with any customer feedback that is gathered. Customer insight gained from the quality assurance process stands a very significant risk of not being used effectively within the wider organization, or even affecting the outcome at agent level. As such, it seems fair to comment that QA is currently used far more effectively and widely as a tool for improving agent productivity and skills, rather than as input into strategic business improvements.

Figure 19: How effective and impactful is quality assurance in your contact center?



The majority of respondents have team leaders and line managers involved in scoring agent calls manually, with 79% of respondents from large operations having a specific, dedicated quality team involved as well. Larger operations are also more likely to have coaches evaluating calls, which will also feed into the process of understanding each individuals' need for specific improvement, as well as developing the wider training program.

Only 19% of respondents have their senior management - most likely the contact center manager - involved in evaluating calls as well, although this is likely to have gone through an initial process of identifying calls which are relevant to the business or operational issue that these calls are demonstrating.

Over one-quarter of respondents from large operations have a compliance team evaluating calls, and are much more likely to use other advisors and a business process improvement team as well to learn from the QA output.

Figure 20: Who scores or evaluates calls from customers in your organization?



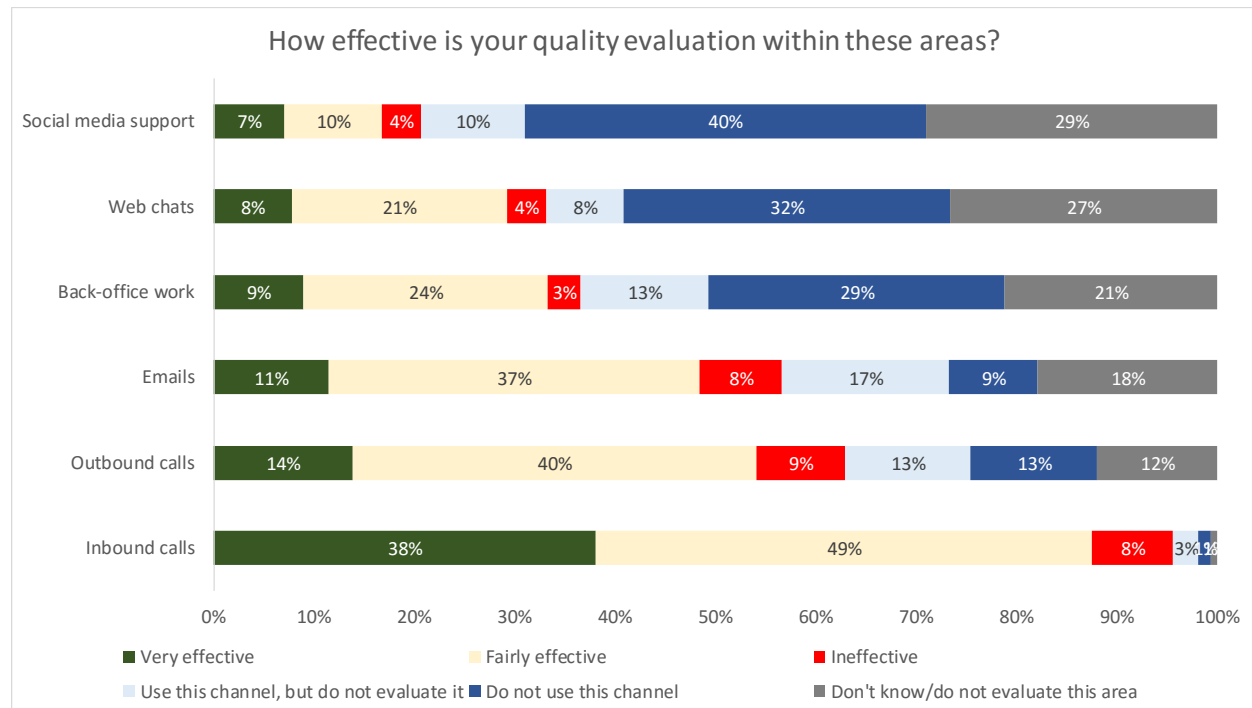
Respondents were asked their opinion on how effective they felt their quality evaluation was for specific contact center activities, including inbound and outbound activity, and multichannel work. As might be expected from the activity that has been around the longest, inbound telephony was judged to have the most effective quality evaluation, with 40% of respondents that carried out this form of QA stating that it was very effective. Evaluation of outbound calling was more lukewarm, with 9% of businesses feeling that it was ineffective and only 14% very effective.

For back-office work evaluation, more respondents believed their QA to be very effective than did ineffective, but 63% either did not have an opinion, or did not use quality evaluation for back office processes. As workforce optimization solutions continue to evolve, and processes get tracked throughout the enterprise - not just in the contact center - the back office will have considerably more attention drawn to it, as it is ripe for improvement in many organizations.

It seems that multichannel quality evaluation still has some way to go to reach the standard of telephony QA. Although 11% of respondents that carry out quality evaluation on emails felt that it was very effective, 8% believed it ineffective. For a channel that has been offered to customers for well over a decade by most businesses, this is not very impressive.

For the new channels such as web chat and social media, the majority of respondents did not carry out quality evaluation on these at all. Of those that did, there was reasonable confidence that the process was effective, but not to the same extent as inbound telephony.

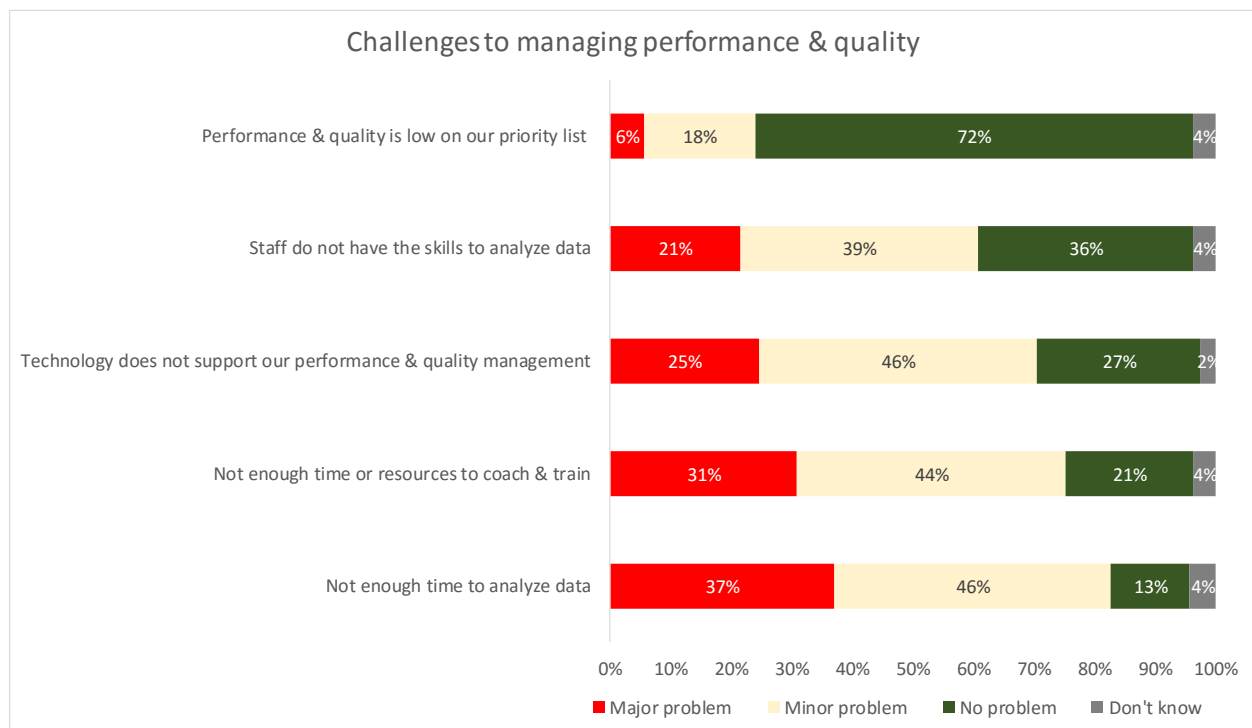
Figure 21: How effective is your quality evaluation within these areas?



The greatest challenge to managing performance and quality is reported to be caused by not having sufficient time to analyze and use data, with 83% of respondents stating that this was a problem in some form, and 37% stating that it is a major problem for them: this is particularly the case in medium and large operations. 21% of respondents also stated that staff using the QA solution did not have the necessary skills to get the most out of the solution.

This suggests a greater level of automated analysis and insight is required from quality and performance solutions, a hypothesis which may be seen to be further supported by noting that the second-greatest challenge to performance and quality is also around not having enough time: here, to carry out coaching and training, which is a particular concern to small operations.

Figure 22: Challenges to managing performance & quality



The second-greatest challenge – and that of greatest concern to mid-sized operations - is also related to training and coaching: a lack of personnel to deliver this, even assuming that the QA process has successfully identified training requirements at an individual level. Once again, increased automation could be the answer here: e-learning has grown greatly in importance and popularity over the years, and in many cases has taken over from the traditional lecture-based forms of mass coaching, without requiring the one-to-one dedicated time and effort which places even greater strain on resources.

It is positive to say that very few of our respondents believe that performance and quality is low on the priority list.

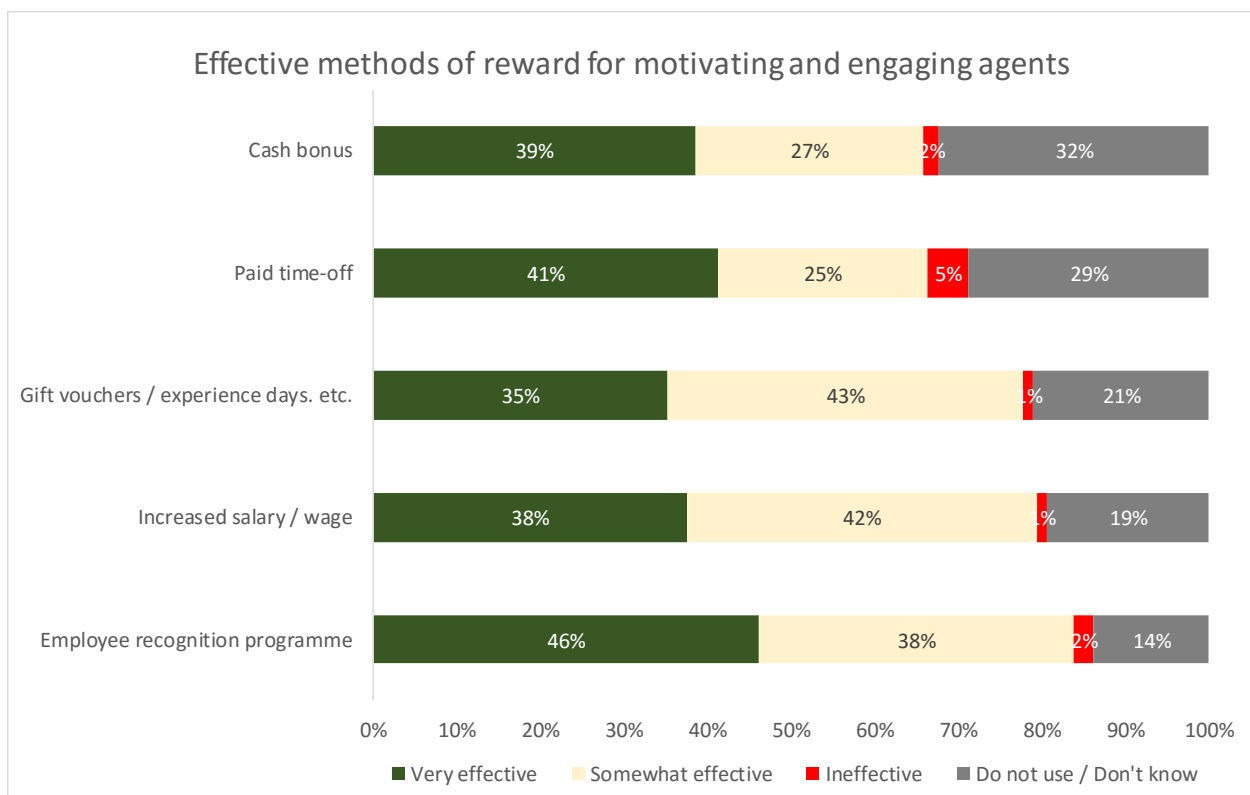
AGENT ENGAGEMENT & GAMIFICATION

Motivating and keeping good agents in a working environment that is often stressful, sometimes repetitive and usually not well-paid is a challenge the contact centers have had to face since their inception.

As the nature of contact center work becomes increasingly complex, and customers' expectations of what constitutes good quality service becomes ever higher, the agent's job is now rarely just reading something off the screen: they have to be empathetic to the customer, use their initiative to solve the issue and remain focused on answering the next call just as effectively.

Respondents believe that their methods by which they reward agents - thus motivating and engaging them - are generally effective. Five methods of reward were presented within the survey, with an employee recognition program being the most widely used (86% of respondents), and cash bonus the least (68% of respondents).

Figure 23: Effective methods of reward for motivating and engaging agents



Very few respondents found any of their reward methods to be ineffective, with most split roughly evenly between believing that they were ‘very effective’ or only ‘somewhat effective’. On the face of things then, most of the contact center industry believes that it is motivating and engaging agents in an appropriate and effective manner to a greater or lesser extent. Rather than taking this opinion at face value, further data analysis was carried out to cross compare the effectiveness of reward methods depending on the level of agent attrition and absence present within those respondents.

The following table shows the percentage of respondents within each attrition group who believe that this reward method is either ‘very effective’ or only ‘somewhat effective’ / ‘ineffective’ for them, then looking at the attrition and absence rates within each of these groups for each reward type.

The logic behind using attrition and absence rates to look at the effectiveness of rewards is that agents who are motivated and engaged are less likely to leave or absent themselves from an operation than those who are not, and so the effectiveness of the motivation methods can be compared at some quantitative level. While this is a broad statement, ignoring the individual reasons for leaving an organization or being absent, it is believed that there will be some truth in this. As such, we would expect contact centers that believe that their reward methods are highly effective to have lower attrition and absence than those in contact centers which are less enthusiastic about their reward and motivation program.

Figure 24: Agent attrition rates depending on the effectiveness of rewards methods

Method of reward / effectiveness of method	Agent attrition when method “Very effective”	Agent attrition when method “Not very effective”
Employee recognition program	30%	30%
Gift vouchers / experience days etc.	32%	30%
Paid time-off	30%	31%
Cash bonus	36%	27%
Higher salaries	26%	34%

For attrition, this is not the case. In contact centers which firmly believed that their methods of motivating and engaging agents through reward were very effective, there was very little difference in staff attrition rates. The only discrepancy between low attrition and high attrition operations was in the use of higher salaries to reward staff: those respondents with low attrition were far more likely to be rewarding staff with high levels of pay than those respondents with high levels of attrition. This supports past ContactBabel research that showed a strong positive correlation between low salary levels and high staff attrition. As such, the data seems to support a hypothesis that if businesses want to engage, motivate and keep competent agents, the best way of doing this is through increasing their salaries.

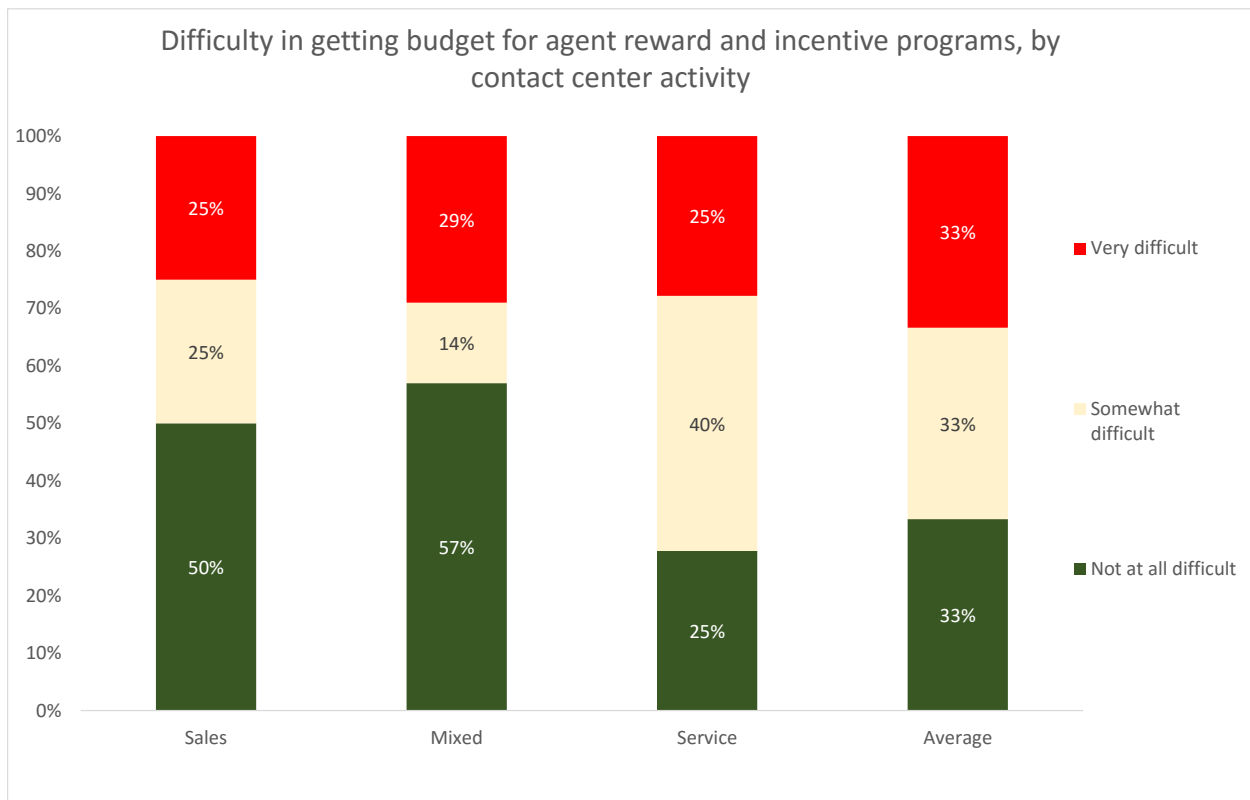
For absence, the picture seems different, with those contact centers rating their reward programs are 'very effective' having lower absence rates than those who did not. Again, it is difficult to prove - correlation does not prove causation - but the pattern is worth noting.

Figure 25: Agent absence rates depending on the effectiveness of rewards methods

Method of reward / effectiveness of method	Agent absence when method "Very effective"	Agent absence when method "Not very effective"
Employee recognition program	7.6%	11.0%
Gift vouchers / experience days etc.	8.6%	10.2%
Paid time-off	7.7%	10.8%
Cash bonus	8.7%	10.3%
Higher salaries	8.2%	10.4%

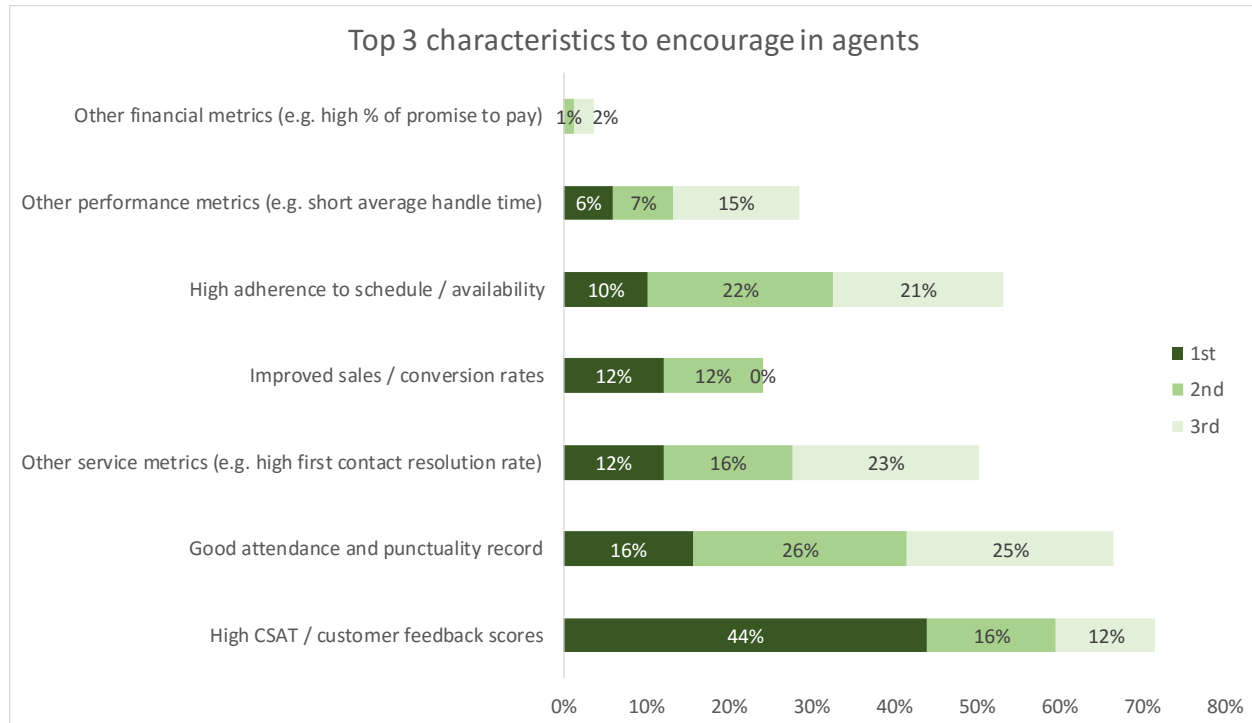
However, it is generally not within the power of contact center managers to give significant (and probably ongoing) salary raises to agents, so alternatives to this method of agent engagement need to be found, particularly in light the following chart that shows two-thirds of respondents stating that getting budget for agent reward and incentive programs was either ‘very difficult’ or ‘somewhat difficult’, a view particularly strongly felt within the service sector which does not have the same level of sales-related bonuses to offer to its agents.

Figure 26: Difficulty in getting budget for agent reward and incentive programs, by contact center activity



It is one thing to encourage and motivate agents, but quite another to understand which agent characteristics and achievements are most helpful to encourage and reward, and it does not have a single, simple answer. Respondents were asked to choose which, from a list of seven characteristics and agent achievements, were the top three that they would **most** like to encourage.

Figure 27: Top 3 characteristics to encourage in agents



44% of respondents stated that they would most like agents to achieve higher customer satisfaction and feedback scores, with 12% saying that improving sales and conversion rates was most important to them. Agent attendance and punctuality records featured as a top three choice of 67% of respondents - 72% mentioned high CSAT scores - and around half of respondents stated that other service metrics (such as an improvement in agents' first contact resolution rates) was a top three priority for them.

Looking in more depth at responses from respondents within the three contact center size bands, large contact centers place high CSAT and customer feedback scores higher than any other characteristic, whereas those in small and medium operations are as likely to look for good attendance and punctuality from their agents. Those in the medium-sized sector were very keen to promote adherence to schedule.

Those in small and medium contact centers also look for performance metrics such as short handle time, although patterns were similar for most of the other characteristics across size bands.

Figure 28: Top 3 characteristics to encourage in agents, by contact center size

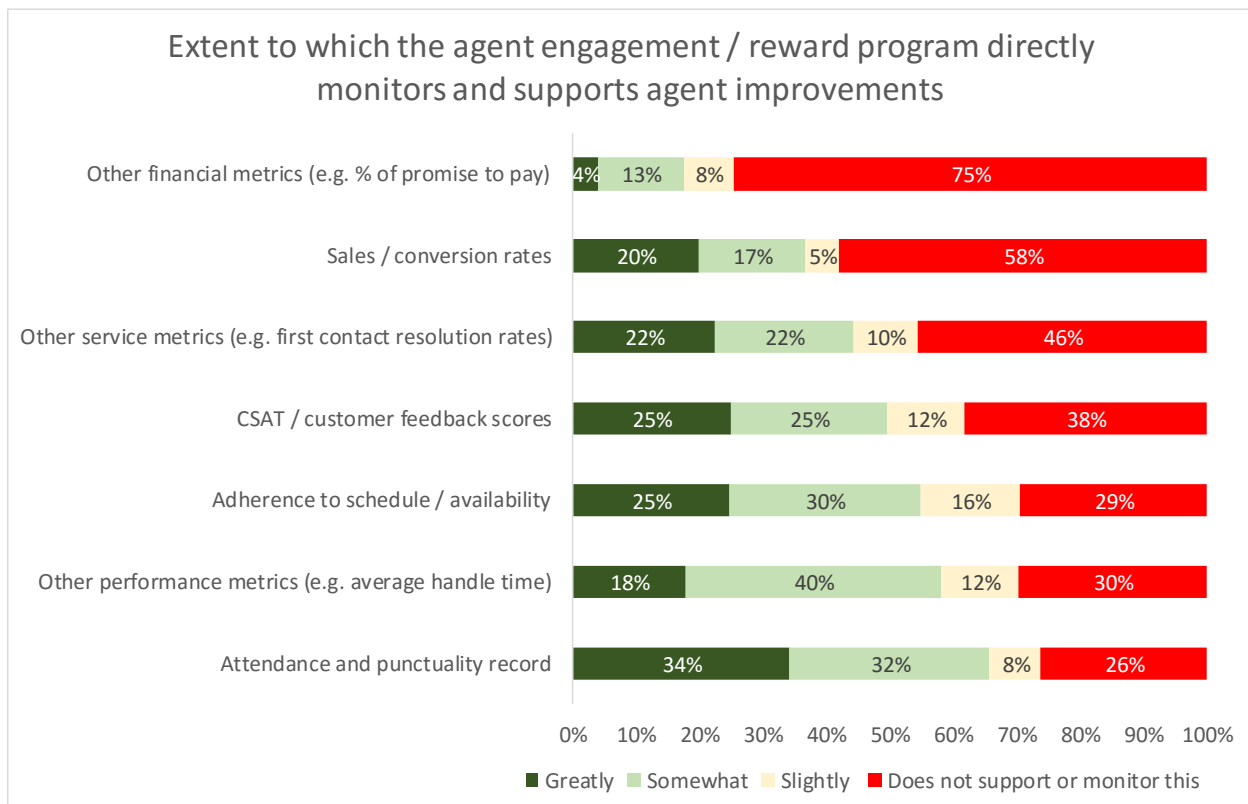
Agent characteristic / % ranked in top 3	Small	Medium	Large	Average
High CSAT / customer feedback scores	71%	59%	75%	72%
Good attendance and punctuality record	68%	65%	69%	67%
High adherence to schedule / availability	40%	79%	57%	54%
Other service metrics (e.g. high first contact resolution rate)	52%	56%	45%	51%
Other performance metrics (e.g. short average handle time)	35%	26%	21%	29%
Improved sales / conversion rates	23%	32%	28%	27%
Other financial metrics (e.g. high % of promise to pay)	5%	6%	0%	4%

Bearing these findings in mind, we might expect to see that the agent engagement/reward program will support those characteristics and achievements that are most highly valued by contact centers: specifically, customer satisfaction, attendance and punctuality, and adherence to schedule.

This hypothesis is borne out in large part: the agent engagement/reward program is said to monitor attendance and punctuality records, adherence and customer satisfaction scores either ‘greatly’ or ‘somewhat’ in half or more of cases.

However, operational performance metrics such as average handle time feature far more frequently than service-based metrics such as first contact resolution rate, despite respondents’ insistence that the latter matters far more than the former.

Figure 29: Extent to which the agent engagement / reward program directly monitors and supports agent improvements



For 46% of respondents to say that vital customer-focused service statistics such as first contact resolution rate does not play a part in rewarding agents is in our opinion very shortsighted, particularly when put into a context where operational performance metrics such as handle time are taken far more into account, despite not aligning with businesses’ own stated requirements of the characteristics and achievements that agents should have.

The following table shows this more clearly. The agent characteristics and achievements that are **encouraged and required** are shown, in order of importance, on the left. The characteristics and achievements on which **rewards are actually based**, are placed on the right.

It would be expected that the most encouraged and desired characteristic would be that which was also the most important when considering how to reward agents: in this way agents would be rewarded closely based upon how much they aligned with the needs of the contact center and the business.

However, this is only partially the case. For example, although high customer satisfaction scores are stated to be the most important, it is only placed fourth in terms of characteristics rewarded.

On the opposite side, operational performance service metrics such as average handle time are seen as the fifth-most important to be encouraged, but rated as the second most important characteristic to be actually rewarded. In this way, we can see that the characteristics needed and characteristics rewarded are disconnected, putting them out of alignment with the needs of the wider company.

However, the importance of good attendance and punctuality and adherence are both recognized and rewarded appropriately.

Figure 30: Comparison between characteristics encouraged, and characteristics rewarded

Rank	Agent characteristic encouraged	Agent characteristic rewarded
1 st	High CSAT / customer feedback scores	Good attendance and punctuality record
2 nd	Good attendance and punctuality record	Other performance metrics (e.g. short average handle time)
3 rd	High adherence to schedule / availability	High adherence to schedule / availability
4 th	Other service metrics (e.g. first contact resolution rate)	High CSAT/customer feedback scores
5 th	Other performance metrics (e.g. short average handle time)	Other service metrics (e.g. first contact resolution rate)
6 th	Sales / conversion rates	Sales / conversion rates
7 th	Other financial metrics (e.g. high % of promise to pay)	Other financial metrics (e.g. high % of promise to pay)

The difficulty in keeping agents engaged, understanding and focusing upon the behaviors, actions and characteristics that are most helpful for the contact center and the business, and the limited budget which most contact centers have for incentive programs create a situation whereby an alternative approach may need to be considered.

Gamification is an approach taken to improving agent engagement, aligning behaviors and characteristics with those of the contact center and wider enterprise: at the most basic level, it involves making work tasks into games. The contact center is a particularly rich potential environment for this approach, as it contains many of the factors that can make gamification successful:

- opportunity for achievement, reward and recognition at an individual level
- the possibility of team-based and goal-based quantified success
- a large pool of competitors and team members, that can be segmented appropriately to make competition and teamwork more manageable
- clearly defined tasks and metrics that can enable direct comparison between individuals and teams, over time, with measureable improvements possible.

Generally speaking, contact center agents tend to work in stressful environments for relatively low pay, doing work which may sometimes be repetitive. Depending on the nature of the calls, they may be dealing mainly with customers who have negative experiences of the company, which is unlikely to make the agent happier about representing the enterprise, especially over time.

The new agent, while often feeling uncertain about their competence to do tasks, is usually willing to learn and is engaged in their work. As time goes on, their competence will increase but they are more likely to become bored and cynical, which may in the longer term lead to high levels of agent attrition and correspondingly lower levels of operation-wide competence. As such, there is a twofold problem: lack of engagement at agent level leading to lower quality and productivity, and the corresponding costs associated with unnecessary agent attrition.

Gamification looks to meet these twin challenges with two solutions of its own: making work a more fun place to be, while encouraging the behaviors, competencies and characteristics that most closely aligned with the enterprise's own requirements, through giving agents real-time feedback about their performance, the opportunities to improve themselves and to be seen positively by peers and managers with the attendant social and material rewards.

Through the process of awarding badges, points and achievement levels, gamification gives agents an opportunity to show their achievements and compete as individuals and part of the team. The goals in mind are set by the business, and these require a great deal of thought, as any agent behaviors and actions must be closely aligned with where the business wants to go. This is an area of particular potential risk for businesses: taking a simple example, rewarding agents based upon average call handling time so as to reduce cost could obviously lead to them dropping difficult calls or not answering customers fully in order to meet these targets. There is also a risk that the novelty of games will wear off, with rewards having to have a higher and higher tangible monetary value in order to keep people's motivation, so ongoing efforts must be made by management to keep games fresh and goals relevant.

It is also important to note that gamification - while providing feedback and rewards to agents on an individual level - should be used as part of a team or community experience, encouraging high performing agents to share their best practice and for all agents to be continually challenged and pushed to learn new skills and improve their own performance.

Contact centers that use gamification frequently report that most agents go beyond the required training schedule, completing extra units and developing skills further in order to accumulate more points and badges. In a heavily incentivized sales environment, encouraging agents to take time off revenue generating activity to take training can be difficult, and this is a potential solution.

Gamification looks to increase agent engagement through:

- providing immediate feedback to the agent, who does not have to wait until the scheduled supervisory review to see how they are doing
- improving *esprit de corps* through the pooling of knowledge and collaboration within a group in order to achieve specific goals for which all will be rewarded
- cut down on the amount of time required for new agents to become competent, providing real-time feedback in order to encourage positive behaviors
- reduce the amount of management time required to run incentives programs, and deliver them more fairly and objectively
- focus upon and reward those characteristics and behaviors that are most closely aligned with the contact center's and enterprise's own requirements.

This final point - encouraging agents to do what benefits the business - is a key purpose for gamification. As seen earlier in this chapter, many organizations are rewarding agents for behaviors which are not closely aligned with where the business needs to go, while ignoring those attitudes and characteristics that would actually support them in their journey, often because these latter are more difficult to measure.

Gamification can help businesses to support their objectives, and to achieve specific results. For example, steps to make gamification assist with achieving a company's business priorities could include:

- clarifying the enterprise's objectives
- identifying contact center metrics that directly impact upon these objectives
- identifying the agent characteristics, behavior and actions that impact these metrics the most
- developing a gamification strategy that can measure and improve these metrics, through motivating the agents to act in ways that support this goal.

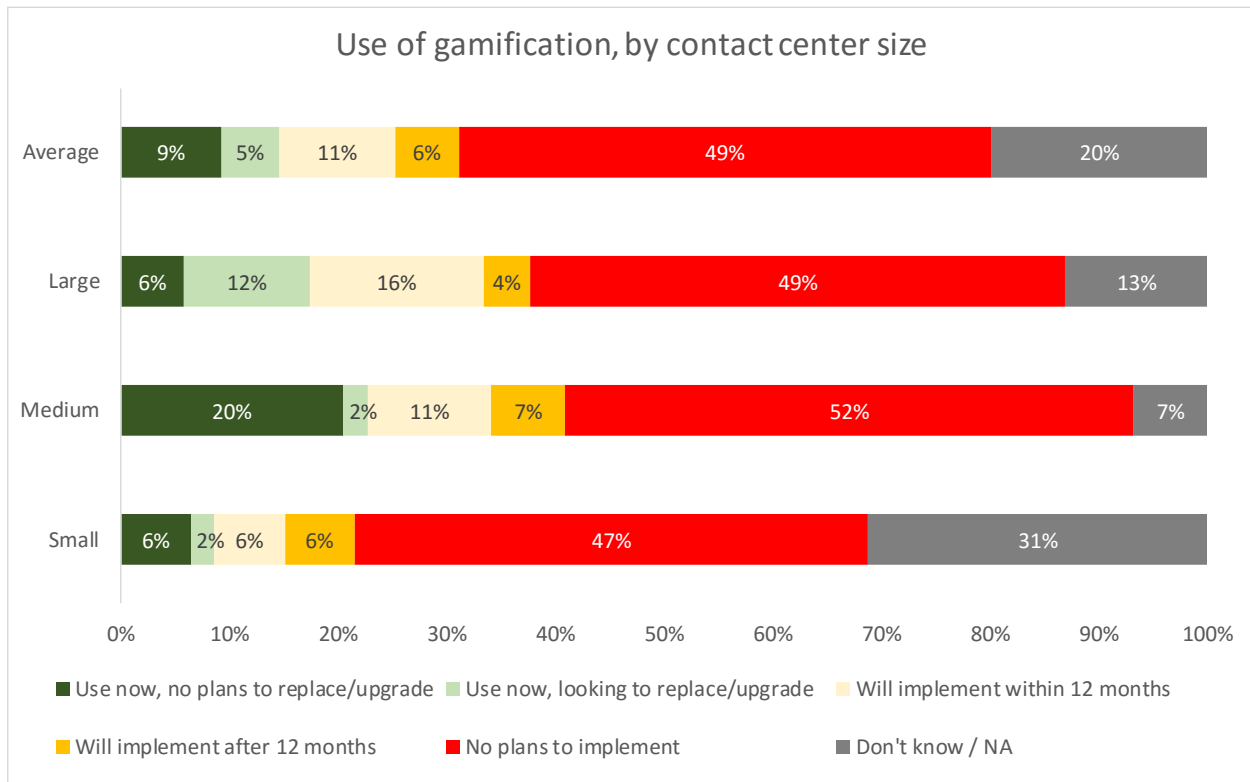
For businesses which want to achieve specific results, gamification can assist through:

- increasing the skills and competencies of new agents more rapidly, decreasing time to productivity by switching from formal, classroom lecture-based training into structured real-life work tasks
- further developing the skills of agents through encouraging and rewarding the completion of extra training courses and activities beyond what is required
- cutting agent retention through increasing agent engagement, and recognizing and rewarding positive behaviors and characteristics.

Only 14% of respondents currently use gamification within their contact center operations, although a further 11% believe that they will implement this within 12 months.

The use of gamification is higher within medium and large contact centers, where respectively 18% and 22% of respondents currently use it.

Figure 31: Use of gamification, by contact center size

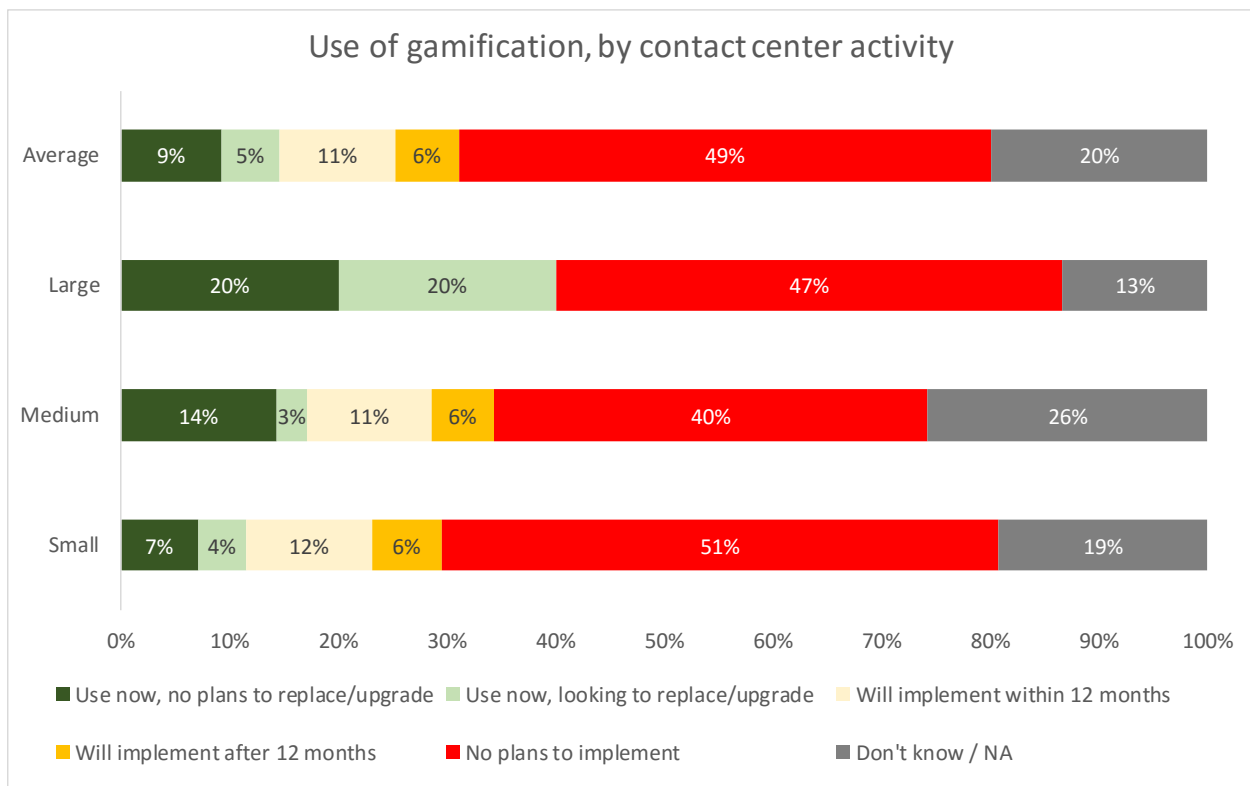


While low penetration rates do not currently allow any meaningful analysis by vertical market to be carried out, patterns emerge when looking at the activity type of respondents.

Those working in the sales environment, which are already culturally used to the public, competitive practice of sharing sales targets and achievements, appear to be far more likely to be using gamification today.

However, there is significant short-term interest and expectancy from those in the mixed and service sectors as well.

Figure 32: Use of gamification, by contact center activity



DESKTOP AUTOMATION & ANALYTICS

The variable capability of agents is a contributory inhibitor to quality improvements and profit maximization. One possible solution is to look at an overall unified desktop environment that includes dynamic scripting, as well as understanding agent training needs through an integrated solution that includes call recording and analytical functionality, which delivers up-to-date performance metrics and in-call information, including relevant cross-selling and upselling offers.

The agent desktop lies at the heart of the integrated contact center, with data and processes flowing to and from it. The requirements for a truly integrated solution have never been greater, incorporating the performance and effectiveness of the agent, as well as being a key node within contact process.

The “Contact Center Strategy” chapter at the end of this report finds that 10% of survey respondents place back-office integration as the most important technology priority in the next two years, from a list of 25: second only to omnichannel. This shows that the need for end-to-end integration - not just between the agent and the customer, but also throughout the entire contact center - is to the forefront of the minds of contact center decision-makers.

Throughout this report, respondents’ need to integrate processes and systems, providing up-to-date and accurate view of performance and issues, is a consistent message. Yet the tools provided for the agent and their management have often been added on piecemeal, requiring bespoke or partial integration at each step, growing the level of complexity to such an extent that the full potential of the solution is never fully realized. Only with a truly integrated solution - from the customer, through the agent, into the back office processes and back again as required - can an accurate level of performance and identification of requirements be truly achieved. Findings later in this report show that voice of the customer projects are often running into difficulty when trying to track the customer journey across departments, processes and channels. There is a high level of loose and flawed integration across many contact centers, which has often been caused and exacerbated by the high levels of resource required to make sure that each solution implemented is able to leverage the insight and data from existing technological solutions.

The rapidly growing addition and use of new channels is only making this need more urgent. Role-based performance dashboards and real-time reporting of analysis means that insight into the contact center’s efficiency and effectiveness can be shared immediately, with relevant business users, without the need for high levels of user expertise and experience before the full value can be realized.

The recent movement towards an integrated omnichannel environment shows a desire to break down silos that are preventing the optimization of the customer experience, but it is not just customer channels that benefit from this approach. The integration of the workforce optimization suite - performance and quality management, call recording, interaction analytics and workforce management solutions - offers the opportunity to reduce the complexity of the experience for users, widening the functionality with which they are comfortable and increasing the level of actionable insight available to the whole business, in a timely fashion.

THE AGENT DESKTOP

Many of today's contact centers use complicated, multiple applications, often only loosely-linked, which require skilled and experienced agents to navigate, let alone to manage interaction with customers successfully at the same time. Even after the call is completed successfully, each system may need specific inputs from the agent in order to start the required back-office processes, or to keep each database consistent with the others, and there is always the danger that even if the call has been completed successfully, opportunities to maximize revenues have been missed.

Figure 33: Use of multiple applications across vertical markets

Vertical market	Use of multiple applications
Finance	Customer accounts, CRM, product database, payment systems, email, quotation system (esp. insurance), complaints, other sister companies' systems (often through merger and acquisition), legal and compliance scripts, insurance claims
Outsourcing	Multiple screens and applications depending on customer requirements, not all of which will be familiar to agents
Retail & Distribution	Supply chain systems, distribution and shipping history, warehouse stock systems, CRM, customer history, pricing applications, payment systems, complaints, email
Telecoms	Customer accounts, cross-selling/upselling applications, CRM, field maintenance booking systems, real-time network status screens, complaints, payment history, credit/debit card applications, fulfillment systems, email
Utilities	Customer accounts, payment systems, utilities status systems (e.g. scheduled or emergency work being done on water, gas, electricity supplies), cross-selling/up-selling prompts, product information, maintenance and booking systems, complaints, email

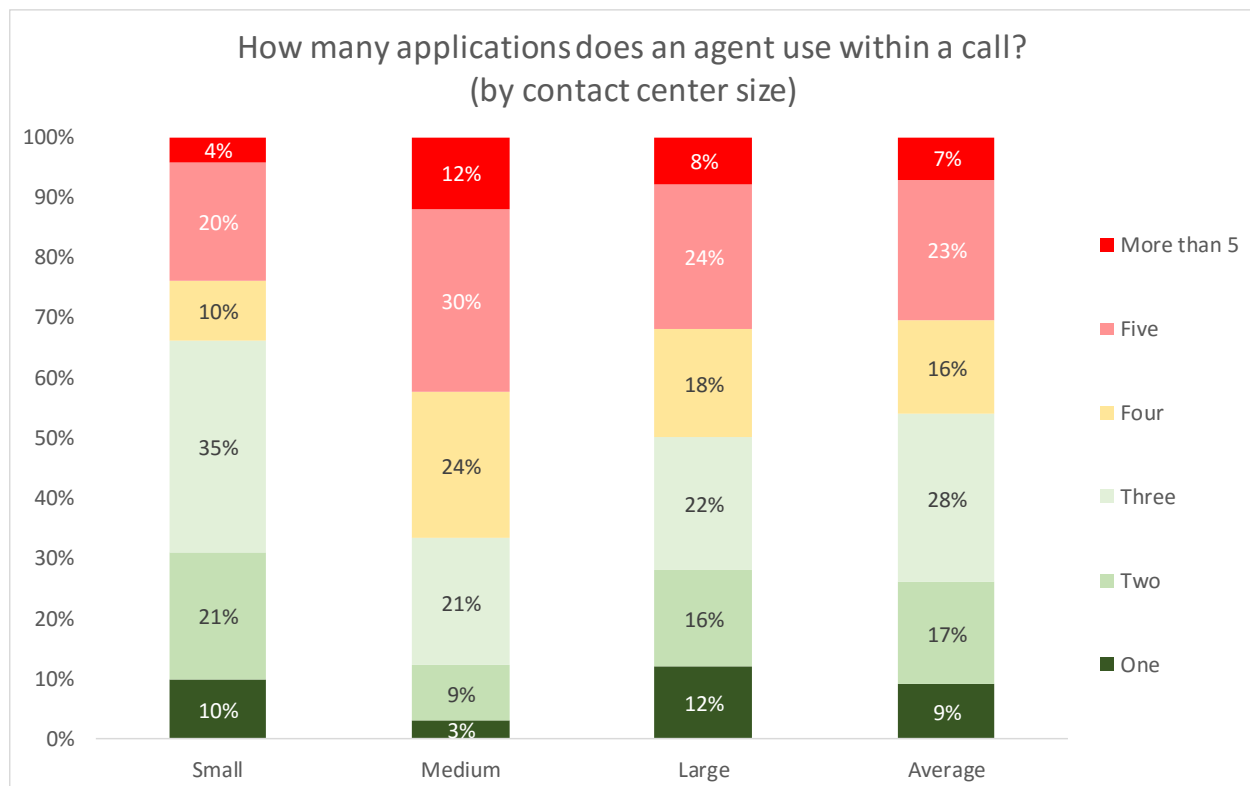
The result is that even though a contact center may be staffed with experienced, hard-working and skilled staff, its overall performance is suboptimal, leading to low customer satisfaction, unnecessary costs and decreased profits.

With 91% of respondents requiring their agents to use multiple applications within a call, there are significant dangers around forgetting to key in information, not asking for the required information, starting the correct processes or failing to type in consistent data.

The use of multiple applications will require longer training times and initially lower accuracy rates for new agents as well.

46% of respondents report that agents use four or more applications within a call, and this especially seem to be the case in 50+ seat operations.

Figure 34: How many applications does an agent use within a call? (by contact center size)



In most cases where complex, multiple applications are used, they are necessary for the agents to do their job, so the question is not “How can we reduce the number of applications?”, but rather “How can we improve how the agent uses the applications?”. At the moment, due to complexity, expense and the sheer weight of constant change, applications are either integrated very loosely, or not at all. Agents are trained (or more likely, learn on the job) to switch rapidly between applications, relying on their experience to make sure they don’t forget to do what’s required.

Such an approach can have severe primary and secondary effects:

- Increased training costs
- Higher staff attrition caused by inability to complete tasks successfully
- Inconsistent data caused by keying errors or missed procedures caused by manual wrap-ups
- Increased call handling times
- Lower customer satisfaction caused by long queues and unnecessarily long calls
- Missed opportunities to cross-sell and up-sell
- Multiple open applications on the agent desktop can lead to system instability and lower performance.

Desktop automation and analytics solutions can remove the need for agents to log into multiple applications, assist them with the navigation between applications within the call, and make sure that customer data is gathered from the correct places and written consistently back to any relevant databases without the need to navigate through multiple systems.

Within the call, dynamic call scripting helps the agent to provide the right information at the right time, seamlessly linking with multiple back-office applications and databases, providing only what is relevant onto the agent's screen. Depending on the experience or profile of the agent, what the customer is trying to do and any regulatory inhibitors, on-screen buttons can be enabled or disabled, or access to fields limited according to business rules. Furthermore, adherence to business processes can be assured by making the agent complete all of the required steps in the transaction (for example, adding call notes, reading disclaimers, etc.).

The following table shows some key contact center performance metrics that were analyzed in the context of the number of in-call applications that agents use. It is important to note that although there appears to be a correlation between superior performance metrics and the use of fewer in-call and post-call applications (especially where post-call wrap-up is concerned), this does not necessarily demonstrate **causality**: this pattern of statistics do not mean that it is possible to say definitely that the use of fewer applications within a call will in itself improve contact center performance. However, it can be supposed that not having to navigate through multiple screens or spend significant periods at the end of the call typing out notes or making changes to multiple databases, and being given access to dynamic scripting that provides the correct information without having to search for it will encourage shorter post-call wrap-up, improved agent availability, and lower call abandonment rates.

Figure 35: Selected performance metrics, by number of in-call or post-call applications used

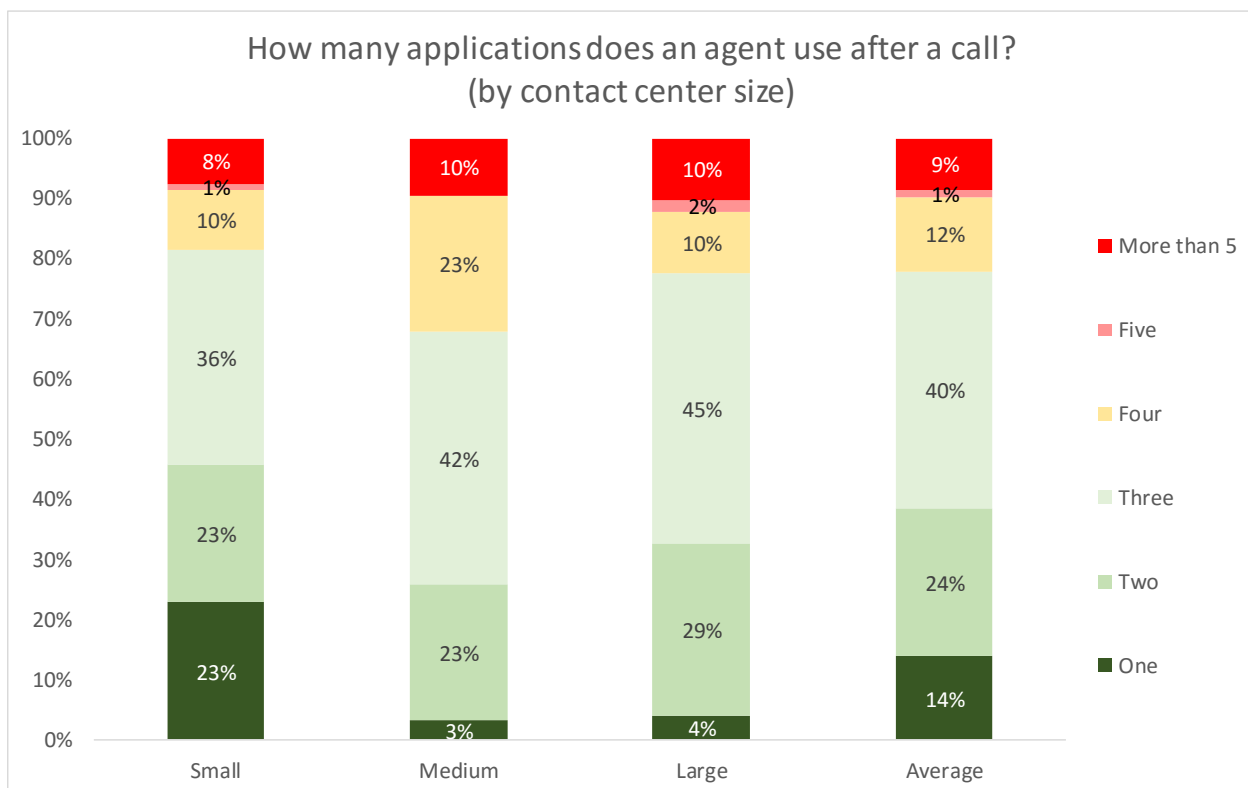
Metric	Respondents using 1 application	Respondents using 4 or more applications
Average speed to answer (median)	20 seconds	25 seconds
Call abandonment rate (median)	4.8%	5.5%
Post-call wrap-up as % of call (median)	8.8%	13.1%
NB: ASA and abandonment rate apply to # in-call applications. Post-call wrap-up % refers to # post-call applications.		

It is logical to hypothesize that using complex, multiple applications without any specific agent support will often lead to longer calls. However, this is not the end of the problem, as this type of work also tends to initiate requests for processes to be carried out within the back-office (e.g. initiating an engineer or sales visit, sending out literature, moving a customer request onto the right department with the right information, flagging a customer as a hot prospect for a specific marketing campaign, etc.).

This, as well as the need to enter information in multiple applications (as shown below), will tend to increase post-call wrap-up to a point where the agent spends a great deal of their time unavailable to take more calls. Historically, 10-15% of an agent's time is spent on post-call wrap-up.

While the number of post-call applications is generally lower than the number of in-call applications, 62% of respondents report that their agents will use three or more separate systems. The previous table suggests that this makes quite a difference to the amount of time spent on post-call wrap-up.

Figure 36: How many applications does an agent use after a call?



It is in the post-call wrap-up stage that a lot of time and effort is wasted by sub-optimal manual processing of data. For example, a simple change of address request could take many minutes in a non-unified environment, with several separate databases having to be altered, which is itself a process prone to error, with a negative impact on the customer and business, as well as at least one extra unnecessary future phone call from the customer. Reducing wrap-up time through optimizing the agent desktop is not simply a matter of writing consistently to the correct databases, although this is a key element. The contact center also kicks off a number of processes elsewhere in the enterprise: it is the prime mover for sending out documents, instructing the warehouse to release goods, arranging deliveries, taking payment and many other key elements to a successful customer-business transaction.

Some calls require a great many notes to be made to the agent desktop application the end of the call. Desktop automation solutions can automatically log the events which happened within the call (for example, changes to customer data records, billing enquiries, alterations to orders, etc.) which can save minutes in the post-call wrap-up stage in some cases.

The cost of excessive wrap-up

Although few contact center managers would say that excessive wrap-up times cause the same level of concern as attrition or customer satisfaction, the current average of 10.1% of time that contact center agent spend each hour in after-call work adds up to an enormous cost.

The overall expenditure of the US contact center sector - salaries, IT, telecoms, building, rent, utilities, etc. - comes to over \$200bn each year. Wrap-up time accounts for around 10% of the time spent by the industry: usually slightly less in larger contact centers, which account for the bulk of the jobs. As such, wrap-up costs the industry over \$20bn each year. This is not to say that all wrap-up is wasted and unnecessary, but this is a segment of expenditure that is ripe for efficiency-enhancement.

As an example, a 500-seat contact center, processing 5m calls per year, would spend well over \$2m each year just on wrap-up. A 25% reduction in wrap-up time would save over \$500,000, quite apart from the savings in training and lower attrition, as well as the benefits of shorter queues and simpler applications.

There has been a big growth in interest in unified desktop solutions in recent times, with additional benefits coming from reduced training times (as agents are learning one system, not many); processing the call quicker (by hiding slow legacy applications or posting information to multiple systems in one go without replicated effort) and improved customer satisfaction / conversion rates (as the agent can concentrate on the customer and is supported by knowledge bases).

Businesses can usually focus either on cutting costs or improving quality. However, there is a third way, which allows desktop solutions for users to be developed separately from the underlying applications, re-using existing logic and interfaces rather than replacing them. The agent works with a single desktop application which is tailored to their specific needs, pulling in only the right data and applications from disparate systems and presenting them on a single screen. In the background, business rules and workflow make sure that the right back-office processes happen without agent intervention, thus reducing wrap-up costs.

An application which supports less-experienced agents, and helps them to learn means that staff attrition rates can be managed more effectively. High attrition rates and poor knowledge bases mean that people take away the knowledge as they leave. By having a user interface which provides the right information dynamically - and which increases the amount of leeway an agent has as they become more competent - means that agents can find the right balance between being too tightly managed and feeling cast adrift by the system's lack of user-friendliness.

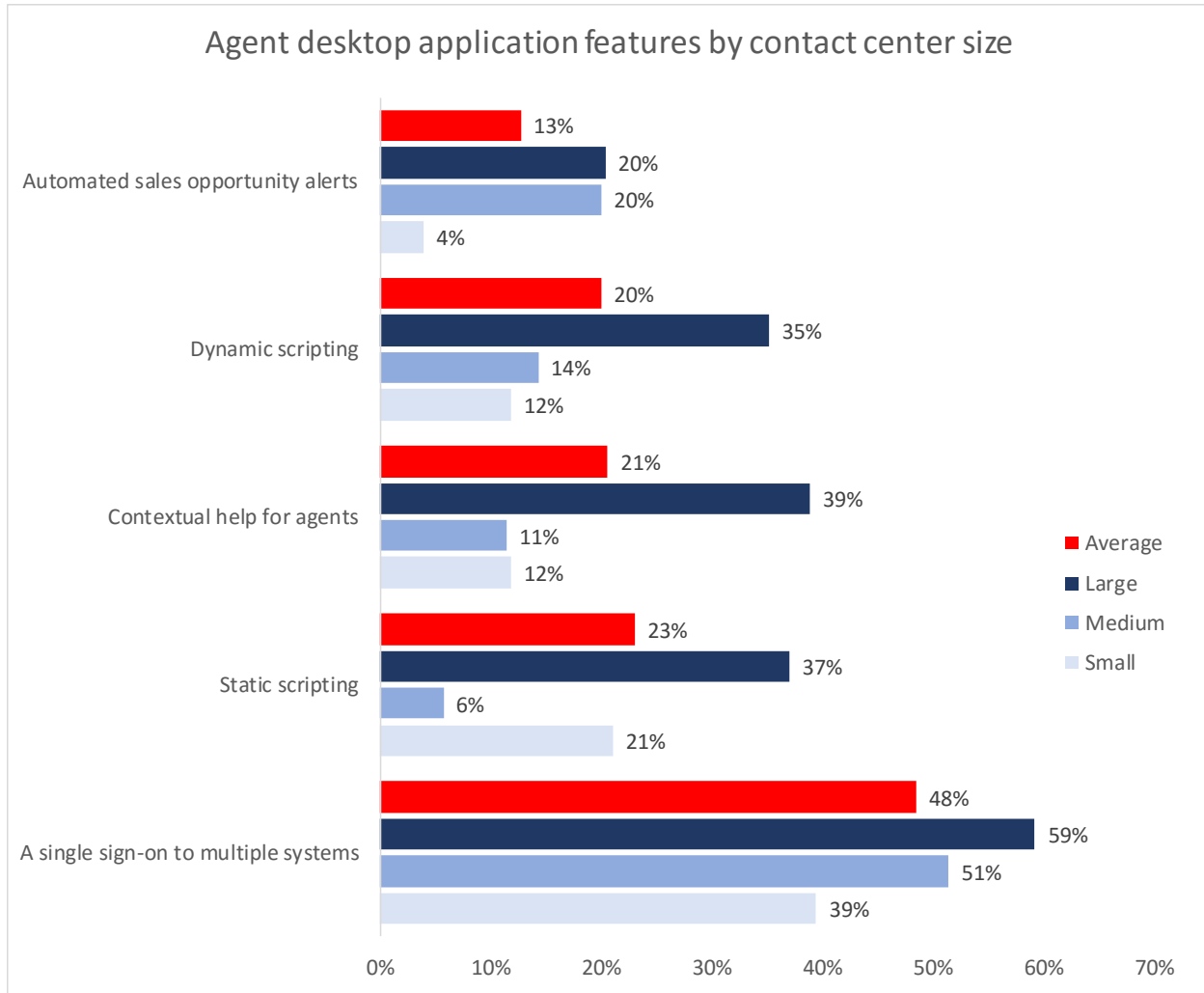
This desire to improve the agent desktop and workflow seems to be more of an issue for those with numerous in-call applications - as we would expect - but it is by no means exclusive to them. Even amongst those respondents with only one or two in-call applications, there is significant appreciation that processes and follow-on work can be improved, which suggest that this is not simply about reducing the number of applications that an agent has to learn to use.

48% of respondents use agent desktops which provide a single sign-on mechanism to multiple systems, which can potentially greatly reduce the amount of time that agents spent logging in and out of systems, and larger operations tend to provide this more often.

Static scripting (which does not change depending on the context of the conversation) is used by 23% of respondents, and dynamic scripting (which alters depending on the context and direction of the conversation) is used by 20%. Only 1 in 5 respondents which use scripting of either type have both varieties.

Only 13% of respondents have agent desktop applications which provide automated sales opportunity alerts to their agents while on the phone, which may be triggered by the use of keywords or phrases using real-time speech analytics, or through agent input into specific fields or screens.

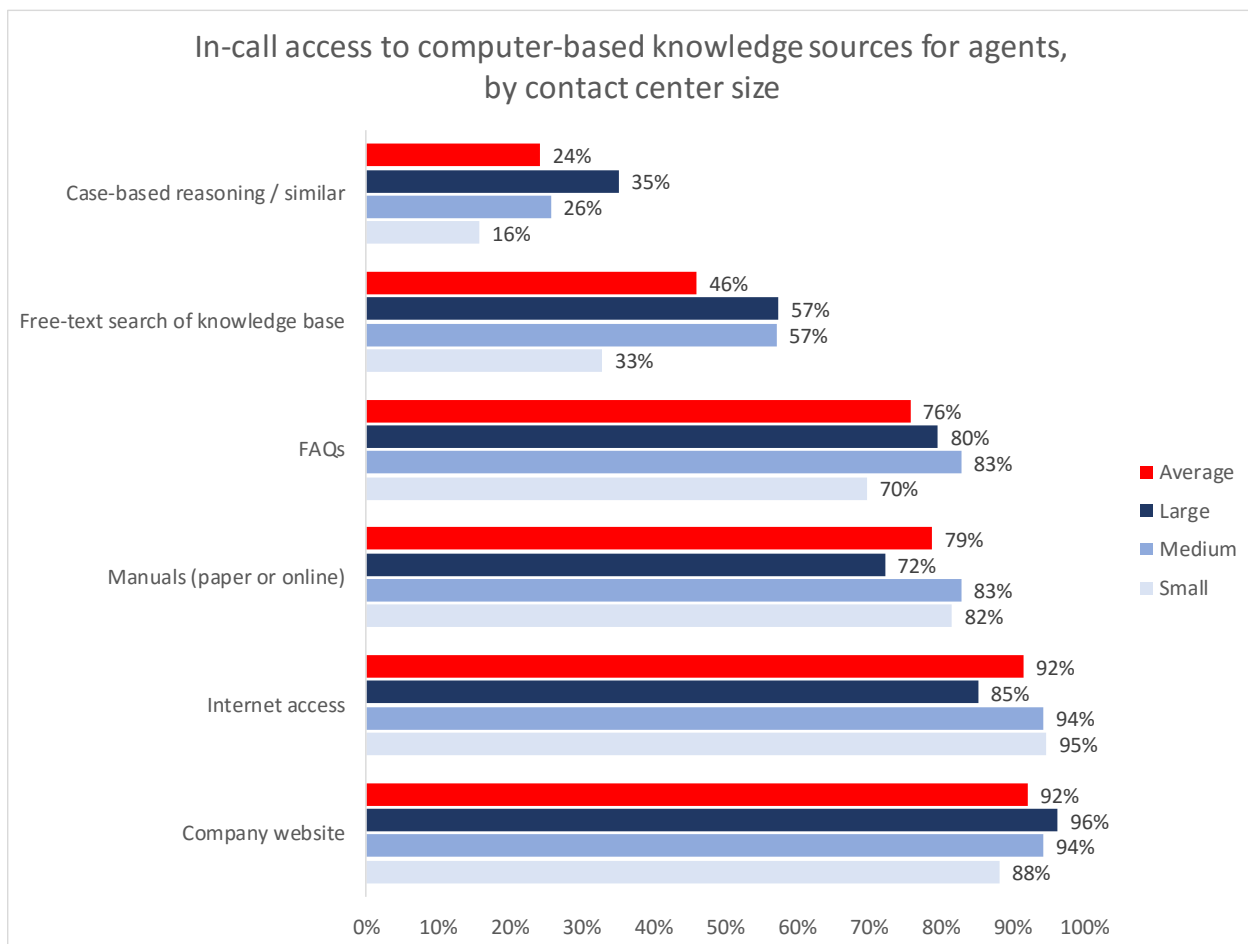
Figure 37: Agent desktop application features by contact center size



AGENT DESKTOP KNOWLEDGE MANAGEMENT

The following table shows the knowledge resources that agents have within a call. Finding, reading, assimilating and using information actually within a call is very difficult and is rarely done seamlessly. An application such as case-based reasoning, which prompts the agent to ask specific questions, drilling down to find the right answer, is very useful but only 24% of agents have access to this sort of dynamic application. Most have to search around on a company website or FAQ page, or rely on a wide, unsupported search of knowledge bases or the wider Internet, hoping to get lucky.

Figure 38: In-call access to computer-based knowledge sources for agents, by contact center size



Not only do most agents have numerous in-call / post-call applications as well as non-integrated knowledge sources to contend with, but most also have hard-copy documents in their workspace that they have to refer to as well. Only 21% of respondents had effectively a clean-desk policy with no hard copy reference material available to agents, a figure which was even lower for agents working in a mixed service/sales environment, who tend to have to cover a wide range of varying topics.

CUSTOMER EXPERIENCE MANAGEMENT & IMPROVEMENT

Most businesses say that customer satisfaction is vital to them. Yet this raises more questions: how 'satisfied' do customers have to be? And what do customers want from contact centers? Quite simply, they would like to be answered quickly by a person who is able to help them without passing them around, and have the correct answer given to them quickly by someone with whom they feel comfortable talking. Additionally, the business has to deliver on the reason the customer is calling in the first place - by sending out the purchased item promptly, changing the database details or refunding money, for example. So the contact center does not stand alone: it orchestrates the rest of the business.

Various pieces of research show that the benefits to a business that are made from increasing customer satisfaction are non-linear: if a customer is very happy, they are likely to be worth a great deal in additional direct purchases and possibly more importantly, will act as a brand advocate for your company. A customer who is merely 'satisfied' will not have anywhere near the same positive impact on revenues or profits, and is likely to be a good deal less loyal.

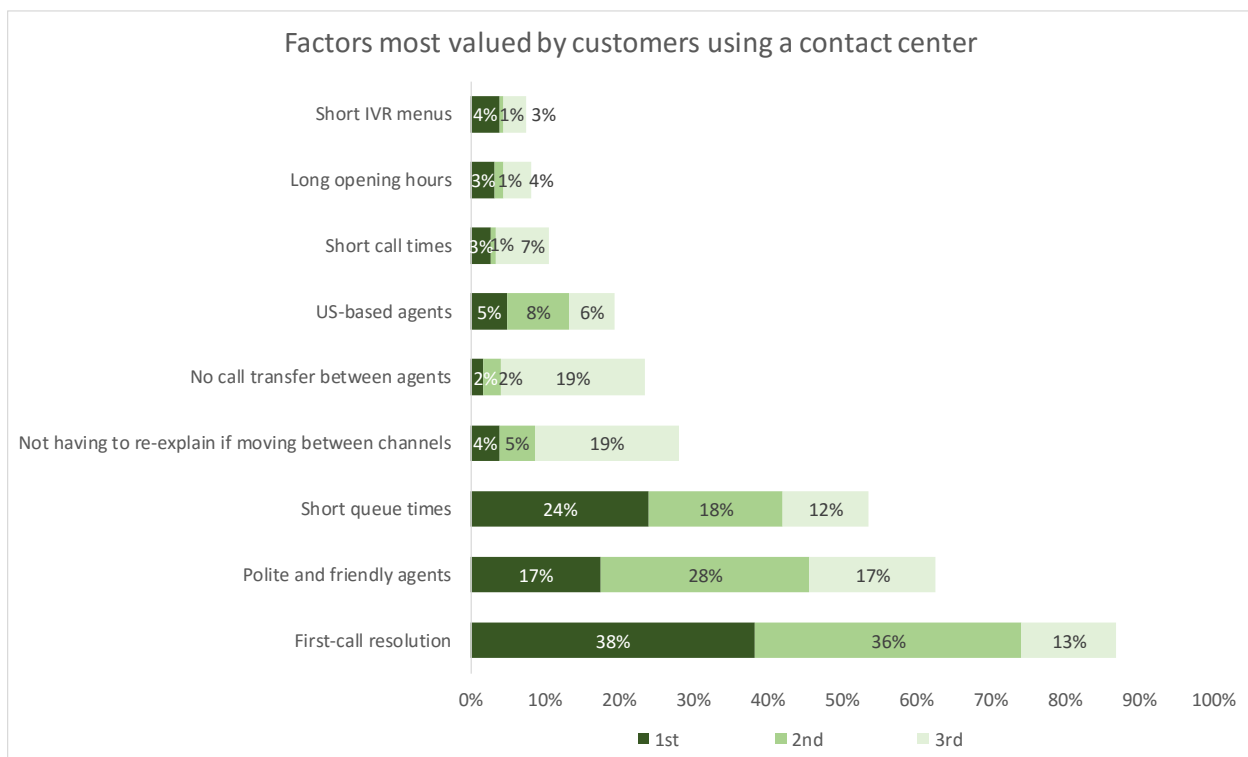
A contact center can achieve all the operational performance measurements which it sets for itself, without actually being successful. If the customer does not hang up the phone feeling that she has been treated appropriately and that her query has been resolved to her satisfaction, then that counts as a failure, regardless of how good the internal metrics may be.

FACTORS IN ACHIEVING CUSTOMER SATISFACTION

Respondents were asked to choose the three most important factors impacting upon customer satisfaction from a list of eight, with the graph below showing the most popular choices.

As with previous years, the top 3 choices are “polite and friendly agents”, “first-call resolution” and “short queue times”, the latter acknowledging that the customer experience starts well before the agent's greeting. As omnichannel moves further into the foreground, “not having to re-explain if moving between channels” moves from 6th position in 2015 to 4th in 2016.

Figure 39: Factors most valued by customers using a contact center



Short call duration, which has been slipping as a primary metric for a number of years, was picked as the most important factor in achieving customer satisfaction by only 3% of the respondents this year, further evidence that average handle time is becoming increasingly irrelevant in the modern day contact center, in businesses’ opinion at least. Due to customers’ willingness to use self-service, it has been the case for many years that the average phone call has been increasing in complexity, which is borne out by the gradually increasing average call times. As such, customers will tend to expect calls to take as long as it takes to resolve their issue, with a successful resolution far more important to them than the call length itself.

CUSTOMER SATISFACTION MEASUREMENT TECHNIQUES

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” programs, often based around large-scale analysis of call recordings. This approach is investigated in more depth within the ‘Customer Interaction Analytics’ chapter within this report, but the more traditional, direct methods of understanding customer experience and requirements are still very much present.

The numerous methods of directly surveying customers include the following:

IVR: at the end of the call, and after agreeing to do so, the customer may be passed through to an automated IVR system, which typically asks a mixture of open and closed questions which can be answered with a combination of DTMF touchtone and speech. This has the benefit of immediacy, in that the caller will be able to give an accurate assessment of the call and the agent, and also allows the business to be alerted in near-real-time to any major problems through pre-programmed automated SMS, dashboard or email alerts.

The speed and ease with which an agent-invited IVR survey can be implemented gives it a distinct advantage over a survey conducted via outbound calls. The resources and staff time required to make outbound calls often mean that they are conducted erratically and rarely during peak times which undermines the quality and usefulness of the data collated. As agent-invited IVR surveys are automated, they require little staff input and can monitor customer satisfaction whenever the contact center is open.

It is also worth mentioning that outbound automated surveys are becoming more prevalent, with many tens of millions of outbound IVR survey calls estimated to be made each year in the US. After the call has been concluded, the caller's number may be put into an outbound dialer's queue, which calls them and offers an IVR survey. The speed with which this call-back is made is crucial to the take-up rate of the survey, with up to 70% acceptance rate if the call-back is in minutes, but perhaps only 10% if the call is made over 48 hours later.

Written: a system-generated letter is posted to the customer soon after an interaction takes place, requesting feedback. Typically, more customers who have had a poor experience will bother to return the questionnaire, skewing the figures, and although some good and detailed learning points can emerge, it's an expensive way to survey customers. It's also the case that results will be tilted towards the demographics with more time available to them, especially older people. There can be a lack of immediacy, and some people might feel that sending out a written questionnaire to ask about how well a call was handled is excessively solicitous.

Written surveys via letter or person-to-person interviews have an important role to play, particularly where the feedback generated can be compared side-to-side with feedback by other methods. Having quantitative and qualitative data provides valuable feedback that can't be achieved by adopting a single surveying method.

Outbound: frequently, the contact details of a proportion of incoming callers will be passed to a dedicated outbound team, who will call the customer back, often within 24 hours, to ascertain the customer's level of satisfaction with the original call. Sometimes customers will find this intrusive, while others will welcome the chance to provide feedback. Additionally, certain companies employ **outside agencies** to survey customers regularly, which may be useful in benchmarking exercises, since they will apply a more formalized and structured approach to data gathering and presentation. The automated option as mentioned in the 'Outbound & Call Blending' section elsewhere in this report should also be considered as an option.

SMS: In theory, text messaging has the advantage of immediacy of sending and also of reporting on the results. It is a cheap way of carrying out surveys, and can be linked to a specific agent, allowing the contact center to use this information for agent performance as well as satisfaction with the business. SMS does not allow detailed or multiple questions though, and businesses will have to collect cellphone numbers if they do not already have them, and the costs of sending and receiving SMS will have to be considered.

In today's omnichannel society, it is important to choose a survey platform that caters for all your customers. Though many customers want to continue to contact by telephone, there are others who prefer to text or email and it is necessary to offer consistent service across the business. Monitoring all interactions to the company will give comprehensive insight into customers' opinions of the service being offered.

Similarly, different customers will prefer to be surveyed in different ways and a survey platform should have the flexibility to support IVR, web, text and written surveys and collate the results in a unified reporting system. Not only will this mean that this is an increase in the number of customers accessed, but there will be a different quality of feedback from each approach.

We would suggest that there is no single best way to gauge customer satisfaction. If detailed feedback is what's needed, a written or telephone-based questionnaire is best, although IVR can offer the option of direct quotes through speech recognition or recording transcription. If immediate knowledge about an issue is needed (including your customers' views of agents' performance), consider post-call IVR or an SMS survey in certain circumstances. The more information businesses have at their disposal, the more confident they can be that they fully understand your customers.

It is important before organizations begin to survey their customers, that they:

- Clearly determine the purpose and aims of the survey
- Consider adopting a variety of question types. Scored questions enable the business to produce statistically significant and representative data. Free comments can provide real insight into customers' perception of service
- Consider selecting an experienced company to set up and host the survey. Businesses can benefit from their expertise and knowledge and avoid potentially costly errors
- Ensure that the survey can be carried out throughout the day, including peak times, to gain a true picture of the customer experience
- Make sure that the results of the survey can be collated and analyzed in a wide variety of ways. It is pointless to amass information if it cannot be evaluated and the results disseminated usefully
- Have procedures in place to act upon the information that is found. The survey may have uncovered some broken processes in the service which need attention. It will also inevitably throw up disgruntled customers whose specific concerns need addressing. In this instance, any survey platform should provide some mechanism for alerting and following-up to ensure that dissatisfied customers are escalated to the appropriate staff
- Adopt a unified approach across the business to assessing and monitoring customer satisfaction. If businesses continue to reward agents based on traditional call performance metrics, they are merely paying lip service to good service. If they reward agents based on customer satisfaction ratings the businesses will increase agent engagement and retention at the same time as improving the service offered to customers.

USING CUSTOMER FEEDBACK

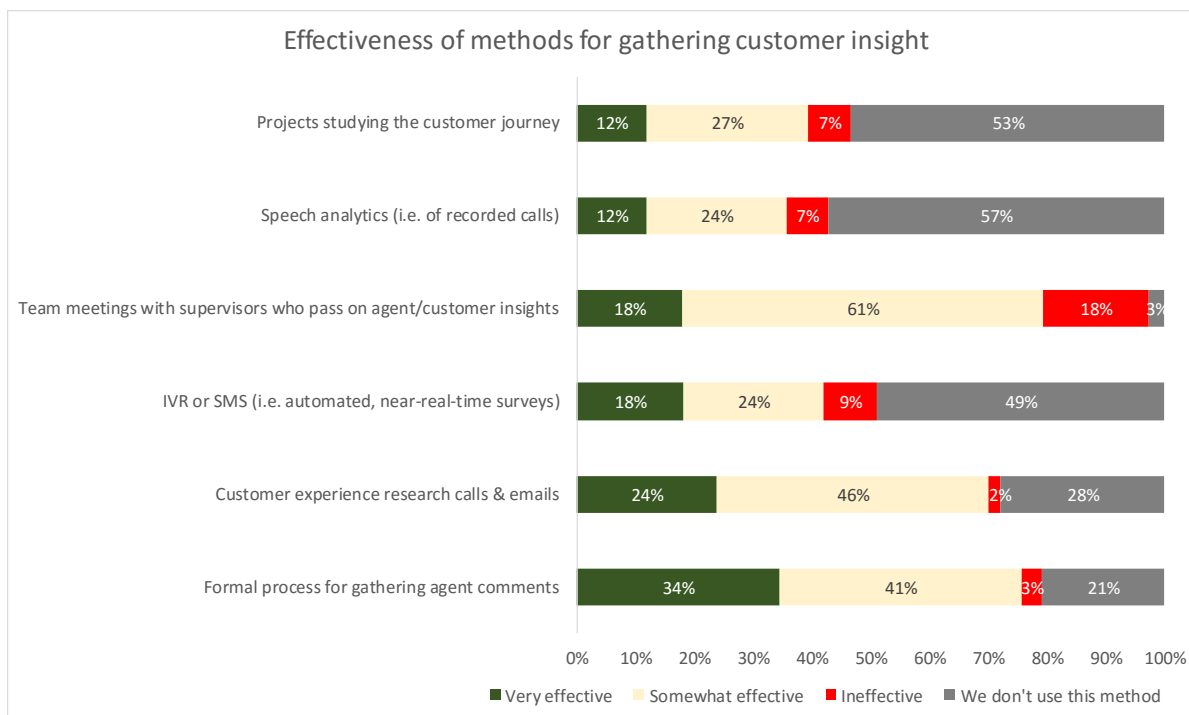
Many companies **hear** their customers, but do they actually **listen** to what their customers say? And more importantly do they act upon it to change or improve their processes? There is no point in generating an expectation which you have no intention of fulfilling. Don't ask the customers for feedback if you have no intention of using it to make the service you provide them with substantially better.

Respondents tend to rate customer experience research calls, formal processes for gathering agents' comments, and supervisor debriefs for the same purpose as the most effective ways of gathering customer insight.

Formally gathering agent comments is seen as the most effective way of gathering customer insight, but this is used by only 79% of respondents, compared to the 97% who learn from team meetings with supervisors, which itself adds another layer of management and filtering into the process.

More sophisticated techniques, such as customer journey analysis and speech analytics of recorded calls are much less widely used, and respondents' opinions are very mixed. Over time, we would expect to see significant benefits accruing from these techniques, but it currently seems that many organizations are relying mainly on agent feedback to understand their customers' issues.

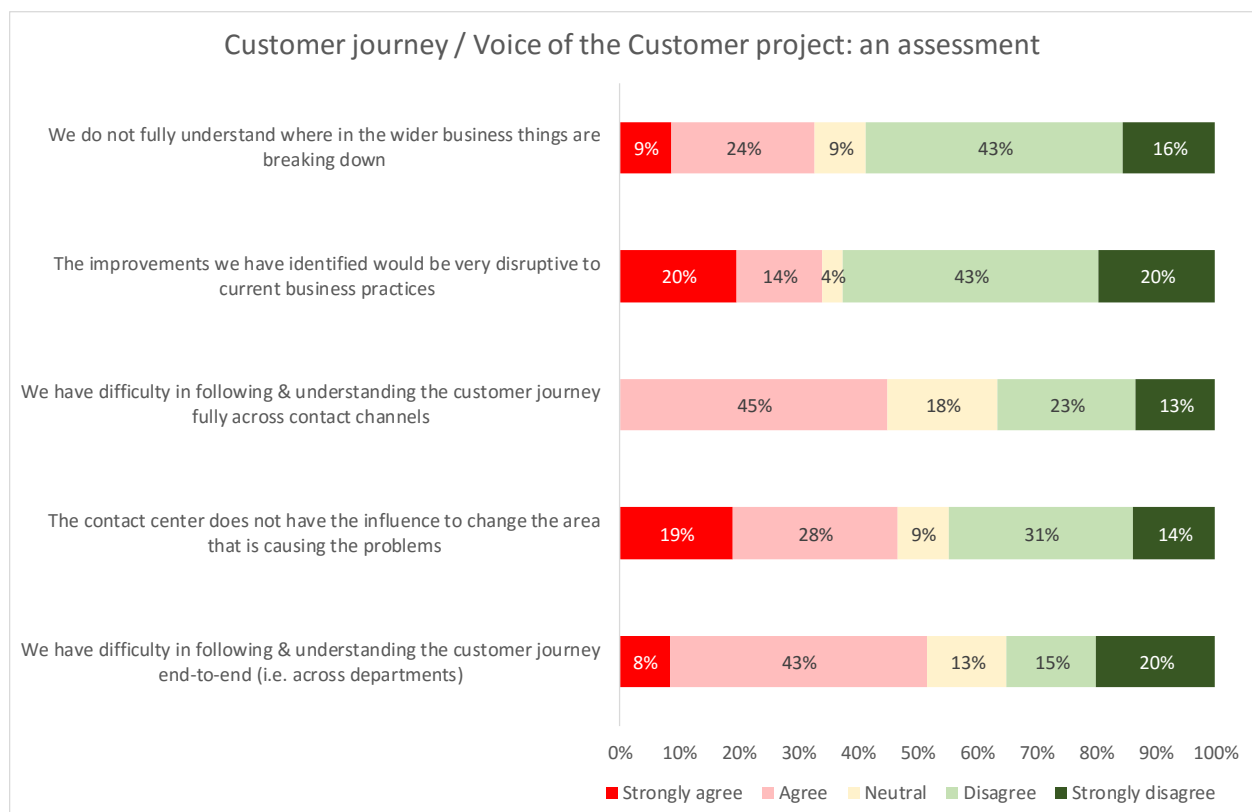
Figure 40: Effectiveness of methods for gathering customer insight



Respondents using a formal customer journey/voice of the customer project reported mixed success. 47% either agreed or strongly agreed that the contact center does not have the influence to change the area that is causing the problems, even if the project casts light on where this might be, emphasizing the fact that a voice of the customer project is a cross-departmental process involving one or more champions at a high level of the business. However, 45% felt that this was not an issue for them.

59% of respondents state that they understand where in the wider business things are breaking down. 63% disagree that any improvements identified are very disruptive to current business practices, which seems to suggest that the voice of the customer program is likely to be showing actionable insight, but as yet businesses' own departments and operations are perhaps not working together to fully identify or implement these findings, as 51% of respondents had difficulty following the customer journey across departments, which seemed to be a bigger problem than following the journey across channels.

Figure 41: Customer journey / Voice of the Customer project: an assessment



COMPLAINTS

John Seddon uses the term “failure demand” to describe calls that are created by the inability of the business’s systems to do something right for the customer:

“A failure to do something - turn up, call back, send something...causes the customer to make a further demand on the system. A failure to do something right - not solve a problem, send out forms that customers have difficulty with and so on - similarly create demand and creates extra work. Failure demand is under the organization’s control, and it is a major form of sub-optimization.”¹

Seddon cites the instance of the bank where failure demand created almost half of the calls which they had to deal with. Another classic example of failure demand is where emails go unanswered, leading to calls being made (first-stage failure demand). Later, the email will be answered, unnecessarily, as the customer already has their answer or has gone elsewhere (second-stage failure demand). This redundant work will then impact on other (still live) messages in the email queue, creating a vicious circle of failure demand. Redesigning and restructuring the way in which work flows around the organization, putting the contact center at the heart of it, rather than treating it as a separate silo, will go much of the way to reducing unnecessary contacts. The customer ends up getting a better service from the whole company, not just the contact center.

One way in which this can be achieved is to unify and automate the agent desktop, bringing in the relevant data automatically, depending on who the caller is and what they want. At the end of the call, the correct data is written back to the relevant places, and the correct processes kicked off automatically, meaning that the right departments will be provided with the right information, thus reducing the risk of failure demand, unnecessary calls and irate customers. This also takes the pressure off the agents to remember which systems to update and how to navigate through them within the call (which causes long delays, negatively impacting customer satisfaction), or in the wrap-up, which risks agent forgetting to do things, and also decreases agent availability, increasing the queue length, and decreasing customer satisfaction. In cases where multiple processes have to happen in order for the customer’s requirement to be met, automated outbound messaging to the customer, whether by email, SMS or IVR is likely to reduce the number of follow-up contacts that the customer feels that they have to make.

Information on failure demand can be gleaned from the contact center, which can also hold huge amounts of knowledge about what customers’ views of the products, services, competitors and company are. Feedback loops will be established in leading contact centers to push information and insights upwards to those who can make a difference in product development, process improvements and customer strategies. Interaction analytics offers businesses the chance to mine huge amounts of data and find patterns and reasons in a timely fashion, and it is vital then to act upon this knowledge, proving to both customers and agents that the business takes them seriously.

¹ *Freedom from Command and Control: A better way to make the work, work*, John Seddon

Customers who take the time to complain are also taking the time to state what went wrong with your process, product or communication, and this effort should be acknowledged and treated as being important. Businesses have found that fixing the problem for one customer can help many other customers, including the ones who never contacted you. Most customers are not complaining to cause trouble - they want you to know what went wrong, and believe that you can fix it. If one customer makes a complaint, the chances are that there are many more who are experiencing the same thing. A customer that has given up on your company will probably not complain, but go elsewhere and tell everyone who will listen that they are doing so, an issue that is particularly important in today's world of omnipresent social media.

Figure 42: Proportion of calls received that are complaints / target of complaints, by vertical market (sorted by largest proportion of complaints about the contact center - high-to-low)

	Proportion of calls that are complaints	Proportion of complaints about the contact center	Proportion of complaints about the wider business
Insurance	9%	41%	59%
TMT	16%	18%	82%
Outsourcing &	12%	18%	82%
Medical	13%	18%	82%
Manufacturing	13%	15%	85%
Retail & Distribution	21%	9%	91%
Services	14%	12%	88%
Finance	16%	10%	90%
Public Sector	12%	10%	90%
Average	14%	16%	84%

The preceding table shows, by vertical market, the proportion of inbound calls received that are complaints, and also, in the widest sense, what that complaint is about (i.e. internal - such as a rude agent or not being called back when promised, or external - such as failure demand, which is explained below). Of course, it is sometimes difficult to divorce one from the other, but this table shows (in order, highest at the top) the vertical markets with the greatest proportion of their calls being complaints about the contact center.

The majority of complaints received by a contact center are not about the contact center itself (or its staff), but rather ‘failure demand’, caused by a breakdown of process elsewhere in the organization. However, the contact center has to deal with the dirty work, and further failures within the complaints procedure (or lack of it) can see customers calling into the contact center again and again, becoming more irate each time, despite the real problem lying outside the contact center. There is also the case that there is a blurring of responsibility between the contact center and the rest of the business so that lines of demarcation over where the fault lies can be difficult to find. For example, a telecoms provider that has taken an order for a new line has to rely on the rest of the organization to provision and deliver this correctly. If the agent takes the contact email down incorrectly, the customer will not receive any information about their order, which may have a query on it. When the irate customer rings in to complain, the problem may appear to be with the back-office processes where the order has halted, but the fault actually lay with the agent. Whether this is tracked or reported on correctly is not a certainty, so the split above between contact center / back-office complaints should be treated with caution.

There is also a real risk, especially within large contact centers, that a single agent does not have the capability or responsibility to deal with the customer’s issue, which may reach across various internal departments (e.g. finance, billing, provisioning and technical support), none of which will (or can) take responsibility for sorting out the problem.

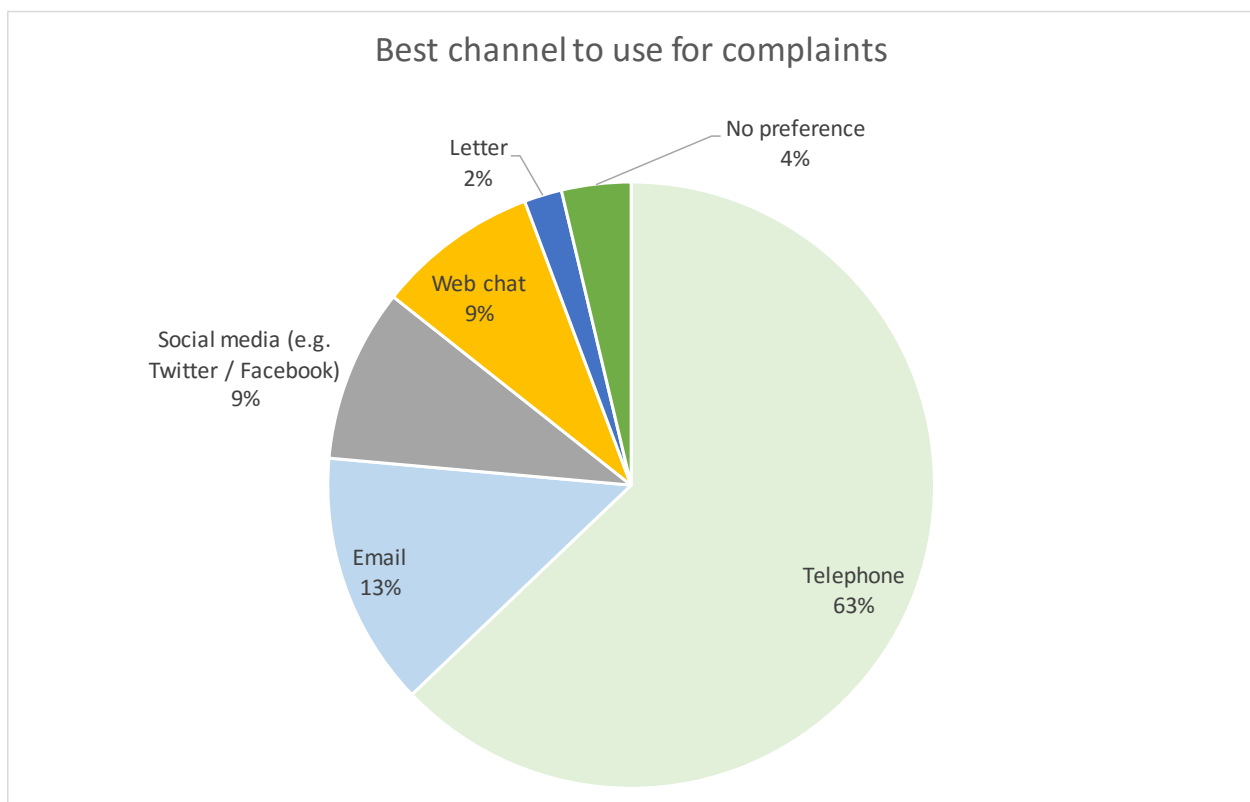
Respondents were asked to assess which channel they personally would use if they had a complaint as a customer of their own organization.

63% said that the telephone would be the best channel, with the digital channels such as email and social media having some support. Outside the public sector, there is little support for writing a letter - which is the traditional channel of complaint - with even web chat being stated as a far more effective way of complaining, particularly in the retail & distribution vertical market.

Only 4% gave the diplomatic answer that there would be no advantage to choosing one channel over another within their own organization.

Large-scale surveys of customer channel preference rarely put telephony as the channel of choice, yet it still seems as though this is the method to choose to get things done.

Figure 43: Best channel to use for complaints



MAXIMIZING EFFICIENCY AND AGENT OPTIMIZATION

Improving call throughput and decreasing costs has been a focus of most contact centers since the industry started, and few solutions or processes are considered without understanding how they will affect productivity.

This section looks at ways in which contact centers can make the most of what they've got, through increasing efficiency, or by avoiding unnecessary calls in the first place. Solutions and issues include:

- Contact center performance metrics
- Alternative ways of working - virtualization and homeworking
- The enterprise-wide contact center
- IP and convergence
- Caller identity verification
- Call routing and queue management
- Workforce management
- Headsets.

CONTACT CENTER PERFORMANCE

The success or otherwise of contact centers has traditionally been measured by observation of key metrics, usually related to cost and efficiency - average call length, average speed to answer, % of calls answered within a certain time, etc. While these figures are a useful and still widely acknowledged and understood benchmark, times are changing. Many contact centers now try to measure the effectiveness of their operation by tracking metrics such as first-time call resolution and customer satisfaction levels, although there are no standard measures or agreements on what constitutes a satisfied customer or fully-resolved call. This does tend to strengthen the hand of those who believe that because the contact center **can** provide detailed data on call volumes and handling times, then that is what it **should** primarily be measured against, and the earlier chapter on Agent Engagement & Gamification shows that agents are far more likely to be rewarded for meeting required operational metrics rather than customer-focused service metrics. Depending on the type of work that they do, contact centers may consider focusing upon various measurements from the following table.

Figure 44: Contact center metrics

Metric	Comments
Call duration / Average Handle Time	A typical 'old-fashioned' metric, which is generally going out of favor, based on the idea that each call is different and should take as long as it takes. However, it is one of the easiest statistics to measure, and work out cost against.
Schedule adherence	Schedule adherence is a metric that looks to help with the fine-tuning of a contact center's labor force, so that calls are answered swiftly, but that agents are not sitting idly waiting for calls. It is a metric that is of more importance to schedulers than to customers, although the impact of getting schedules wrong can be catastrophic for efficiency, cost and performance.
Customer satisfaction ratings	Customer satisfaction is seen to be directly linked to profitability through increased loyalty, share of wallet and customer advocacy. There is considerable debate about how satisfied (or delighted) customers have to be before it starts making a noticeable difference to the bottom-line (i.e. how happy does a customer have to be before they accept premium pricing strategies, and how unhappy do they have to be before they go elsewhere?). There's no easy answer, but high customer satisfaction ratings - at a reasonable cost for the business - are surely good for everyone. The Customer Satisfaction Measurement and Improvement chapter earlier in this report should be read into order to understand the various methods of measuring customer satisfaction scores.

Metric	Comments
Cost per call	<p>Although this is an attractive and easily-understood metric for senior management to view, there is a real danger that calls are closed too quickly and revenue and loyalty-building opportunities are lost. If a contact center has many short calls (which may be better off being dealt with by self-service), this will produce a lower cost-per-call figure, which makes it look as though the contact center is doing well, when the opposite may be the case. The same logic applies to first-call resolution rates (see later in this chapter).</p> <p>Cost per call is a very complicated metric that is difficult to get correct. However, senior non-contact center management understand how cost figures impact the business more than occupancy or call abandonment rates, although these have an impact on all parts of the business. At the most basic level, cost per call can be calculated by dividing the overall spent budget of the contact center by the number of calls, although this does not take into account abandoned calls or situations where the customer has had to call multiple times to get a resolution (a situation which in fact brings cost per call down, although being negative to both business and customer). Neither does it take into account the effect of failure demand - where the contact center cleans up after processes elsewhere in the business go wrong, leaving the contact center to sort them out. As such, it should be viewed with caution.</p>
Agent occupancy rate	<p>The agent occupancy rate is calculated as the proportion of time in a given period that is call-time plus wrap-up, (that is, the proportion of time that each agent spends on dealing with the call itself and the actions deriving from it. A laborious wrap-up time caused by slow back-office systems or lack of familiarity from the agent's perspective can go some way to producing high occupancy rates, which looks as though the agent is constantly active, but which is actually negative for both business and customer.</p>
Call throughput and abandonment rates	<p>Understanding the types of call being received as well as tracking the number that are dropped can be translated into lost revenue within a sales environment, making a pitch for greater investment easier.</p>

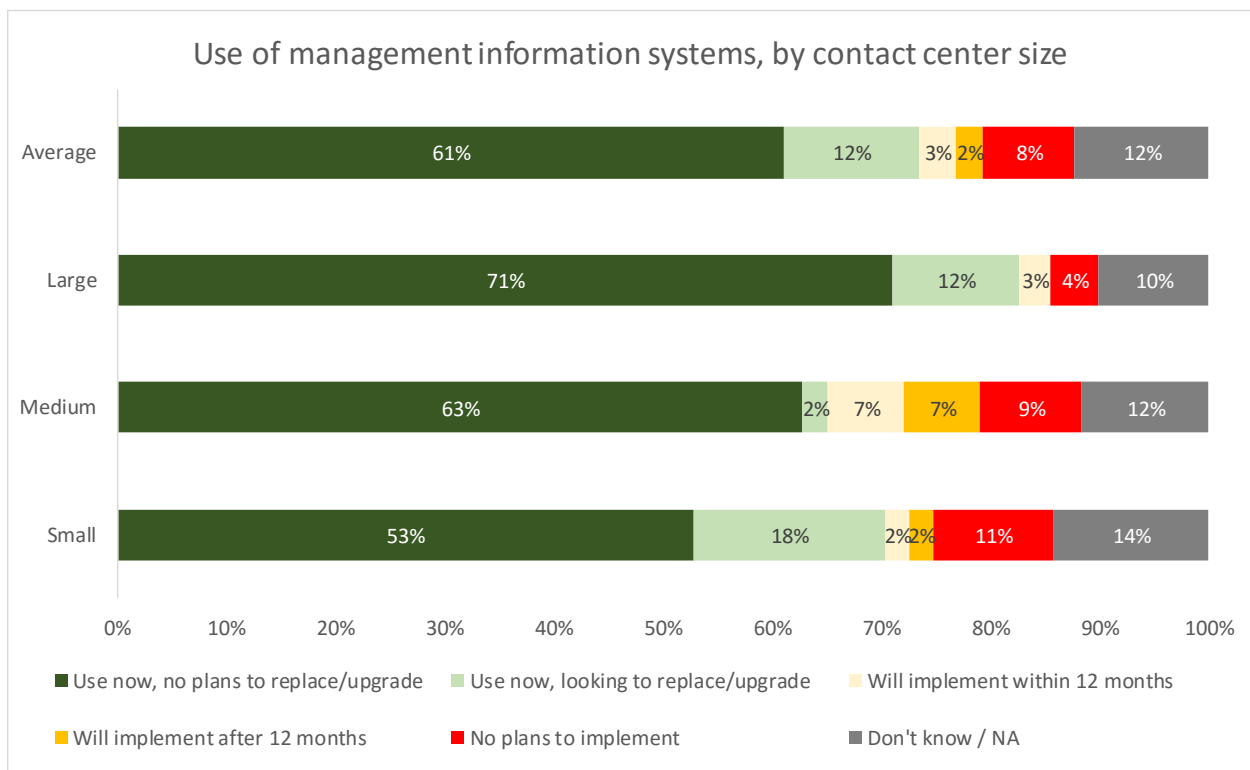
Metric	Comments
Call transfer rate	This metric can indicate training needs at the individual agent level, a failure in the initial IVR routing or a need to update FAQs or other information on a website (for example, a spike in this metric might be driven by a recent marketing campaign which has confused some customers, creating a high level of calls about the same issue). Tracking and analysis of call recordings in cases of high transfers should identify the issue.
Revenue per call / promise to pay	As many contact centers are now profit centers, understanding the effectiveness of the sales or debt collection efforts is vital to judging the success of the contact center itself.
Staff attrition rates	A well-publicized cost that senior management are very aware of, high levels of staff attrition are poisonous to the effective running of the majority of contact centers, causing excessive recruitment and training costs, lower average call handling quality and longer queue times due to inexperienced staff, as well as the vicious circle of lower staff morale.
Average speed to answer / longest call waiting etc.	Has a strong and demonstrable effect on customer satisfaction or frustration, as well as impacting on call abandonment, lost revenues and high staff attrition rates caused by excessive pressure. Average speed to answer is a metric which is easily measured, and forms a vital view of the contact center's staffing levels as well as impacting directly upon the customer experience. As such, it is similar in nature to the call abandonment rate. Contact centers should of course consider the amount of time that a customer spends in the IVR segment of the call when considering the 'speed to answer' metric - as the customers themselves surely do so.

Metric	Comments
Customer loyalty / lifetime value / churn rates	A central thought of CRM is that a business should focus upon keeping profitable customers, and growing unprofitable ones. A single figure for customer retention is not effective, as it does not include the types of customer churn, or the undesirability (or otherwise) of losing such customers).
First call resolution	Improving first call resolution (FCR) benefits customers (who are more happy / loyal / profitable / etc.); agents (higher morale; fewer frustrating calls); and business (lower cost of repeated calls; higher profitability): everyone wins. This can be very hard to measure, as it is the customer, and not the contact center that should be stating whether the issue has been resolved successfully. There is more detail and the use and effectiveness of first call resolution methods later in this chapter.

Management information systems are the contact center management's eyes and ears, providing them with the tools and information to judge the effectiveness and efficiency the operation. The results of its reporting capabilities may be output to wallboards, desktop displays (at management, supervisor and agent levels as appropriate), batch reporting and feed into real-time scheduling and forecasting functionality.

As would be expected, virtually every large contact center respondent uses MIS, with around 70% of small and medium operations doing so as well. It is noticeable that a very considerable proportion are actively looking to upgrade or replace their current MIS, suggesting that in many cases, it is not giving management what they need in terms of actionable information.

Figure 45: Use of management information systems, by contact center size

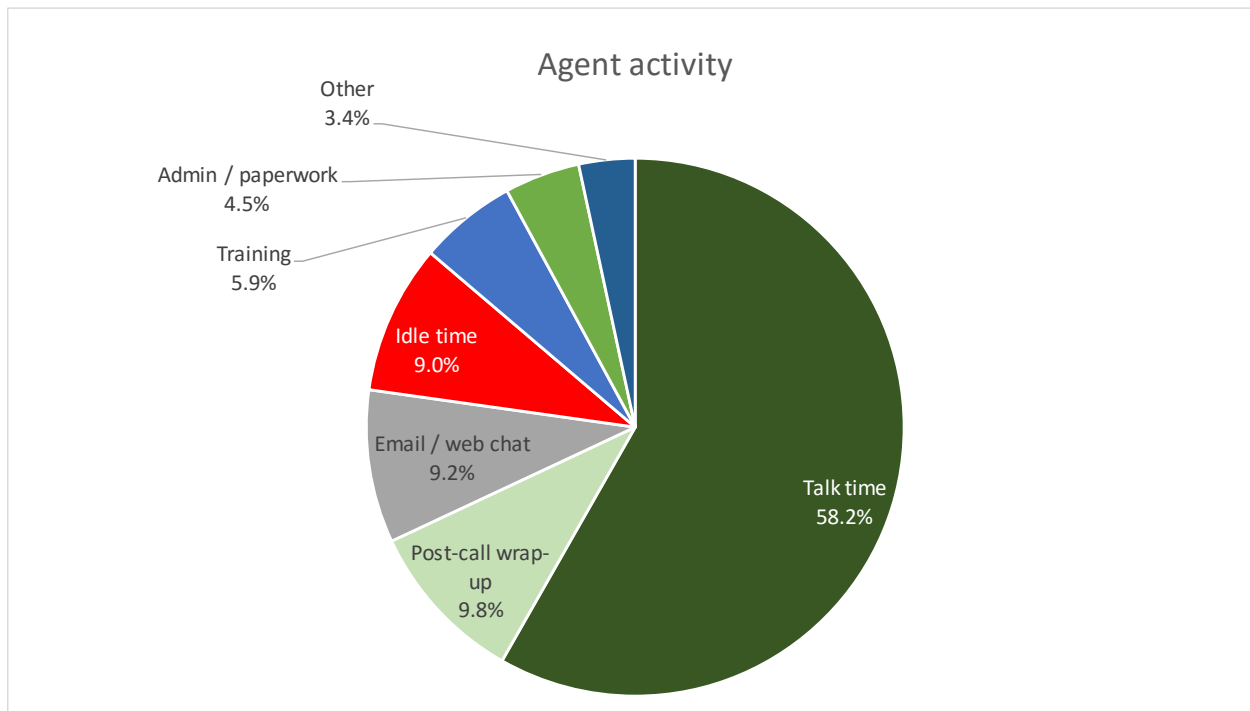


AGENT ACTIVITY

Agent activity per hour is a key structural metric aimed at helping contact center management understand how the agent's time is being spent. It is segmented into seven parts:

- **Talk time:** amount of time actually spent on the inbound call
- **Post-call wrap-up:** after-call data input and actions driven specifically by that call
- **Email / web chat:** text-based communication with customers
- **Training:** whether desk-based or lecture-type
- **Administration / paperwork:** general administration and keyboard- or paper-driven work which may be for internal purposes only (e.g. timesheets) or for external work as well (e.g. sending faxes).
- **Idle time:** time spent not taking calls or doing other work, usually waiting for the next call
- **Other:** anything not covered by the previous activities.

Figure 46: Agent activity



Talk time dips slightly to 58% this year, with post-call wrap-up steady at under 10%. The relative proportions of activities remain very steady, and have done so for some years, and it will be interesting to see if these figures have now reached a point of relative stability. Taking into account email and web chat handling time as well, the overall agent/customer communication time is now around two-thirds. Post-call wrap-up seems to be remaining steady at around 9-10%, as does idle time.

The identification of idle time is one thing: being able to recover unproductive time in the agent's daily routine and use this otherwise-lost capacity is quite another. A workforce management solution that has intraday capabilities can recover these small pockets of fragmented agent idle time as the day goes on, aggregating this time into larger blocks that can be allocated to other productive activities such as training, coaching, back office tasks or administration, which goes a long way towards using the agent time that businesses necessarily pay for already, but which could not previously be accessed.

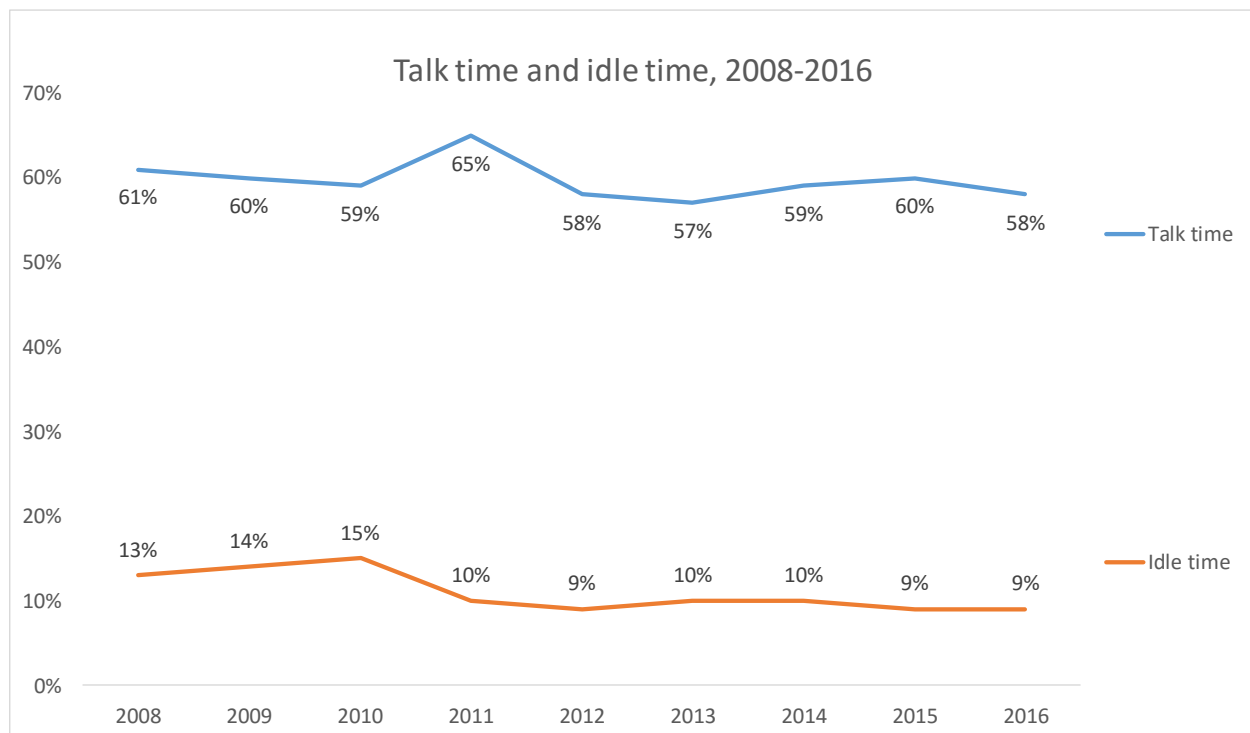
There is also a significant opportunity for reducing the non-productive call time at the beginning of the call, where an agent is authenticating the caller's identity. By doing this automatically, either through IVR or more securely, through biometric identification, the business can free up 30 seconds or more of agent time, which makes a big difference to call and queue lengths. This element is investigated in-depth in the 'Customer Identity Verification' section later in this report.

Post-call wrap-up time is also an area which could further be reduced in many contact centers. There are many applications in the market which are capable of reducing the amount of after-call work that an agent has to do by bringing together all of the systems and applications the agent needs on that specific call into a single virtual application and then updating the relevant databases accordingly. This removes the need for a specialist knowledge of legacy system navigation, reducing keying errors and dramatically shortening wrap-time through kicking off relevant back-office processes automatically. Most of these agent desktop optimizers do not touch the logic of the existing systems, but act as a user interface that picks up and presents the relevant fields and business processes at the right time. There is further detail on how this can be achieved in the 'Desktop Automation & Analytics' chapter.

Looking historically at how talk time and idle time has changed, it can be seen that the average amount of time an agent spends talking to customers has hovered around the 60% mark for many years. Certainly the agent today has more tasks than previously: the job will tend to be more varied and require greater depth of knowledge, meaning that increased training and administration tasks will need to take place, and of course many agents now handle significant amounts of multichannel work in addition to their traditional telephony role.

We would expect to find that the overall amount of agent time spent idle has reduced very significantly as a result of agents having so much more to do and the contact center's continual focus on efficiency and cost-cutting. However, although idle time has decreased from a historical average of 14% to 15%, there has been little further decline seen in this metric within the past few years. This leads to a likely conclusion that unless a new way of working is considered that can make these small fragments of idle time into a period long enough to do something productive with, most businesses will struggle to get this metric much below 9-10%.

Figure 47: Talk time and idle time, 2008-2016



PERFORMANCE METRICS

Figure 48: Selected performance metrics

Metric	Mean average	Median average
Average speed to answer	53.1 seconds	25 seconds
Call abandonment rate	6.0%	4.3%
First-call resolution rate	72%	80%
Call duration (service)	360 seconds (6m)	300 seconds (5m)
Call duration (sales)	507 seconds (8m 27s)	389 seconds (6m 29s)
Call transfer rate (excl. receptionists)	9.2%	6.7%
Cost of inbound call	\$5.52	\$4.50
Cost of outbound call	\$6.47	\$3.85

NB: as a few respondents may show extreme results, data are not distributed symmetrically. Median values show the midpoint and may demonstrate the truer picture of a 'typical' operation. If calculating an industry-wide amount (e.g. total cost of calls, or total time spent waiting to answer), the mean average is more appropriate.

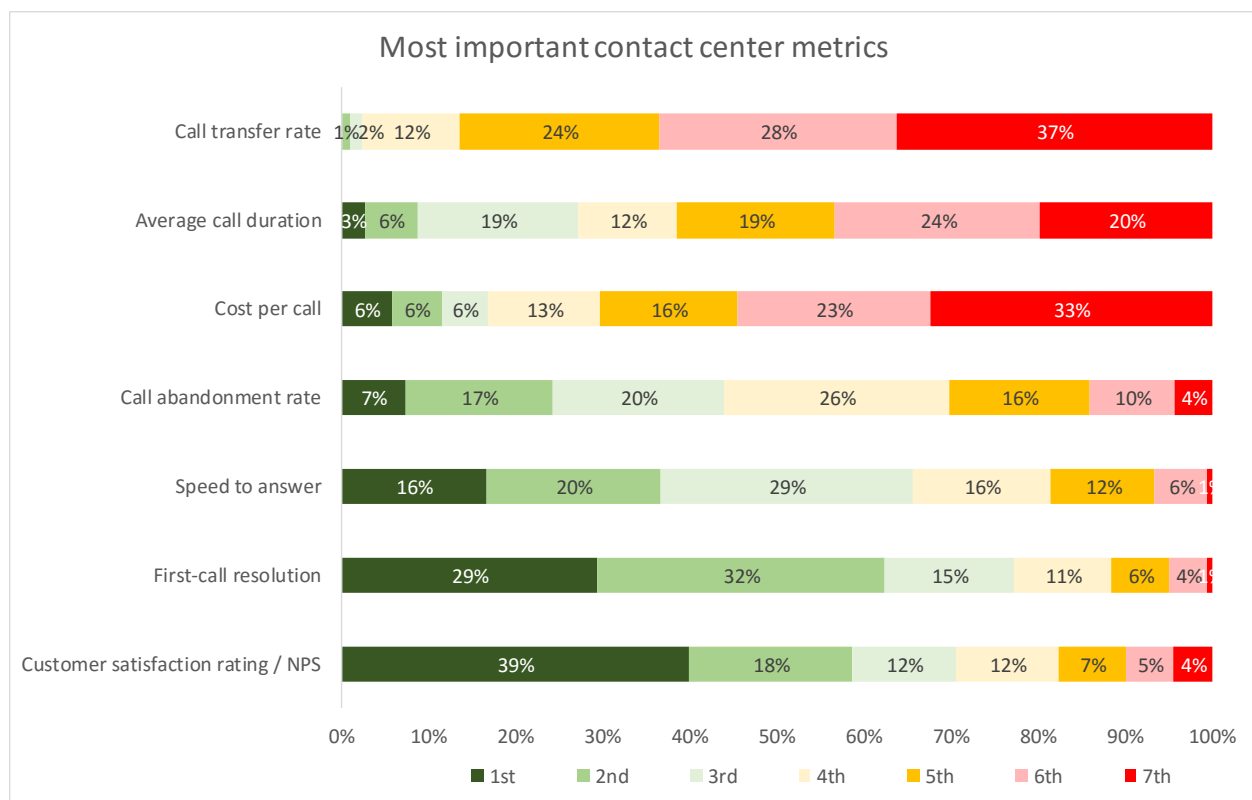
Detailed analysis of all of the above performance metrics, including historical changes and segmentations by vertical market, contact center size and type of activity are available in the ["US Contact Center HR and Operational Benchmarking \(2016\)"](#) report, available in August 2016.

There is also analysis of budget expenditure, including past and planned changes in Opex and Capex budgets.

Over the years, the importance of contact center metrics has changed considerably. 10 years ago, average call duration and cost-per-call were considered to be the most important metrics, but respondents to recent reports consider them of minor importance compared to more customer-focused measurements.

Perhaps unsurprisingly, 39% of respondents chose customer satisfaction rating as being the most important measurement that a contact center tracks. However, first call resolution is very close behind, and speed to answer is also in a clear third-place: both of these metrics are of huge importance to customer satisfaction (or the lack of it), and handling more calls effectively first-time is key to improving customer satisfaction and reducing repeat calls, which will impact positively upon queue lengths. The rest of this chapter considers the way in which this key performance metric, first-call resolution, can be measured accurately and improved upon.

Figure 49: Most important contact center metrics





Make Service Great, or Become Irrelevant

According to a [recent report](#) by Walker, a customer intelligence firm, customer experience will completely overtake price and product as key brand differentiators by 2020. According to McKinsey, maximizing satisfaction with customer journeys has the potential not only to increase customer satisfaction by 20%, but also to lift revenue by up to 15% while lowering the cost of serving customers by as much as 20%.

It's no wonder the Customer Experience Management (CEM) market has been growing at a [CAGR of nearly 21%](#) for the last several years.

Despite this indisputable evidence, most businesses are not prepared to deliver this exceptional level of service to their customers. According to [Dimension Data](#), nearly 80% of contact centers say their current customer service systems won't meet their future needs.

The message is clear: Make service great or become irrelevant. Organizations must adopt an omni-channel approach, quality management, real-time speech analytics and other technologies that make customer care seamless and effective at every touchpoint on the customer journey.

A Unified Approach to Omni-Channel Customer Care

Time wasted on hold or being transferred from agent to agent, especially without transferring the interaction's context, is public enemy #1 in the world of customer satisfaction. Businesses worldwide are accordingly integrating next generation solutions, like Microsoft Skype for Business (SfB), into their contact center environment as UC functionality expedites time to resolution by allowing an entire organization to work on a single communications platform using multiple communication channels. In a UC-enabled environment, agents can see the presence/availability of their colleagues, and send instant messages (IMs) or text messages to minimize – or even eliminate the need to put customers on hold. Live screen sharing and/or IMs enable collaboration with experts who can help resolve customer problems, eliminating the need for escalation or routing to another department.

Contact center solutions that integrate natively with a UC platform lets agents engage colleagues from outside the contact center quickly and easily, and eliminates the unnecessary complexity for internal IT teams of having to manage multiple systems.

Customer Journey Visibility

With so many channels and interactions - not to mention agents and employees - involved in customer care, it is vital that businesses are able to keep track of each contact across the entire Customer Lifecycle from a single location. Having a solution that provides an easily accessible, complete view of all historic interactions in a single record, regardless of channel, allows agents to quickly get up to speed on a customer's situation and deliver focused, expedient care.

Contact center agents, to be effective, must have this visibility to act in a manner that expedites resolution. Providing agents with tools to easily see the recent and entire customer journey allows for seamless continuation of a customer contact, saving time and improving customer satisfaction.

Real-time Speech Analytics (RTSA)

RTSA analyzes voice data on the fly and can make corrective suggestions during, not only after the call. For example, if an agent mistakenly says \$215 instead of \$250 when referencing a product special, they would get a screen pop notifying them of their error. The technology can also identify potential areas of concern like cross talking, stress indicators, volume levels, speaking rate and call quality, proactively alerting the agent and managers. This prevents waiting until issues have escalated, when the risk of a dissatisfied customer is much higher.

In Summary

Companies that understand what it takes to make service great are more likely to achieve the ultimate balance of improving the customer experience, increasing revenue and customer retention, driving operational excellence while reducing costs. The key is understanding the customer journey, and providing their organization's unsung heroes – the contact center agents – with the tools and processes with which to act accordingly. With these elements mastered, businesses will stand out in the minds of their customers for all the right reasons, stand apart from their competition, and reinforce universal trust in their brand.

THE ROLE OF FIRST-CONTACT RESOLUTION

For most businesses, there is no fixed agreement on what a successful contact center looks like: even in similar industries, around half of businesses state that a contact center is a strategic asset, with the other half seeing it as an operational cost center. Contact center managers are tasked to balance factors such as cost, efficiency, staff morale and attrition, call quality, customer satisfaction and revenue - some of which may be mutually antagonistic - in a constantly-changing environment where there is limited opportunity for reflection. Often these contact centers exist on a virtual island away from the rest of the business, not just geographically, but logically as well. Although they belong to the business, and constantly receive insights about other parts of the operation, they may not have the ability to provide actionable insight either for their own benefit or for other departments.

Having said that, most of the contact center world has moved on from the ruthless focus on call throughput and call duration that characterized many operations a decade ago. A major question being asked today is, “How do contact centers attempt to measure the most important metric of all - first-contact resolution?” (First-contact’ resolution differs slightly from ‘first-call’ resolution, in that it includes emails, web chat and other non-voice channels as well. In reality though, non-voice resolution rates are much less commonly measured).

It can be stated with some confidence that first-contact resolution is seen as the key to a successful contact center: while the previous chart shows that customer satisfaction rating is the most important metric, 76% of the report’s respondents place first-contact resolution as being one of the top 3 metrics that are most **influential** on customer satisfaction, with 29% stating it as being no.1: in effect, far more important than any other metric. (The section of the report on ‘Customer Experience Measurement & Improvement’ gives more detail). So, logically it seems that to improve customer satisfaction, a business has to improve first contact resolution rates.

The ability to understand a query and deal with it in a reasonable timeframe at the first time of asking is the key to a contact center’s success, reducing the overall number of contacts while providing the customer with a good experience which will impact on the company’s overall performance. It also has a positive effect on the agent’s morale (and thus, staff attrition rates), and increases the chances of a successful cross-sell and up-sell being made. Little wonder that the first-contact resolution metric has grown hugely in importance, but it can be problematic to quantify accurately. This risks the metric being downplayed, especially as it is not simply a matter of producing a monthly report from ACD statistics.

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 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.

While the drop in first-call resolution (FCR) rate in 2013 seemed to have been more of a statistical blip than a fundamental change (with the mean average rising in 2014 to a more 'normal' 74%), the substantial drop in FCR in 2015 could have been seen as a sign of structural change. However, the 2016 figure is a more normal 72%. The overall trend for FCR was certainly not upward in any case: as the easier interactions go to self-service (especially online), the contact center is left with more difficult and varied tasks, which are also very complicated to categorize effectively using the current tools available to most, and this trend may be accelerating as mobile and web self-service channels become more effective at taking the 'low-hanging fruit'. This hypothesis is further strengthened by the finding that this year's respondents expect their live voice channels to contract in the next 12 months.

The exodus of 'easy' work to self-service channels may not be quite balanced by improvements in knowledge sharing and other agent support processes that would mean stable first call resolution rates. Future years' research will cast more light on this.

Figure 50: Changes in first-call resolution rate (2007 - 2016)

Year	Mean average first-call resolution rate
2007	73%
2008	70%
2009	76%
2010	75%
2011	74%
2012	73%
2013	71%
2014	74%
2015	64%
2016	72%

The first-contact resolution rate is an important metric to study, being concerned both with the customers' experience as well as avoiding unnecessary calls. However, it is very difficult to measure effectively, with no single best practice method of getting definitive statistics that are directly comparable to the rest of the industry. This difficulty is shown by the fact that five or six years ago, perhaps half of contact centers responding to this survey did not collect FCR performance at all (this year's non-responding figure is only 8%, which is an ongoing improvement).

Of those that do, there are various ways to measure, or at least closely estimate, first-call resolution rates:

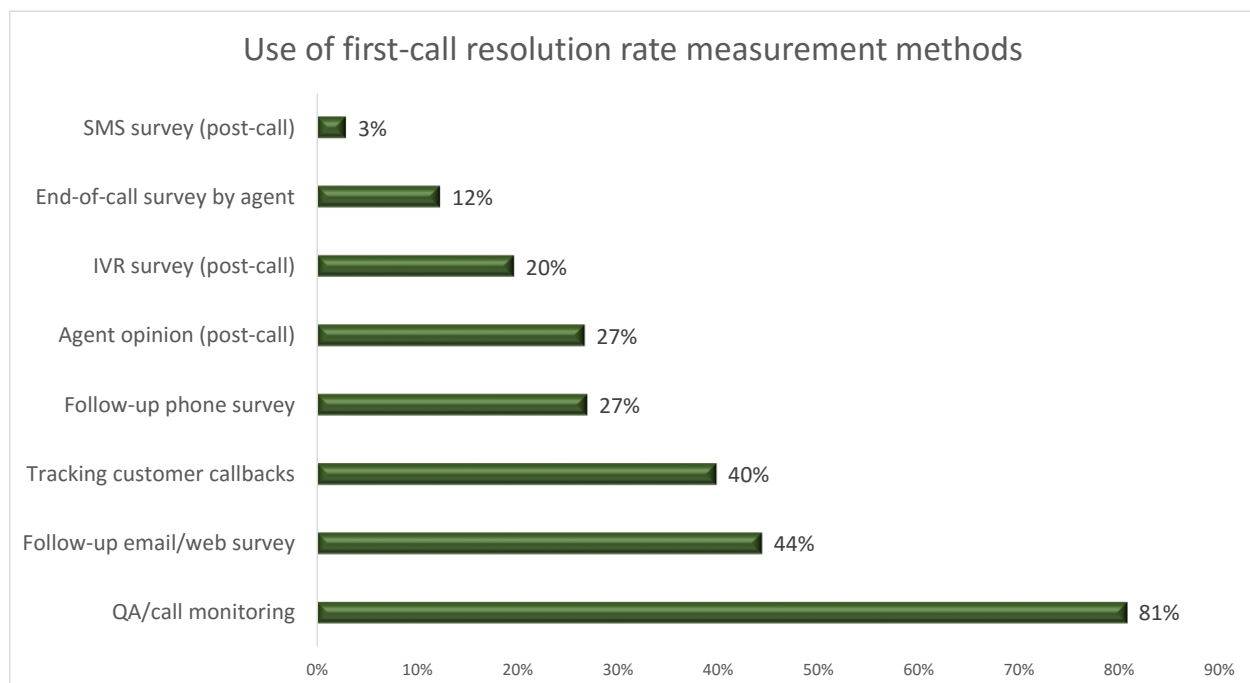
- Agents provide opinions on whether the call was resolved completely
- Tracking of issues shows if they are re-opened
- Supervisors monitor calls and score based on their opinion
- The company or a third-party can contact customers later to ask their views
- Customers provide feedback in end-of-call IVR sessions
- SMS messages or emails are sent to customers at times defined by the business.

Call monitoring is by far the most widely-used way of gauging the call's success, and is used by 81% of respondents. Post-call methods of trying to gather first-call resolution rates are much less widely used.

Respondents were also asked about which methods they used to identify the reasons for multiple contacts. For this purpose, the agent's views were seen as most important, with customer experience surveys and supervisor monitoring and checking of recordings a distant third place. It seems as though for most businesses, FCR measurement and understanding are two separate processes.

The accurate tracking and actionable insight of FCR is one of the biggest challenges to the contact center industry: it is key to customer satisfaction and cost management, yet it is carried out in a sub-optimal way by the majority of contact centers.

Figure 51: Use of first-call resolution measurement methods

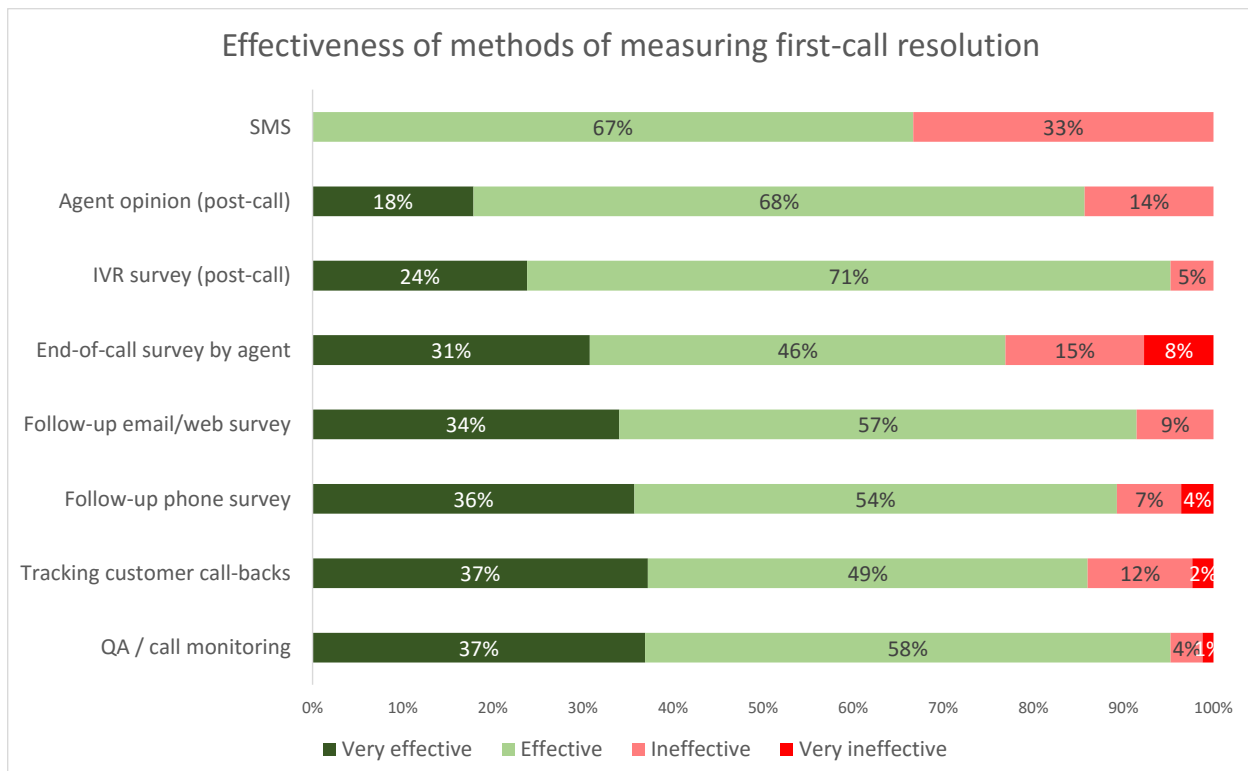


However, even if FCR can be measured successfully and accurately, this figure is still not necessarily actionable: we do not always know why some calls are not resolved first-time. Without a greater level of insight, contact center managers may not be addressing the real issues that are impacting on customer satisfaction and the effectiveness of the operation. In the near future, we expect to see the power of speech analytics being directed at understanding why customers contact a business multiple times: respondents to this year's report do this very rarely as yet.

It is worth noting that the majority of contact centers who track first-call resolution do so based **only** on the initial telephone call itself: that is, they do not check whether the action or business process initiated by the call has been followed through successfully. Most complaints received by a contact center are about the failings of the wider business (usually 80-90%), so focusing entirely upon the work done within the contact center is missing the point of measuring first-call resolution. The traditional insularity of the contact center operation fails the needs of the wider business, but without an explicit remit to investigate and report on processes outside the contact center, it can hardly be blamed for the failure to hunt down and fix the wider problems.

Perhaps logically, the most widely-used form of gathering first-call resolution information is also seen as being the most effective (or else, why would it be so widely used?). Call monitoring is seen as being very effective by 37% of respondents that use this, with only 5% viewing it negatively. Tracking customer callbacks, and carrying out follow-up email, web or phone surveys are also generally thought well of. With the exception of SMS, which is rarely used by respondents in any case, most first call resolution measurement methods seem to have their advocates.

Figure 52: Effectiveness of first-call resolution measurement methods (where used)



VIRTUAL CONTACT CENTERS

Although many contact centers still operate in the same way in which most were originally set-up - a single, centralized site - for many years there have been increasing commercial pressures and technical opportunities allowing businesses to look at alternative ways of working, such as using virtual contact centers, or encouraging homeworking.

The causes for this include:

- the presence of multiple contact centers - possibly gained through mergers and acquisitions (especially in the finance, insurance, telecoms and utilities sectors) which are not linked together in any way, thus not gaining from any economies of scale
- increasing levels of staff attrition and difficulty in finding the right staff to replace them, especially highly-skilled agents
- the requirement of many contact centers for better-qualified staff, rather than just “warm bodies” to answer phones as a result of self-service take-up
- the need to keep the contact center open for longer, despite agents not wishing to work anti-social hours or businesses wanting to pay for a full shift when only a couple of hours are needed
- the rising concern about coping with call spikes, which could be dealt with by logging agents on for an hour or two, rather than having them come in for a full shift
- the desire to increase the size of the contact center, which may not be possible in that location due to market saturation and a shrinking labor pool.

This section looks at alternatives to the 9-to-5, full-time, centralized ways of working, and investigates the number and type of contact centers that are using these alternatives.

The application of technological abilities to commercial issues created the virtual contact center which, although located in multiple sites, can still be run as a single logical entity. The virtual contact center consists of many operations (including homeworkers or satellite offices) which are linked together so as to be viewed and managed as a single site, allowing significant economies of scale and improvements in performance to take place, but with theoretically fewer of the attendant problems around environment, morale and attrition that plague many very large operations.

The virtual contact center model has been driven by several factors. These include:

- For businesses involved in acquisitions or mergers, the number of contact centers they run have increased, particularly in the finance, insurance, telecoms and utilities sectors
- Rapid contact center growth in certain geographical hotspots has caused agent recruitment issues. This has meant that businesses have to consider new physical locations in which to establish and grow their operations
- A rise in teleworking and remote locations means some agents may never see their parent contact center. This is increasingly the case in 2nd- and 3rd line technical support, where skilled agents can be extremely scarce and expensive to replace
- Some companies prefer to offer a local touch to customers by basing operations in the area or country which they serve, or in which the company already has a non-contact center operation, but with capacity available to develop a new telephony department
- Improvements in networking and communications, such as cloud and IP telephony, have meant that the virtual contact center is now much more easy to realize at an affordable cost with reduced upfront investment required
- Companies have increasing needs to serve global customers, necessitating either contact centers operating in different time zones, or paying overtime for working anti-social hours
- Operational redundancy, disaster recovery and continuous service are possible with multisite contact centers
- Smaller contact centers tend to have lower staff attrition rates than large operations, meaning that a large virtual operation made up of several smaller sites could benefit from this.

Treating multiple contact centers as a virtual contact center allows great efficiencies can be made through economies of scale. This is especially true where businesses are using skills-based routing. All agent competencies are displayed to the scheduler - regardless of agent location - who can be more flexible, simply because the available resource pool is so much deeper.

Figure 53: Virtual contact center commercial and operational benefits

Effect of virtual contact center	Commercial advantage
Larger pool of skills available	More likely to be able to match the call to the customer effectively. This improves first-call resolution, customer satisfaction and also improves agent morale, as they are able to help more customers first-time. It also means that businesses can route calls based on more detailed criteria than previously, as the available pool of skills is greater (e.g. if there are 5 contact centers, but only 1 person in each contact center speaks a specific language, then it only becomes feasible to offer this as a routable skill once the contact centers are linked together to create a virtual language team)
More balanced work across contact center locations	In a stand-alone multiple contact center environment, there is a very real risk that agents in one contact center will be overworked (leading to stress and increased queue times), whereas those in another may be underused yet unable to help their colleagues. The ability to overflow calls between physical locations is a key advantage of virtual contact centers, which can improve both customer and agent experience
Skills may be widely deployed and managed	Virtual contact centers can look at agent skills and competencies with a view to scheduling staff and routing calls accordingly. This allows specialized virtual teams to emerge
Forecast and schedule only once	Where many contact centers are treated as a single entity, work can be shared across sites as the contact centers are viewed as a single resource. Viewing the operations and skills available as one entity makes scheduling easier and more flexible. The resource pool is much deeper, allowing customers to be offered more skills, and the time and cost of scheduling is greatly reduced
Increase global coverage	For global businesses which have contact centers spanning distant time-zones, the opportunity exists to create a follow-the-sun contact center, where the customer can be served 24/7, without the need to increase headcount or bear the costs and inconvenience to staff of working anti-social hours
Deploy applications in a standardized way	Virtualization can mean that improving and standardizing the functionality available to agents in separate locations can be easier through a cloud-based hosted solution. Making the same functionality available to each agent regardless of their location means that a consistent level of customer service & agent experience can be achieved
Offer 24/7 availability and use more flexible and imaginative agent resourcing	Agents which work from home or smaller offices allow the business to expand dynamically, offering 24/7 cover without the cost of keeping the major contact center operation open. Virtual contact center technology also allows businesses to reach out to new labor pools such as the housebound and other non-traditional sources
Allows dynamic choice of outsourcers	If a company uses multiple outsourcers, these outsourcers can bid dynamically for the work available, e.g. the company does 80% of the work with its own people, but outsources the overflow as and when needed

Linking contact centers together has historically been a complex task, especially in circumstances where the business has multiple types of switch and other infrastructure, perhaps as a result of merger and acquisition history. Recent years, and the widespread take-up of IP-based infrastructure and cloud-based solutions has made such a task easier. Without a solid and scalable platform, separate applications, hardware and locations will remain isolated, or cost so much time and money to integrate that it would be better to leave them alone. Using a single open platform, this investment becomes much lower, and leaves the way open for businesses to add locations, channels and applications as needed. The single open platform should be a concept which is always in the minds of people making decisions about the future of their multi-site, multi-platform operations.

41% of this year's survey respondents are part of a multiple-site operation, and as such, are potentially part of a larger virtual contact center structure.

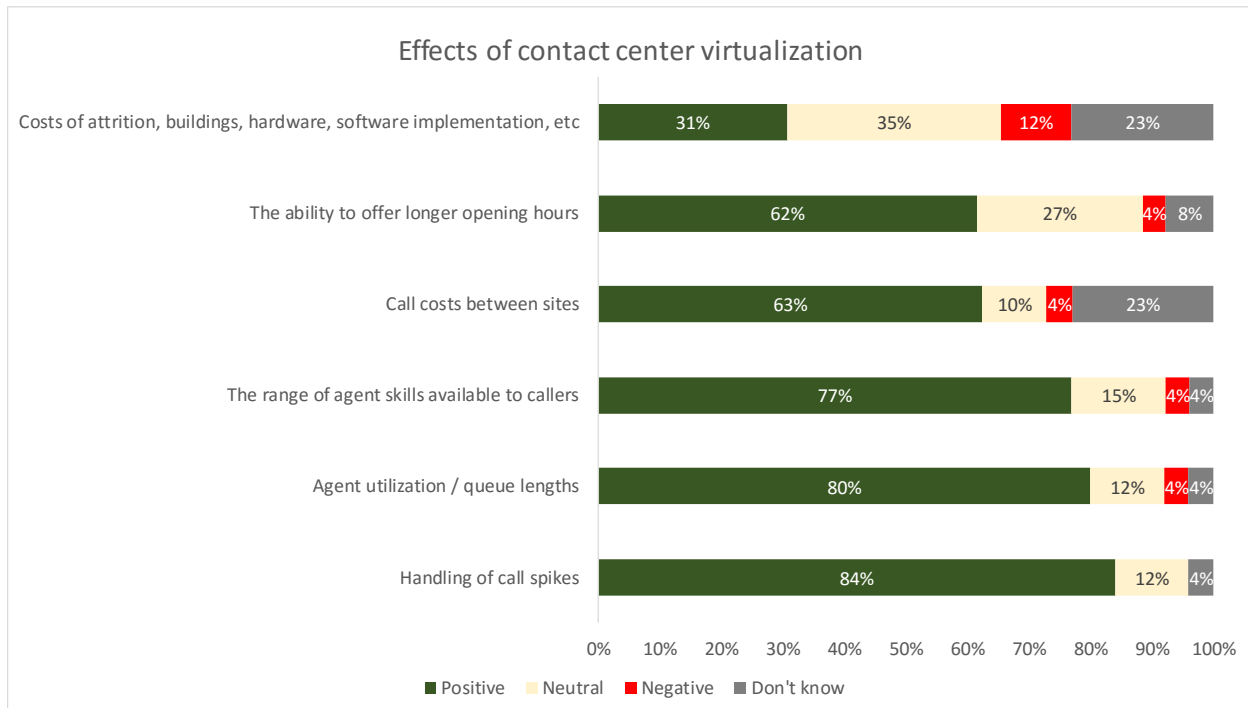
55% of respondents in these multi-site contact centers act as part of a single integrated virtual contact center operation, with a further 29% acting as a part of a partial virtual operation (e.g. in cases where only a few of the multiple US operations are linked together). These figures show a slight increase in virtuality compared to previous years. Larger multi-site contact centers are far more likely to have virtual operations (84% are either single or virtual/standalone, compared with 50% of small operations).

Figure 54: Virtualization by vertical market (multiple-site operations only)

Vertical market	Single virtual contact center	Mix of virtual and standalone contact centers	Multiple standalone contact centers
Manufacturing	100%	0%	0%
Finance	82%	9%	9%
Insurance	78%	22%	0%
TMT	75%	25%	0%
Medical	57%	29%	14%
Outsourcing & Telemarketing	47%	26%	26%
Retail & Distribution	25%	25%	50%
Services	21%	57%	21%
Average	54%	29%	17%
NB: none of the Public Sector respondents surveyed operated across multiple sites			

Respondents with virtual contact centers have generally been very pleased with the gains in efficiency and service level that they have experienced. The ability to smooth out call spikes by moving them between contact centers, and the reduced wait times were particularly mentioned, although all of the potential virtual contact center benefits mentioned were rated positively, showing a maturity and bedding-down of the technologies. However, there is some lack of unanimity amongst respondents about the net effect of costs caused by virtualizing contact centers.

Figure 55: Effects of contact center virtualization



The issue of coping with call spikes has grown year-on-year, and virtual contact centers allow agents from other locations (including homeworkers) to make themselves available to deal with a different queue, being seamlessly moved back to their original work when the spike has flattened or the length of their own primary queue triggers a move back to their original work. Dealing early with such call spikes can often remove the issue before it becomes a real problem, and such movement between call groups can be done automatically by setting thresholds in each queue. Such flexibility of agents means that there is a fairer agent utilization, as the situation of a set of agents sitting idle while others are under great pressure is less likely to happen.

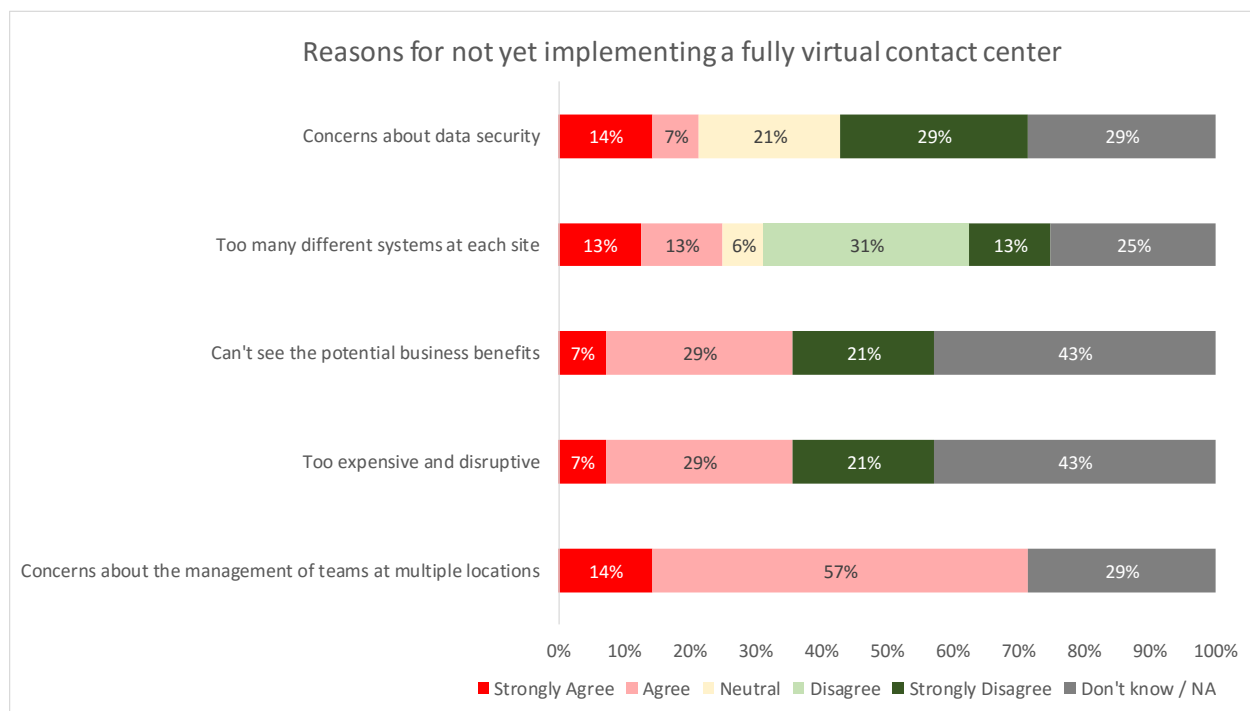
Of the multiple-site respondents who had not virtualized their operations, concern about remote management is the biggest problem, unlike the years up to 2007, when the biggest issue was failing to see the commercial benefits of virtualization, and more recently, data security.

It seems as though some of the industry has become more convinced about the benefits, but is being held back through needing to be persuaded that the issues they fear around remote management are not insurmountable (or at least, worth solving when considering the potential gain). While 7% of respondents strongly agreed that they could not see the business benefits of virtualization, three times as many strongly disagreed that this was an inhibitor for them.

There is not one single overwhelming inhibitor, rather it seems that suppliers of virtual contact center solutions will have to make their pitch against many objections, rather than being able to focus on one.

It is also worth noting that a significant minority simply did not know what was holding them back from full virtualization, suggesting a generalized concern about change and upheaval rather than anything specific.

Figure 56: Reasons for not yet implementing a fully virtual contact center



THE ENTERPRISE AS THE CONTACT CENTER

For many years, the larger contact center solution providers have been encouraging businesses to look beyond the four walls of a typical operation and consider how and when to involve other knowledge workers in the enterprise, whether office- or field-based, in the business of customer service.

IP contact center and cloud-based solutions can break down the boundaries between the contact center and the wider business, allowing every employee to act in the capacity of a contact center agent if in the best interests of the business. In many cases, the drive and interest towards IP telephony came from the internal corporate telephony and IT departments, especially in the multi-office environments where real savings can be made.

From a contact center perspective, there are potentially massive advantages to having non-contact center personnel available to speak with customers on occasion: superior customer service (and the attendant improvements in customer spend and retention), immediate interaction with the right person, reduced call abandonment rates and shorter resolution times, as well as more intangible benefits like the ability of executives to listen to the customer first-hand and learn from the experience.

Knowledge workers / experts form part of the overall customer handling resource pool in 35% of respondents' operations, especially in the insurance, TMT and services sectors.

24% of respondents state that employees within branches or stores can handle a significant number of customer calls, with the finance, insurance and manufacturing sectors most likely to do this (respondents from the latter vertical market are probably referring to their satellite offices).

14% of this year's respondents state that field-based workers handle customer calls, with those in the medical and retail & distribution (especially the latter subsector) having the greatest proportion of these.

This suggests that the wider enterprise is not yet quite integrated into the contact center across the industry, but the demand for these services can be significant depending on the nature of the organization.

Figure 57: Non-contact center staff handling substantial numbers of calls

Type of staff	% respondents using non-contact center staff to handle calls
Branch- or store-based staff	24%
Field-based employees	14%
Knowledge workers / experts based elsewhere in the organization	35%

Knowledge workers can be incorporated into the contact center on a part-time basis, without actually becoming a customer service agent. 'Presence management' links workers from diverse back office departments into the contact center by allowing communication and collaboration across sites and functions. Presence management shows if a user is available to communicate via a specific medium, such as instant messaging, email, telephony etc. Availability can be defined either by the knowledge workers themselves, or via device detection. It is possible to route calls to experts using the same criteria as in the contact center.

Presence can be seen as an extension of multichannel contact routing by being integrated into software-based contact routing solutions, and can take multimedia routing further, particularly in a SIP environment where presence can be detected in a greater variety of modes.

There are, of course, some potential dangers:

- Highly-paid knowledge workers may be overworked by the demands and interruptions placed on them by agents, and become less productive
- Most collaborative tools include directory search, instant messaging and presence for every individual, however, it is skill sets rather than names that should be used, to discourage dependency on one expert.

Intelligent routing should be used to govern requests for help to experts, creating routing rules to decide when experts should be used, and at what times. This should have the benefit of keeping the knowledge workers onside, so they don't constantly show their presence as unavailable to avoid interruptions. Each skill area or department could offer a schedule to make sure that someone is available for the contact center, thus ensuring the privacy of the others in that virtual team.

HOMEWORKING

Homeworking and homeshoring promise contact centers significant benefits, but is perhaps not for every agent or contact center. Amongst the potential advantages are:

- the environmental benefits of working at home, reducing carbon emissions and decreasing congestion on the roads
- offshored contact centers are often unpopular, yet businesses are looking at ways to cut costs
- increased flexibility in working hours means rapid response and reduced idle time
- increasing costs of recruiting and retaining staff allow agents outside the commutable distance to work as well.

Remote working opens the door to the sorts of people who might not otherwise seek employment in a typical contact center but who would happily work in their own home taking calls. For an industry facing cyclical difficulties in recruitment of employees who themselves are having to become more highly skilled and deal with more complex issues year-on-year, this opportunity to deepen the labor pool without widespread pay increases should not be ignored. The contact center could also use limited homeworking (for example, one day a week) as a reward for its top agents, encouraging their loyalty and offering a tangible promise to others.

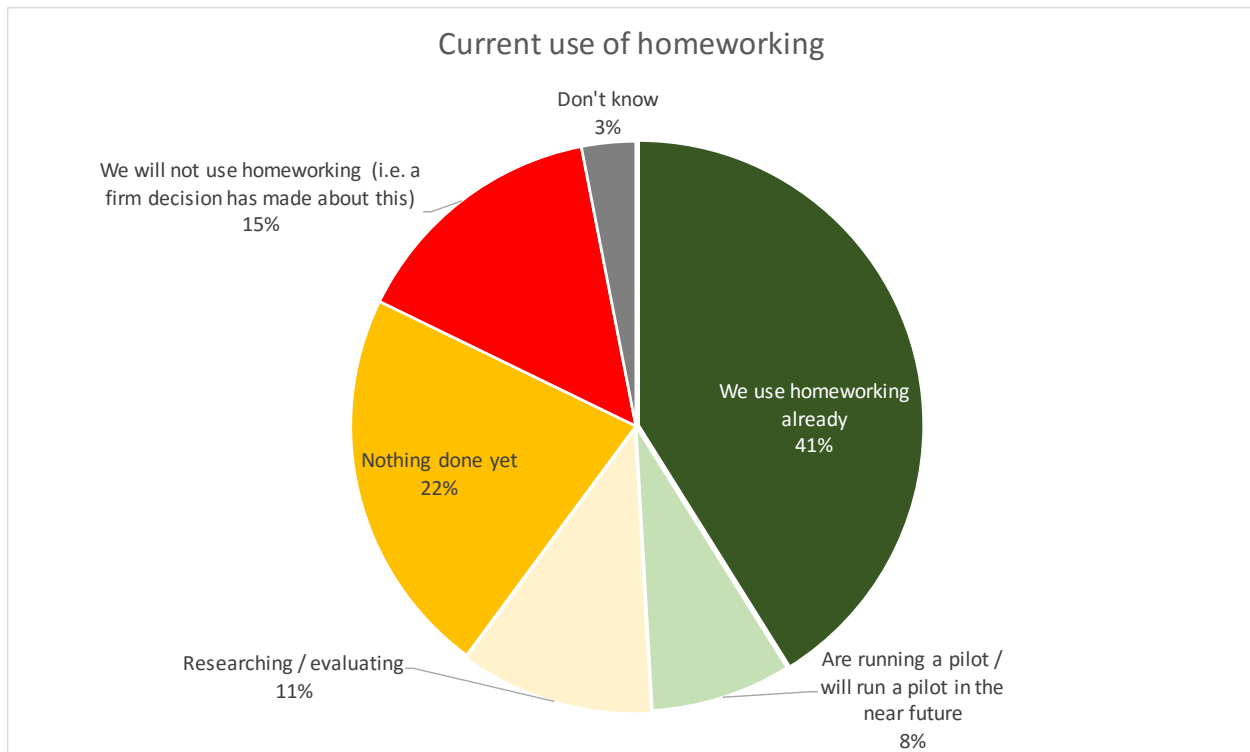
Remote agents, whether working at home, or in a telecottage (small, remote sites), can be a part of the larger virtual contact center by being linked to the main operation via DSL or a leased line (in the case of telecottages). Some solutions permit least-cost routing and redundancy, where if the IP voice quality deteriorates, the call can be switched onto a back-up connection until the IP quality improves sufficiently to move it back to IP. Agents need only a PC which may act as a softphone, a headset (or IP phone) and a data connection.

CURRENT USE OF HOMEWORKING

41% of respondents are already using homeworking, with 8% running a pilot scheme or about to set one up.

22% of respondents have not acted either way on homeworking, although 15% state that they have made a firm decision that homeworking is not for them.

Figure 58: Current use of homeworking



The proportion of contact centers using homeworkers has more than doubled since the end of 2007, and the overall numbers of homeworking agents has more than quintupled.

Figure 59: Changes in use of homeworkers, 2007- Q2 2016

Year (end, except where stated)	% respondents using homeworkers (including those running a trial)	Mean % of agents that are homeworkers industry-wide
2007	22%	3%
2008	21%	4%
2009	36%	6%
2010	37%	11%
2011	42%	10%
Q1 2013	45%	10%
Q1 2014	43%	11%
Q2 2015	51%	14%
Q2 2016	49%	15%
NB: calculation for “mean % agents that are homeworkers industry-wide” is taken from “% of respondents using homeworkers” multiplied by the mean % of agents that are homeworkers ONLY from these operations (i.e. 49% x 30% in 2016)		

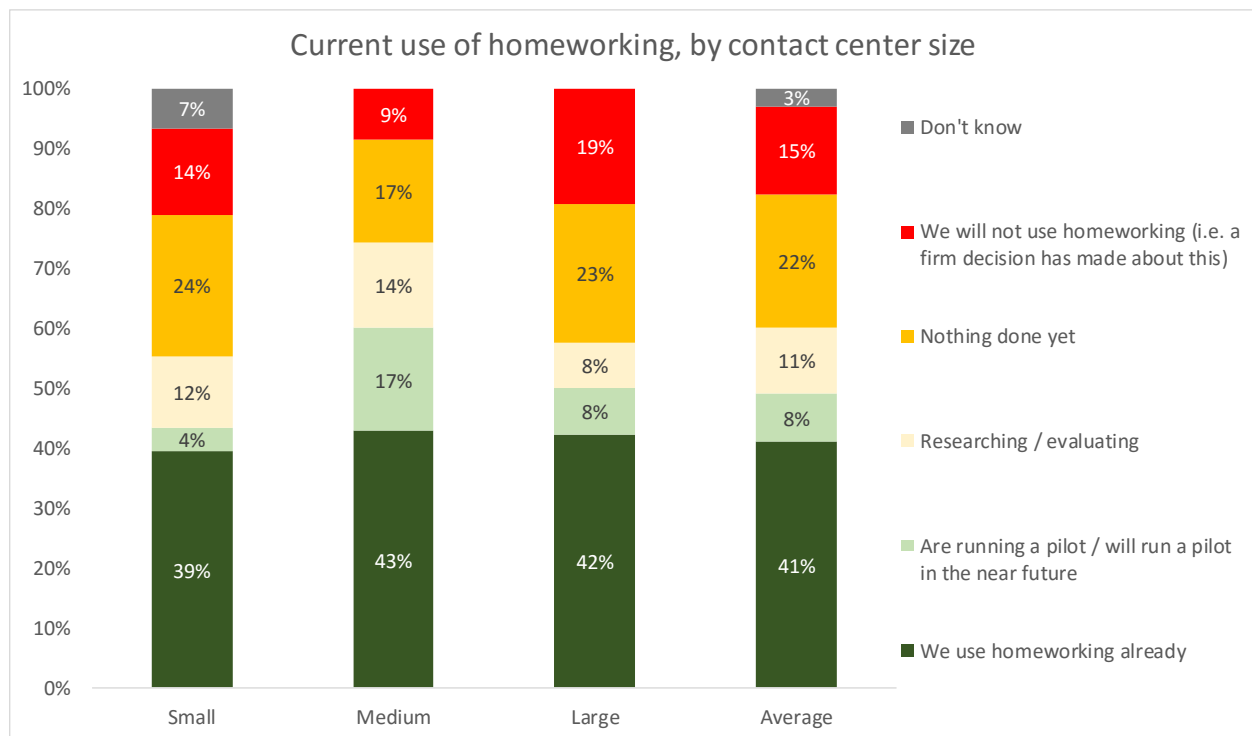
Respondents that use homeworking reported that a mean average of 30% of their agents were homeworkers (with a median of 21%). An average of 83% of a homeworker’s time is spent working at home, meaning that an average of a little less than one day a week is spent at their parent operation.

There has been a growing trend that larger operations are more likely to use homeworkers than small operations, with 50% of large operations, 53% of medium and 19% of respondents from small contact centers doing so last year, with pilots in place or planned at many more especially in the medium and large sectors.

This year, the pattern is not so clear, and will require further years' research to see whether this is a statistical anomaly, or whether small operations are getting more involved in homeworking.

Outbound operations are far less likely to use homeworkers than inbound operations.

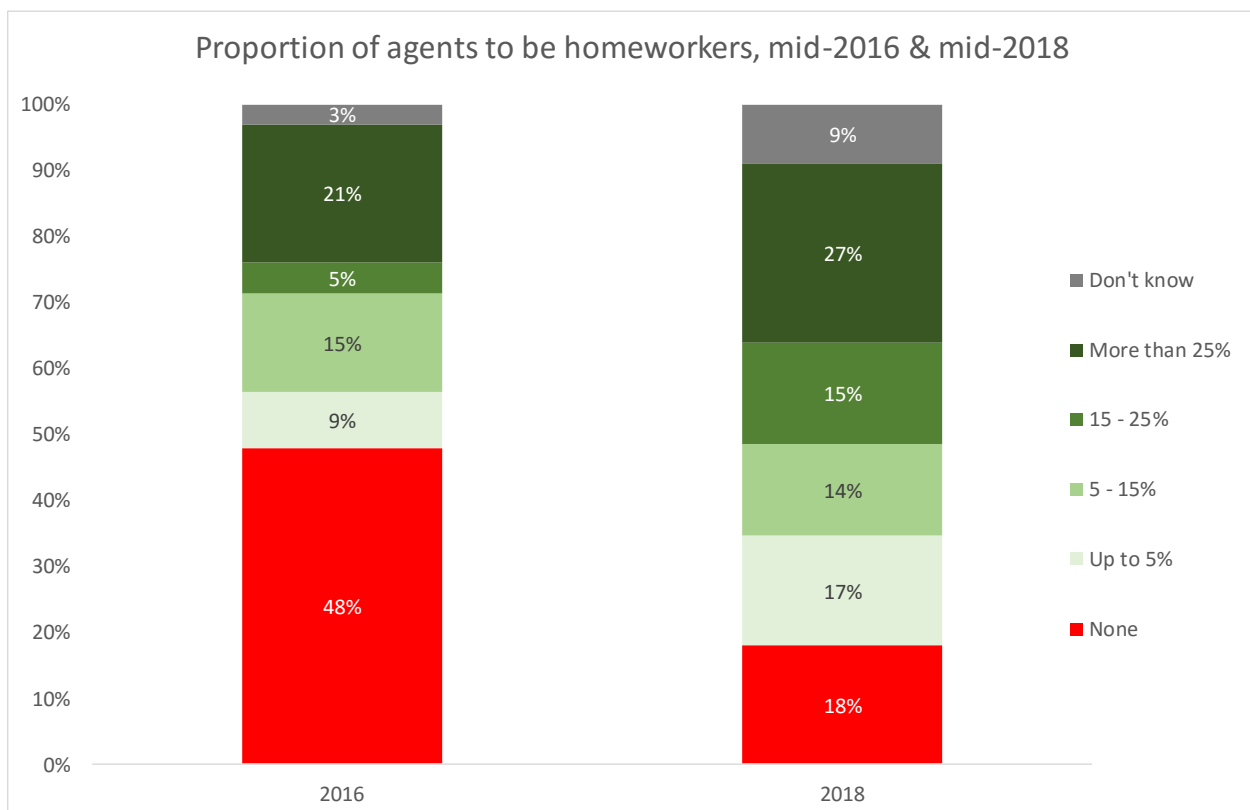
Figure 60: Current use of homeworking, by contact center size



Although asking survey respondents to predict the future is a risky business - much of the time, organizations tend to be somewhat overenthusiastic, and underestimate how long is needed to achieve anything - it is interesting to see that the proportion of contact centers not using any homeworking is predicted to decline from 48% to 18% within the next two years.

Although we would be extremely surprised if this level of growth in homeworking materialized in reality, it is indicative that there is a broadly positive expectation around the future of homeworking, even amongst many of the contact centers that do not use it today.

Figure 61: Proportion of agents to be homeworkers, mid-2016 & mid-2018

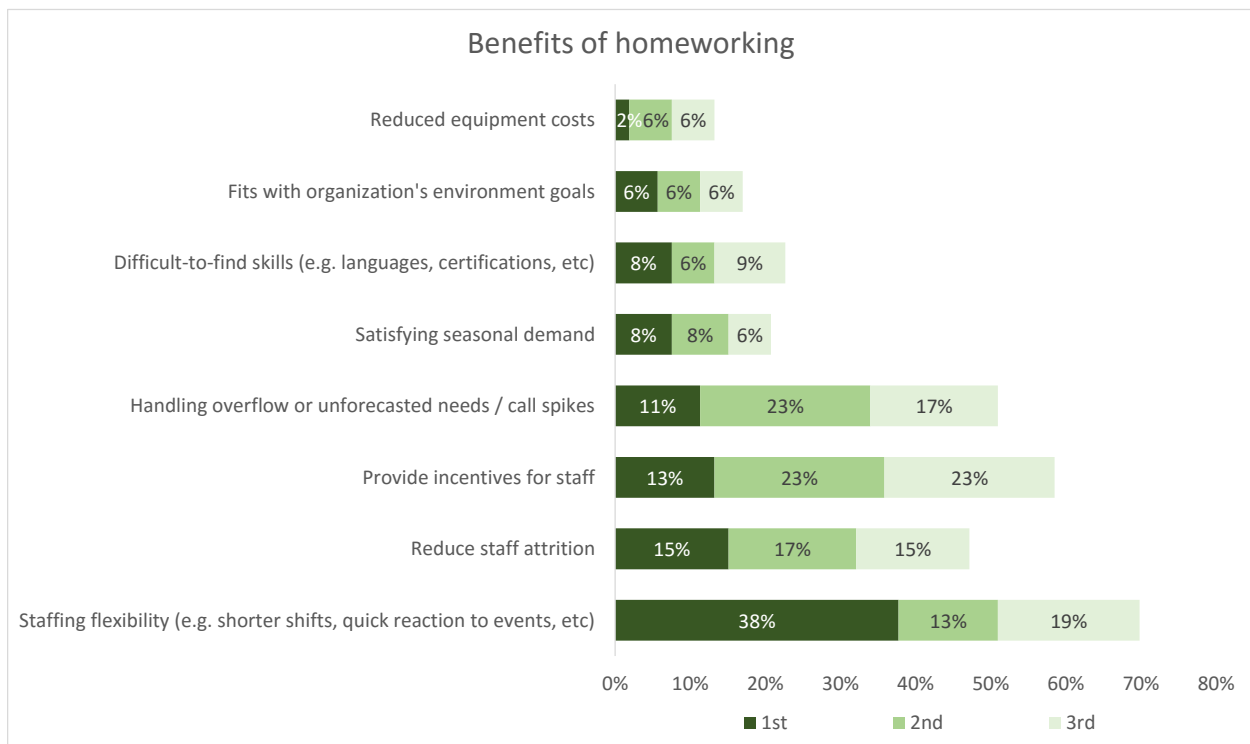


DRIVERS & INHIBITORS FOR HOMEWORKING

The main drivers for considering homeworking are reported to be improved staffing flexibility and a reduction in agent attrition. Homeworking is expected to reduce agent attrition, because it takes away the stress, cost and time of the commute and enables the employee to work in less stressful, more personal surroundings. This allows the business to offer a more flexible working day to their employees, for example, a 4 or 5 hour shift in the middle of the day, allowing the employee to pick up and drop off their children at school, which may also coincide with the busiest period of the day for the organization. In such cases, the employee is happy to work the hours that suit them, and the organization bears less cost. Agents are far more likely to be able to work an hour or two in the evenings as well, allowing the contact center opening hours to be longer.

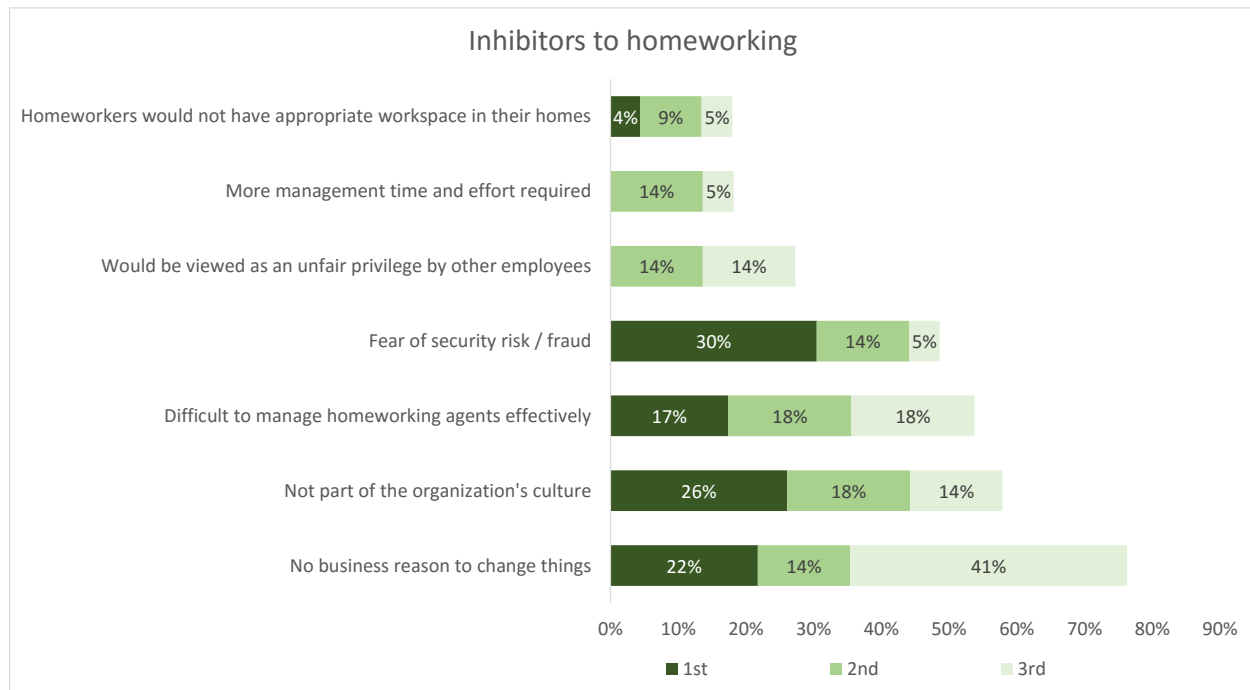
The ability to handle overflow or unexpected volumes of traffic is also a particularly good reason to consider homeworking: in the same way that the virtualization of multiple contact center sites allows agents to be moved between virtual queues instantaneously, having a large pool of homeworkers to draw upon very quickly, as needed, can be a great advantage in handling call spikes.

Figure 62: Business drivers for homeworking



Respondents' view on the future of homeworking are more positive than they have been in the past, perhaps as a result of there being many definite successes experienced from businesses which have started using homeworking.

Figure 63: Inhibitors to homeworking



Some respondents are no less pressure than others to reduce attrition, increase the flexibility of staffing and provide incentives for staff, and the desire to maintain the status quo is the no.1 inhibitor. 26% of non-homeworking respondents state that their no.1 reason for not using homeworkers is that it is against the company's culture.

The third-greatest concern is that homeworkers cannot be managed effectively from a remote location has always been an objection to this way of working. Isolation can be a problem for both agent and management, and not all roles or agents are suitable for homeworking. It is generally considered that new mothers returning to work part-time, or older people who wish to reduce their working hours but who are not yet ready to retire completely are particularly suitable to be considered for homeworking roles, which require experience and maturity in the agent. With real-time adherence and call management systems in place, there is no real reason that a virtual contact center made up of homeworkers is more difficult to manage than a 'typical' operation, although the role of the team-leader (being someone to help actively) has to be re-addressed.

Non-homeworking respondents are far more likely to expect homeworkers to be less productive than centralized staff, perhaps as they are not in such a high pressure environment, with supervisors encouraging them, peer pressure and wallboards telling them the state of play. To some extent, it depends on the definition of 'productive': if it is a matter of call volumes, then not having these cues to hurry up may well have an effect. On the other hand, there are perhaps fewer distractions in the home. In any case, there is no reason to expect that quality will suffer - probably quite the opposite - and the homeworking model is particularly suitable to moving agents between queues rapidly, which in fact will improve the productivity of the entire operation.

Working in an unsupervised environment is likely to mean that the potential risks for data theft and fraud are greater than in a closely-supervised environment such as a traditional contact center, especially if any physical paperwork is involved, payment card details taken or passwords written down. With the home workspace accessible to family members and visitors as well, risks are not just restricted to the homeworker.

The use of an automated mid-call or end-call payment card application would reduce the opportunity for deliberate card fraud and definite policies around the storage and usage of equipment have to be agreed upon. There are various data access methods available that circumvent the need for written passwords, such as voice biometrics or coded key-fobs, and strong firewalls and encrypted hard drives will also reduce risk.

For some contact center workers, it would be difficult to have a room away from the noise of the household, and this is a concern for some businesses. Obviously, it's important to consider working location on a case-by-case basis to assess the suitability of the agent for homeworking.

INTERACTION ROUTING

IP IN THE CONTACT CENTER

Traditional contact centers operate their telephony functions in a circuit-switched telephony environment, where a fixed, dedicated line is left open between caller and agent. Running alongside this, a packet-switched data network breaks up any data (e.g. a customer record to go along with the phone call), sends it in packets along many routes, and reassembles it at the destination in the right order.

IP contact centers differ from traditional PBX-centric operations in that voice traffic is converted into packets of data and carried around the contact center (or between contact centers) on a data network, rather than a voice network. There are two types of IP contact centers: those running on an IP-only architecture, and those running a hybrid environment, where both IP and traditional circuit-switched infrastructures are used.

There have been many reasons to consider changing from a traditional to an IP contact center, including:

- The use of common protocol (IP) and the growth of key standards such as SIP allow rapid development of new application functionality
- IP enables virtual contact centers, homeworking and the remote office model
- IP promotes the successful take-up and management of multimedia customer interactions
- More affordable functionality is made available to smaller contact centers
- IP reduces the cost of maintaining two networks
- There is more flexibility to add and change agents in an IP environment
- There is a reduction in call charges between sites via IP trunking
- IP supports reduced staff attrition through allowing flexible working
- The boundaries between contact center and the wider business are breaking down, and IP is a common theme across all parts of the enterprise
- IP infrastructure may be cheaper to upgrade than a circuit-switched platform.

The use of IP within the contact center has been present for some years now, and despite the relatively slow start to IP implementation, IP is now an integral, mainstream and strategic part of the contact center industry. Moving contact center operations to an open IP environment should be seen as a strategic enabler, rather than just an obvious cost-cutting exercise. The key to understanding the real value of IP is through how it enables functionality to be deployed quickly and effectively regardless of physical location. Put simply, completely and genuinely adopting open standards means that contact centers release themselves from high maintenance costs associated with proprietary systems, and can choose the applications that exactly suit their needs at the time. Standards-based IP solutions are the closest the industry has come to being truly able to future-proof their contact centers.

SIP - SESSION INITIATION PROTOCOL

Advances in standards such as the Session Initiation Protocol (RFC 3261) or SIP, enable telephony applications to interface with each other and provide functionality that used to be only available using proprietary infrastructure hardware.

- Widely regarded as the successor to H.323 for IP-based telephony
- Gaining increased attention and visibility due to major technology solution providers
- An alternative to TAPI-based IP telephony models
- A protocol that removes the need for a separate IP-PBX and contact center solution
- The emerging standard for session control for a variety of media - greater flexibility and more scalability than many alternative multimedia communication protocols in use today
- Software-based, open and lightweight, allowing organizations of all types to support the new breed of SIP phones along with soft phones, analogue phones, desktop PCs, and even mobile devices and PDAs
- SIP also provides strong support for real-time voice communications, text-based messaging and application sharing - SIP can initiate real-time, multimedia sessions that seamlessly integrate voice, data and video

Open systems allow customers to select non-proprietary hardware and software for queuing, routing and applying treatments to interactions. This means that future contact centers will be free of the restrictive nature of proprietary systems, and able to develop and deploy applications which may have previously been too complex to integrate or maintain cost-effectively. The widespread use of a truly open standard will encourage application developers to push functionality boundaries further as time-to-market should be significantly decreased because integration will become much easier.

It is important to understand that there is no CTI link in the SIP world - true interoperability takes care of the integration. This has a distinct cost benefit, a reduction in complexity of deployment and maintenance, and an ability to implement quickly. Through SIP, the value of contact center solutions is moving from routing to applications - not so much "how shall we do it?" as "what shall we do?".

Recently, some vendors have developed unified communication platforms that allow contact center solutions to operate on standard servers with no specialized hardware components, providing an infrastructure that can be supported and maintained by clients' existing IT staff. This offers an easy path to a software-only platform or to allow hybrid applications where both traditional telephony and software-only SIP environments can be unified for a best-of-breed Unified Communication approach.

SIP will enable companies to use CTI functionality throughout IT infrastructures instead using a proprietary hardware/software layer. Applications will use SIP commands to carry out call-related activities and also non-call functions such as presence management. A contact center's CTI servers use caller ID information from PBXs to retrieve customer information from various databases. This information is then passed to the agent along with the voice call as a screen-pop, cutting down the time spent at the beginning of a conversation. If calls are transferred, the information follows the voice call so the customer does not have to repeat information they have already given. CTI is extremely effective, however, it's also expensive, proprietary and complex. The use of SIP allows CTI-like functionality to be used far more widely and effectively.

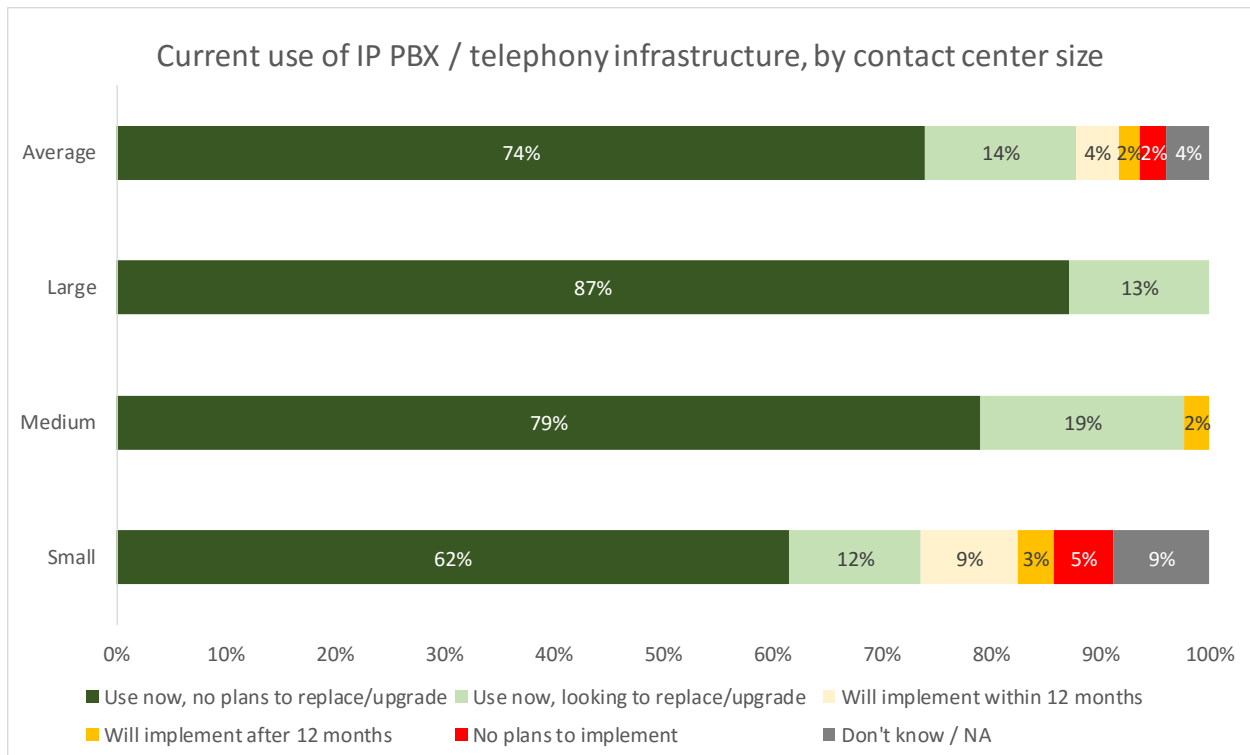
Enabling a voice device to communicate with a data network has required the CTI middleware layer to translate TDM (Time Division Multiplexed) voice traffic into data. If a contact center uses SIP and a pure IP infrastructure, it removes the need for CTI as a separate layer in the IT infrastructure because SIP enables mobile phones, laptops, smartphones, etc. to communicate directly with IT resources. In pure IP networks, calls will enter the infrastructure as VoIP traffic and travel to a SIP proxy server which initiates sessions with the necessary applications to perform call routing and customer information searches for which the CTI server was formerly responsible.

Standards-based SIP proxy servers are much cheaper than CTI servers and can be implemented on standard hardware. Integration is easier and quicker as all the input and output in the network is one standard protocol, which opens this up to smaller operations too, however all voice traffic must be through VoIP.

IP PBXS

The mantra “evolution, not revolution” was often applied to the IP contact center environment, with vendors encouraging contact centers to consider the option of moving at their own pace towards IP, and this is what has happened in recent years, with the journey almost complete. The movement from TDM to hybrid, and then to pure IP can certainly be seen over the years, with TDM penetration rate declining to 8% this year (excluding those respondents who do not know).

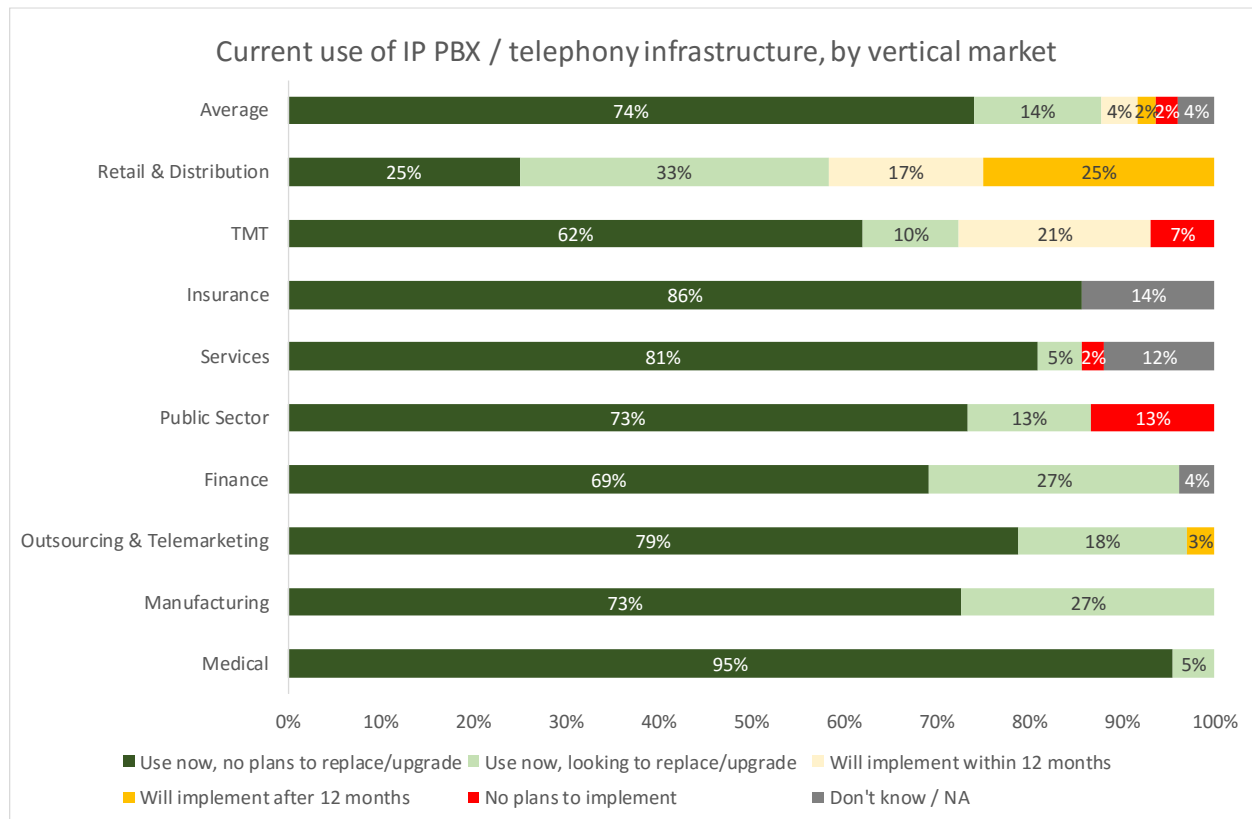
Figure 64: Current use of IP PBX / telephony infrastructure, by contact center size



Smaller contact centers were the early adopters of IP solutions, as to upgrade or replace equipment and networks is cheaper for them than for large operations. The past few years have seen a big jump in the proportion of larger contact centers indicating that they are using IP, although it is worth noticing that there are substantial proportions of IP users within all contact center sectors are actively looking round to replace or upgrade this solution.

Looking at vertical markets, the majority of respondents in every sector are using IP, although retail & distribution is lower than usual this year, possibly as a result of a relatively small sample size. Those in finance and retail are most likely to report that they are looking to upgrade or replace.

Figure 65: Current use of IP PBX / telephony infrastructure, by vertical market



CALL ROUTING

Over half of respondents identify the caller through one or more techniques, for example using DTMF tones to input account number, through an automated security process or through automated number identification (ANI) which displays the number that the customer is calling from, allowing a database lookup. This may be the used for a screen pop, or to automatically route the customer to a specific department or office.

37% of respondents use this information or other sources (for example, identifying the language that the customer is using in speech recognition) in order to identify the skills that the call may require, and use this to route the call appropriately.

43% state that they access the customer's records and history in the CRM system, which will result in the agent being provided with a screen pop that should in theory have the customer's records and history pre-populated as the call is received.

Figure 66: Pre-call routing decision factors, by contact center size

Decision factor / proportion of contact centers using this method	Small	Medium	Large	Average
Identify the customer (e.g. through ANI, automated security, capture of DTMF tones, etc.)	36%	55%	70%	51%
Identify the skills and capabilities that the agent answering the call is likely to need	25%	30%	56%	37%
Access the customer's records and history in the CRM system	21%	48%	70%	43%

Those contact centers which use DTMF (touchtone) IVR or automated speech recognition (ASR) considerably more than average have traditionally been found in the telecoms, utilities and finance sectors: high-volume environments where a few seconds shaved from a call through the use of a screen pop, or a reduction in misrouting can save considerable amounts of money. Most financial services companies have many products which require specific skills and product knowledge. As such, routing based upon selection criteria such as customer account numbers, sales/service and specific product choices can take place, supported by an IVR front-end, functionality which is often known as 'auto-attendant'.

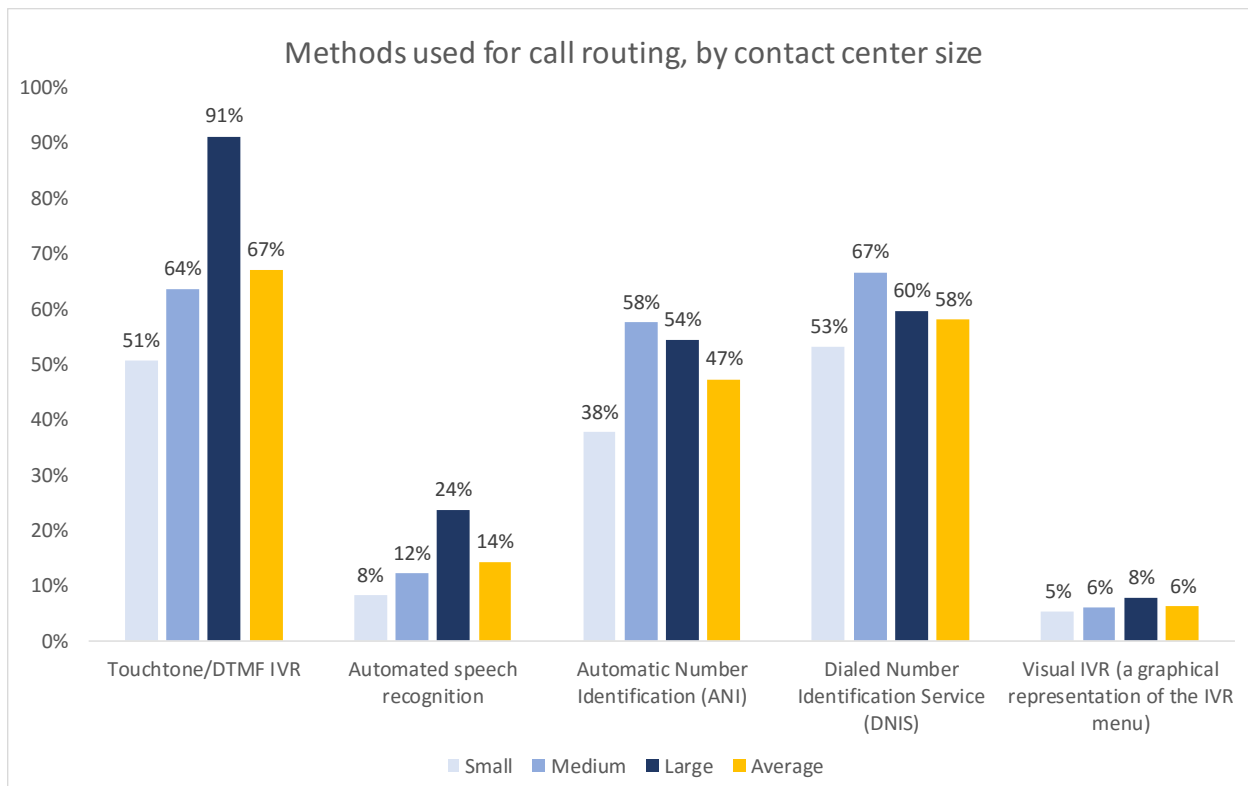
In the past, less-automated or volume-based contact centers, such as public sector, and sales-focused operations, such as retail, have shown less of a demand for IVR call routing solutions. However, over the past few years, a substantial proportion of respondents from every sector have reported that they use

DTMF IVR for call routing purposes, and automated speech recognition is in use for routing purposes in 24% of large respondents' operations.

51% of respondents in sub-50 seat contact centers report using DTMF IVR for routing, demonstrating that this is no longer a technology just for operations with lots of budget and in-house IT support. More expensive speech recognition solutions are more prevalent in large operations, where the correct automated routing of many thousands of calls each day can very quickly make a case for ROI. ANI and DNIS are both very well used especially in larger contact center operations.

Visual IVR has again been offered as a survey option, and although only a handful of contact centers reported its use last year, 2016 has seen it rise to 6%, slightly higher in large operations. Giving existing IVR functionality a visual interface simply means that the current IVR's path can be shown graphically on a website or smartphone, with callers touching the selection that they require without having to listen to all of the options. This has the dual benefit for the customer of being far quicker than listening to IVR menu options, and of being significantly more likely to get them the correct information or to be routed to the department most appropriate to their needs. The addition of new functionality and the ability to offer this consistently across multiple channels will move IVR to the next generation and provide a shot in the arm for a faithful but unloved solution.

Figure 67: Methods used for call routing, by contact center size



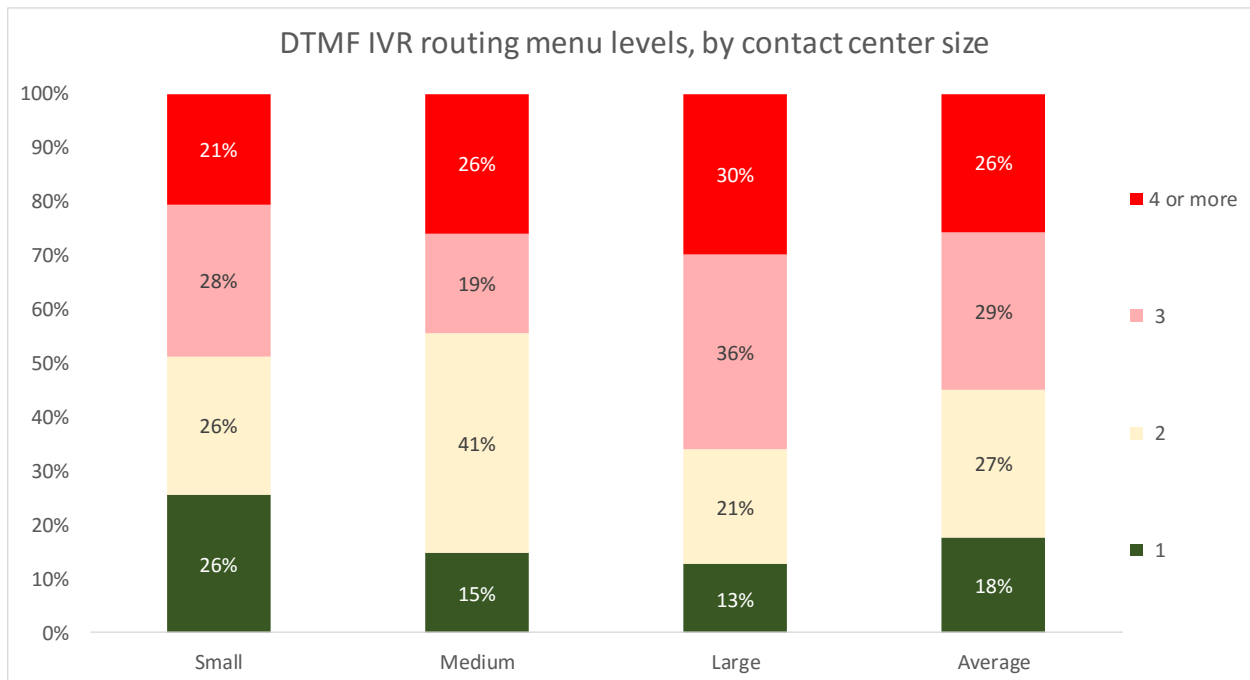
DTMF IVR ROUTING

This report now investigates how DTMF-based auto-attendant is actually used for routing from the customers' viewpoint, as overly-long and confusing DTMF IVR options have been a common complaint.

Looking at the number of levels used on a DTMF IVR (i.e. how many key-presses a caller must make to reach their destination), only 18% of this year's respondents keep it simple with a single-level of options, e.g. "Press 1 for Sales; 2 for Service; 3 for Accounts".

30% of large operations present a possible four or more routing menu levels to their customers, a level of granularity that must appear daunting to their customer base, and even 21% of small contact center respondents report doing the same.

Figure 68: DTMF IVR routing menu levels, by contact center size



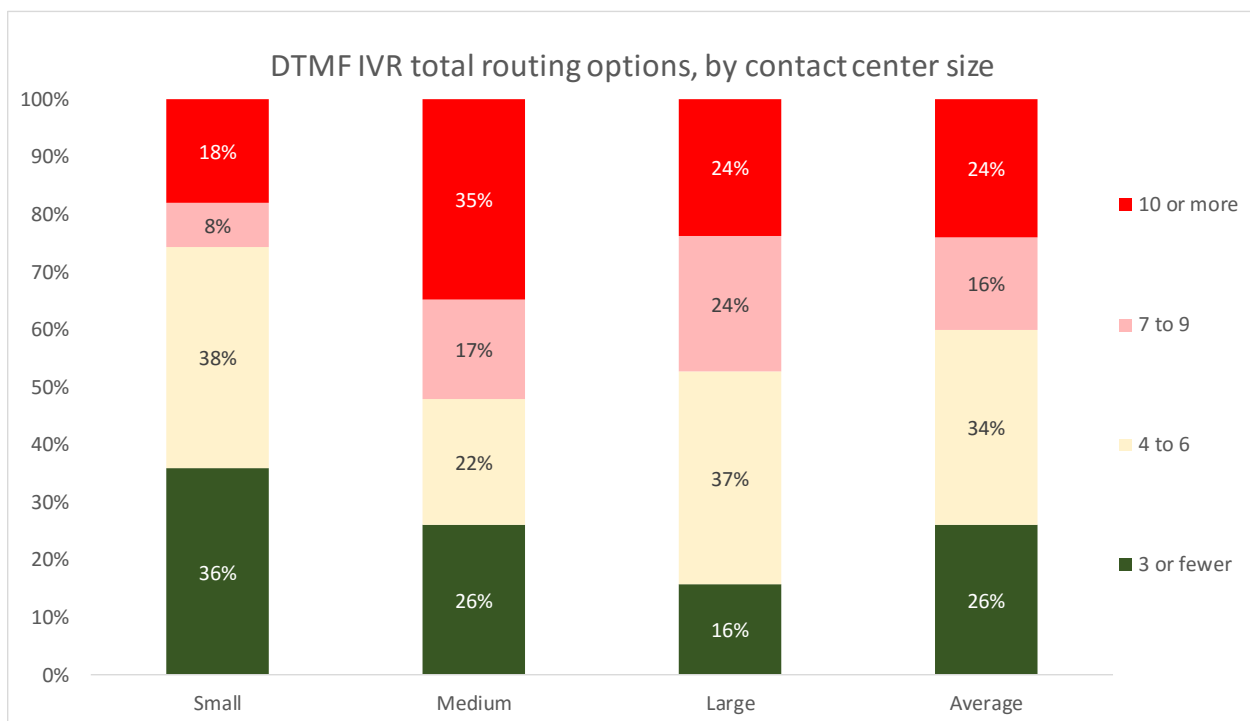
When considering the number of routing menu levels presented by sales or service focused operations, 68% of service respondents present three or more menu levels, whereas all of the sales respondents report providing only one or two levels.

It is not just the number of levels in a menu that can frustrate customers, but also the overall number of options within each level. As the customer cannot see what the options are, but has to listen to each, it can be a very frustrating experience, and one which the movement to visual channels such as web self-service or visual IVR via a smartphone will go a long way towards alleviating.

Respondents report a median of between 6 and 7 options, which can still be a considerable number for a caller to listen to, especially if their preferred choice is the last one in line.

Logically, larger contact centers will tend to support larger businesses, which usually have more departments, offer a greater level of segmentation and have more products and services available to customers. Consequently, there are on average many more menu choices offered in the phone menu of medium and large contact centers, with half of these respondents reporting offering seven or more routing options to their customers.

Figure 69: DTMF IVR total routing options, by contact center size



SKILLS-BASED ROUTING & OTHER STRATEGIES

Sophisticated call routing capabilities allow the business to put the right agent with the right skills in front of the customer to meet the business's strategic aims, keep costs low and improve the customer's experience. Obviously, a business will want to treat a delinquent account differently to a high-value customer, or a caller identified at risk of leaving the business. The former can be routed straight through to collections, and the latter two to highly-skilled agents who may even have assisted the customer previously.

There are many different call routing strategies employed by contact centers, including:

- **Hunt groups:** also known as direct routing, this is a basic strategy which aims to connect callers to the department which they have called, searching for available members of that group to take a call
- **Least Idle / Least Occupied:** these strategies are based upon the agent's level of activity, respectively looking for agents who have been waiting the longest or who have done least work throughout the day
- **Skills-based routing:** particular skills and characteristics can be assigned to specific agents, allowing a better match between the call and the agent. This requires knowledge of who the caller is, or what they want, or both
- **Dynamic or service level routing:** building on skills-based routing, this strategy also takes into account the predicted demand for the specific skills, which can flexibly reallocate other agents who may have lesser skill sets if service levels risk being missed
- **Business rules based on customer identity:** once the customer has been identified - perhaps through the use of ANI or automated verification - the business can then decide how they would like calls from this particular customer to be handled. For example, Premier customers may get put to the front of the queue; agents who have handled this customer's calls successfully before may be allocated; or customers who have indicated that they wish to cancel a contract may be put through to expert retention staff
- **Intelligent routing based on customer history:** intelligent routing goes one step further than this, by gathering information from the customer's record, and routing the call based not only on the customer's identity but also on their history, status and profile. For example, those who are in debt may get passed straight through to the collections department, whereas high-value customers reaching the end of the contract may be passed through to staff who are highly skilled in cross-selling and up-selling.

Routing calls based on current and past agent activity is the most widely used routing strategy, with little difference across contact center size bands.

Skills-based routing is said to be the second most popular routing strategy, particularly in contact centers with more than 50 seats, where meaningful pools of skill-sets can be created and used.

The basic routing strategy of hunt groups is used far more in smaller operations, with service level routing, business rule routing and intelligent routing being far more common in the largest and most sophisticated contact centers.

Figure 70: Telephony routing strategies used, by contact center size

Routing strategy	Small	Medium	Large	Average
Least Idle / Least Occupied	62%	85%	75%	71%
Skills-based routing	43%	82%	91%	67%
Hunt groups	58%	39%	30%	45%
Dynamic / service-level routing	9%	27%	49%	26%
Business rules based on customer identity	11%	15%	42%	22%
Intelligent routing based on customer history	4%	6%	14%	8%

An additional question was asked around skills-based routing, which is the most widely used routing strategy that takes into some account the customer's requirements. Skills-based routing is a call-assignment strategy used in contact centers to assign incoming calls to the most suitable agent based on the caller's requirements and the agent's capabilities, instead of simply choosing the next available agent, allowing the call to be passed to specific virtual agent groups (clustered by skills) rather than routing through to a particular department or physical team. Historically, agents answering calls were generally able to be assigned to only one queue taking one type of call, meaning that agents who could deal with a range of call types had to be manually reassigned to different queues at different times to make the best use of their skills, or end up handling calls to which they were not necessarily suited.

Skills-based routing allows the agent capabilities required for a call to be assessed by the telephone number dialed (DNIS - dialed number identification service), the calling number or caller's identity (ANI - automated number identification), as well as options selected in the IVR system. A skills-based routing system then tries to match the call to a suitably-skilled agent. Instead of being served in the order of their arrival, calls are handled as agents with the right skills become available.

There is a very wide spread in terms of the number of agent skill-sets used for skills-based routing, with a couple of respondents claiming to be able to allocate 100+ skills-sets to their agent populations, although the median is only a more manageable four.

Figure 71: Agent skill-sets considered when using skills-based routing, by contact center size

Skill-sets	Small	Medium	Large	Average
Mean	5	6	15	9
Median	3	4	5	4
1 st quartile	4	10	12	10
3 rd quartile	2	3	3	3

PCI DSS COMPLIANCE

PCI DSS BACKGROUND

The Payment Card Industry Data Security Standard (PCI-DSS) is the creation of five of the largest payment card providers: VISA, MasterCard, American Express, Discover and JCB International, which together have named themselves the PCI Security Standards Council. The PCI SSC wished to clarify and align their various fraud prevention measures and regulations into a single agreed global framework. PCI DSS provides guidance to merchants as well as payment card processors around how to process, store and transmit information about the payment card and its owner, with the aim of reducing the incidence of card fraud and promoting best practice in information security. Although compliance with PCI DSS is not enforced by law, the card brands may fine those banks whose merchants do not follow regulations (which the banks will pass on), or even deny the merchant the ability to take card payments at all.

There are 12 requirements to fulfil in order to achieve PCI DSS compliance (full details are available here²), with many specific sub-requirements within them. While all of the requirements have some impact upon the workings of the contact center, it is generally considered that Requirements 3, 4 and 12 may have the greatest relevance.

Requirement 3: Protect stored cardholder data

This requirement is about reducing the impact of any data breach or fraud, by minimizing the holding of any unnecessary data as well as reducing the value of any stored payment card information. Data must only be stored if necessary, and if stored must be strongly encrypted, and only kept for the period where it is actually needed, with a formal disposal procedure. Businesses should revisit the necessity of data storage on an ongoing basis, and it should be remembered that the storage of sensitive authentication data such as card verification codes, is prohibited even if encrypted, and must be permanently deleted immediately after authorization. The requirements of other regulations (which may mandate keeping recordings for a long period of time) may need to be balanced against PCI DSS guidelines, with possible compromises occurring such as archiving encrypted call recordings offsite in a secure facility, with access to them only in the case of fraud investigation or when proving industry-specific regulatory compliance.

Sensitive authentication data such as the card verification code should normally never be stored, even in an encrypted format. PCI DSS requirements also indicate that the full card number (PAN) should only be available on a need-to-know basis, and should otherwise be hidden, with 1234-56XX-XXXX-7890 considered the minimum masking format. For businesses which choose for agents to type in card details, post-call masking and role-based access to the full PAN should be considered, along with strong cryptography when stored.

For contact centers, the most obvious place where data is stored as in the recorded environment, and there is an increased use of RAM scrapers, which is a form of malware that takes data from volatile memory as it is being processed and before it is encrypted.

² https://www.pcisecuritystandards.org/documents/PCI_DSS_v3.pdf

Organizations have to determine all of the locations which credit card data could potentially be stored, even if it is not part of the formal card handling process. For example, there is nothing to stop the customer sending their credit card details, including the card verification code, by email or web chat: if the email or chat interaction is then stored, then a risk exists, and the operation is not PCI DSS compliant. There is an increasing use of data loss prevention solutions as a way to track data that has somehow moved out of the original environment, and PCI DSS version 3.0 states more clearly than previously that businesses need to have a good inventory not just of the equipment and infrastructure, but also of their logical environment as well.

Requirement 4: Encrypt transmission of cardholder data across open, public networks

In the event of a security breach, it is important to make sure that credit card data (such as the PAN, or 'long card number') is not readable through the use of strong cryptography, not only at its stored location but also as it is being passed across the network. The network is only as strong as its weakest link, and badly configured wireless networks, with out-of-date security and weak passwords are a particular concern.

Requirement 12: Maintain a policy that addresses information security for all personnel

All employees should be made aware, in writing and through daily exposure to information security guidelines, of what their responsibilities are in terms of handling data. The regular and ongoing minimization of potential security risks is perhaps even more important for homeworking agents, who are less likely to be in a rigidly maintained environment, and whose vigilance and adherence to security guidelines may therefore be less rigorous.

Compensating controls

Businesses that are unable to fully comply with PCI DSS objectives, for technical or business process reasons perhaps, may consider implementing 'compensating controls', which act as workarounds to achieve roughly the same aim as the PCI control in situations whereby the end result could not otherwise be achieved. These are not meant as an alternative to the control objectives, to be used in cases where the business simply does not want to meet the regulations, but are supposed to act as a last resort allowing the business to achieve the spirit of the control, if not actually the very letter. Guidelines for valid compensating controls indicate that it must meet the intent of the original requirement, and provide a similar level of defense, go at least as far as the original requirement and not negatively impact upon other PCI DSS requirements.

THE VIEW FROM THE CONTACT CENTER

Potential danger points within the contact center fall into three main areas: storage, agents and infrastructure. The storage element will revolve around the recording environment - both voice and screen - and the potential and opportunity for dishonest employees to access recordings or write down card details should also be considered. In terms of infrastructure, this is not simply a matter of considering the CRM system or call recording archives, but also includes any element that touches the cardholder data environment. This could include, but is not limited to the telephony infrastructure, desktop computers, internal networks, IVR, databases, call recording archives, removable media and CRM / agent desktop software.

The various elements of card data may be handled in different ways.

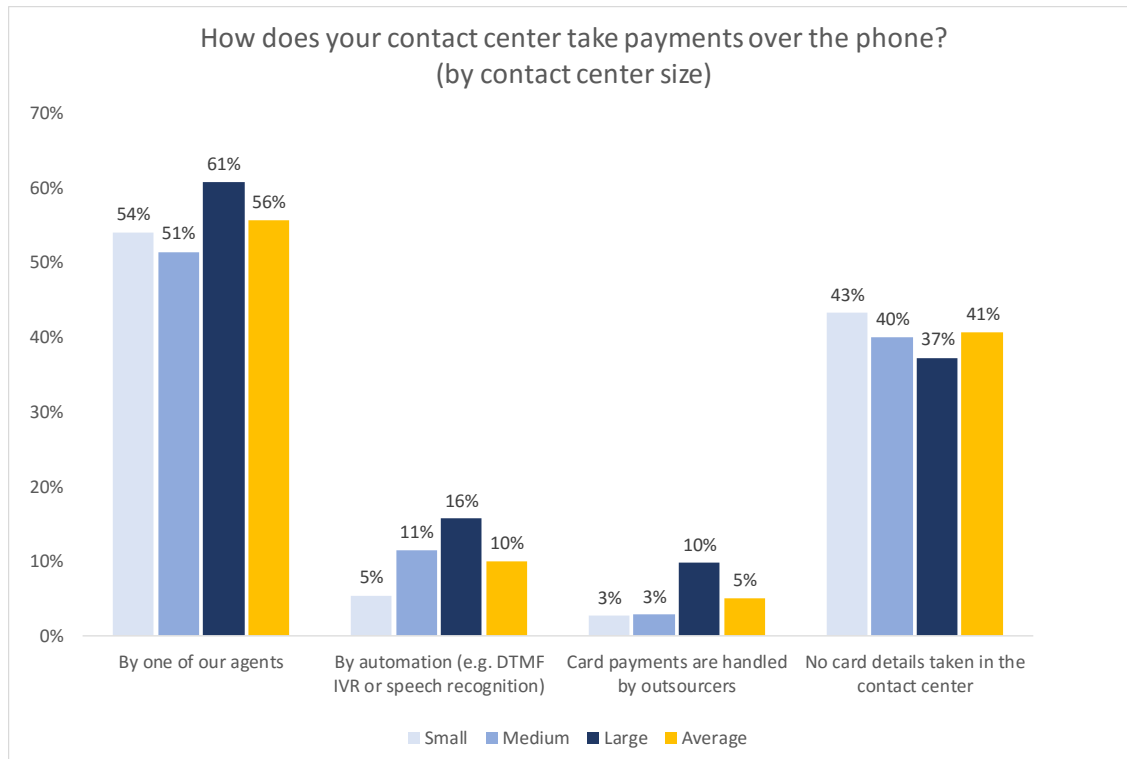
Figure 72: Data elements and storage in PCI DSS

	Data Element	Storage Permitted	Must Render Data Unreadable
Cardholder Data	Primary Account Number (PAN)	Yes	Yes (e.g. strong one-way hash functions, truncation, indexed tokens with securely stored pads, or strong cryptography)
	Cardholder Name	Yes	No
	Service Code	Yes	No
	Expiry Date	Yes	No
Sensitive Authentication Data	Full magnetic stripe data	No	Cannot store
	CAV2/CVC2/CVV2/CID (Card Security Codes)	No	Cannot store
	PIN / PIN Block	No	Cannot store

Compliance with PCI DSS should be seen in the wider context of a far-reaching information security framework, which may also take into account industry-specific regulations. There is likely to be a balance to be found between compliance with the various regulations in the context of the business's unique processes and internal guidelines. Policies and activities that are helpful include:

- make sure that contact center employees do not share passwords or user IDs with each other, in order to maintain a segmented and auditable security and access environment
- limit the number of employees given access to full card information. For example, restrict access to call recordings based on logging and corporate role, only allowing screen recording playbacks that display payment card information to managers and compliance officers, having it masked for all other users
- manage the physical and logical access to stored recordings and regularly report upon those accessing this information
- do not allow payment card data to be transferred through non-encrypted means, including email, web chat, SMS or other means, and have the means to identify and delete it immediately if present
- initial focus should be on improving business processes, rather than implementing technology. For example, analyzing and restricting access to cardholder information to only those employees who actually need it will significantly reduce the risk of fraud even before implementing any technology
- quarterly vulnerability scans should be carried out via an external approved scanning vendor approved by the Payment Card Industry Security Standards Council (PCI SSC), which holds a list of these. ASVs perform penetration tests on the company's network in order to verify that it cannot easily be hacked
- use secure data centers and limit physical access to servers which store payment card information
- do not record sensitive authentication data such as the card validation code in any circumstances if possible
- use strong encryption for the storage and transit of voice traffic, call recordings, screen recordings and personal identification data, making sure that the most current guidelines on encryption and transmission protocols are adhered to
- up-to-date, fully patched and automated malware, anti-virus and personal firewall software (of particular importance to homeworkers) - requirements 5 and 6
- regularly review stored data, and keep only that which is necessary for business or regulatory purposes. For example, hotels need to keep customers credit card details from the reservation point until checkout: there is no hard and fast rule.

Figure 73: How does your contact center take payments over the phone? (by contact center size) – multiple selections allowed



There are significant elements to consider around manually taking payment from cards: the time taken to take payment, the risk of fraud by agents, unauthorized access to call recordings, and compliance with the Payment Card Industry Data Security Standard³, in order to reduce credit card fraud.

Some of the literature around PCI compliance and card handling mentions organizations which adopt a “trust-based approach” that relies on the honesty of their agents as well as their recruitment and agent management processes to avoid fraud. While incidences of agent fraud are rare, compliance with PCI DSS no longer makes this an acceptable option.

Businesses may consider that as well as achieving and maintaining PCI DSS compliance, they may benefit by reducing the DSS scope as well, which will limit the size of the compliance task and cost. A significant reduction in DSS scope can make maintenance easier, reduce the amount of patching and vulnerability scans, as well as reducing the areas of risk and potential attack. For many organizations, the cost and upheaval of large-scale PCI compliance projects, as well as the ongoing efforts of remaining compliant means that trying to move as much of the operation out of scope is a very attractive proposition that makes sense in terms of cost and resource.

³ https://www.pcisecuritystandards.org/security_standards/

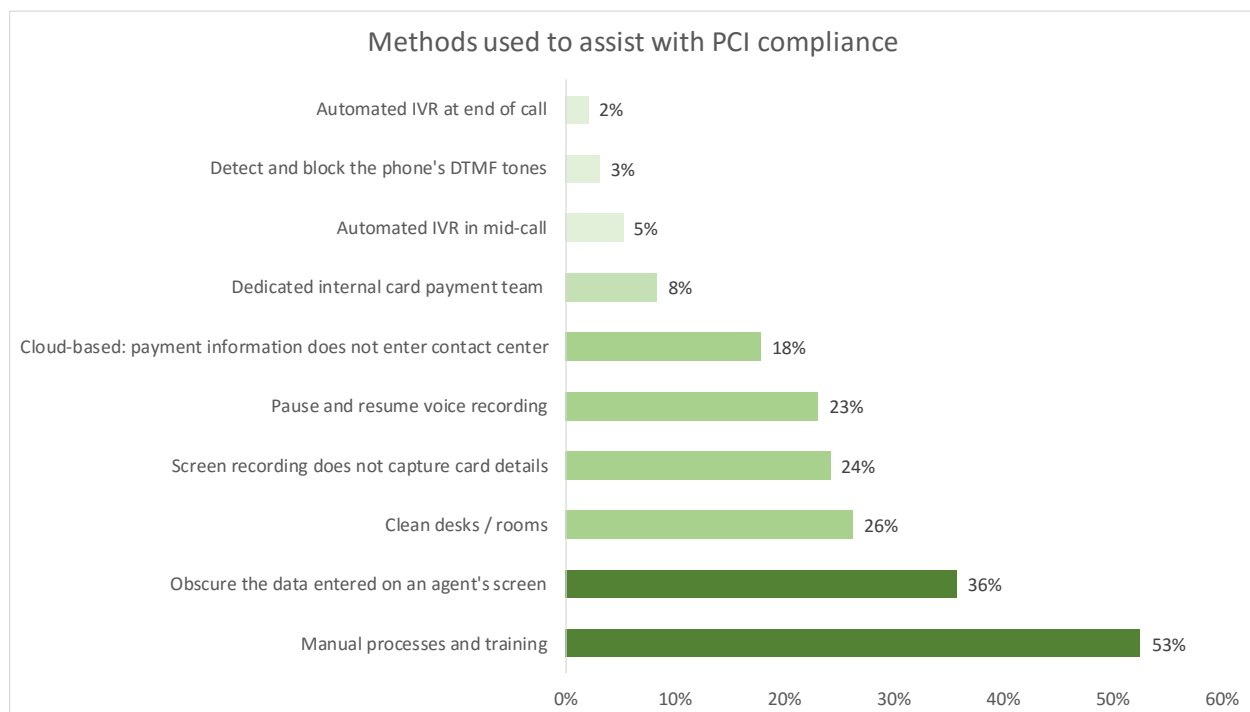
Businesses attempt to reduce their DSS scope by limiting the number of places where card data is present by:

- removing redundant and obsolete storage facilities and applications
- replacing the full PAN with a truncated, encrypted and/or masked version
- move away from the need to encrypt by using tokenization
- outsourcing elements of card handling, storage and processing to PCI DSS compliant third parties, and reducing or eliminating the cardholder data environment as a result
- large organizations may define 'PCI security zones' and locate the system components that handle card data, and all systems connected to it, within those zones. Full isolation of the cardholder data environment may be prone to failure due to lack of clear guidelines around how this can be practically implemented and sustained.

PCI DSS compliance is not simply about implementing a piece of technology, as compliance covers people and business processes, as well as systems. As PCI DSS is replaced and upgraded every few years (the current version is v.3.0), businesses have tended to implement a patchwork of solutions and processes to reduce the danger of card fraud and maintain compliance.

Respondents were presented with a long list of solutions, approaches and business processes that aimed to reduce the risk of card fraud within the contact center, and were asked to indicate which they used.

Figure 74: Methods used to assist with PCI compliance



The most widely used method was that of **agent training**: the biggest risk in any organization relating to data theft is its staff, and the relatively low cost of training and education of the risks can go a long way in making staff vigilant to perils such as phishing emails and such like.

'Pause and resume' or 'stop-start' recording aims to prevent sensitive authentication data and other confidential information from entering the call recording environment. Pause and resume may be agent-initiated, act for a fixed time period (e.g. stopping recording for a minute), or be fully automated. PCI DSS compliance does not seem to permit manual pause and resume capability, as the guideline states that this process must be fully automated, with no manual intervention by staff. Automated pause and resume may use an API or desktop analytics to link the recording solution to the agent desktop or CRM application, being triggered when agent navigates to a payment screen, for example. The recording may

then be paused, to be resumed at the time when the agent leaves the payment screen, which in theory should remove the period of time whereby the customer is reading out the card details. There are also alternative options, such as muting the recording or playing a continuous audio tone to the recording system while payment details are being collected, rather than actually pausing the recording, meaning that there is still a single call recording which can be used for QA and compliance purposes. This principle is similar to that applied to **screen recording** applications, where 24% of respondents stated that their application does not record card details from the agent's screen. 36% of respondents **mask card details** on the agent's screen, to prevent copies being made.

Some organizations set up **dedicated payment teams**, working away from other agents, often in a **clean room** environment with no pens, paper or mobile phones, so that customers can be passed through this team to make payment. As these agents have a single responsibility - handling card payments - sometimes they are underutilized, and at other times there can be a queue of people waiting to make payments. In terms of the customer experience, this latter scenario is suboptimal. A clean room is generally not seen as being a particularly pleasant working environment for agents, being Spartan of necessity. Not being able to be in touch with the outside world, for example with children or schools, can be a significant problem for some agents. It was estimated that it takes around \$3,000 per agent per year to create and maintain a clean room environment.

A minority of respondents, especially those with a large contact centers, using automated IVR process to take card details from the customer, cutting the agent risk out of the loop entirely. **Mid-call IVR** (or agent assisted IVR) is more popular than **post-call IVR**, as it is seen as a more customer-friendly approach: the caller may have additional questions or the requirement for reassurance and confirmation after the payment process, perhaps around delivery times or other queries not related to the payment process.

Only 3% of this year's respondents use **DTMF suppression** in order to assist with their PCI compliance. DTMF suppression describes the practice of capturing DTMF tones and altering them in such a way that cardholder details cannot be identified either by the agent, the recording environment or any unauthorized person listening in. DTMF suppression aims to take the agent out of scope as well as the storage environment, as card details on the agent's screen may be masked as well as the DTMF tones being neutralized (thus removing any danger of a handheld recorder being used).

At the point in the conversation where payment is to be taken, the agent directs the customer to type in their card details using the telephone keypad. The DTMF tones are altered so that they no longer represent the card number or sensitive authentication details. The caller inputs their card data via a touchtone keypad in a similar way to an IVR session, keeping them in touch with the agent at any point in the transaction in case of difficulty, clarification or confirmation. There are anecdotal references made to an average time-saving per call of around 10 seconds if the caller types in their own card details rather than reading them out and having confirmed by an agent.

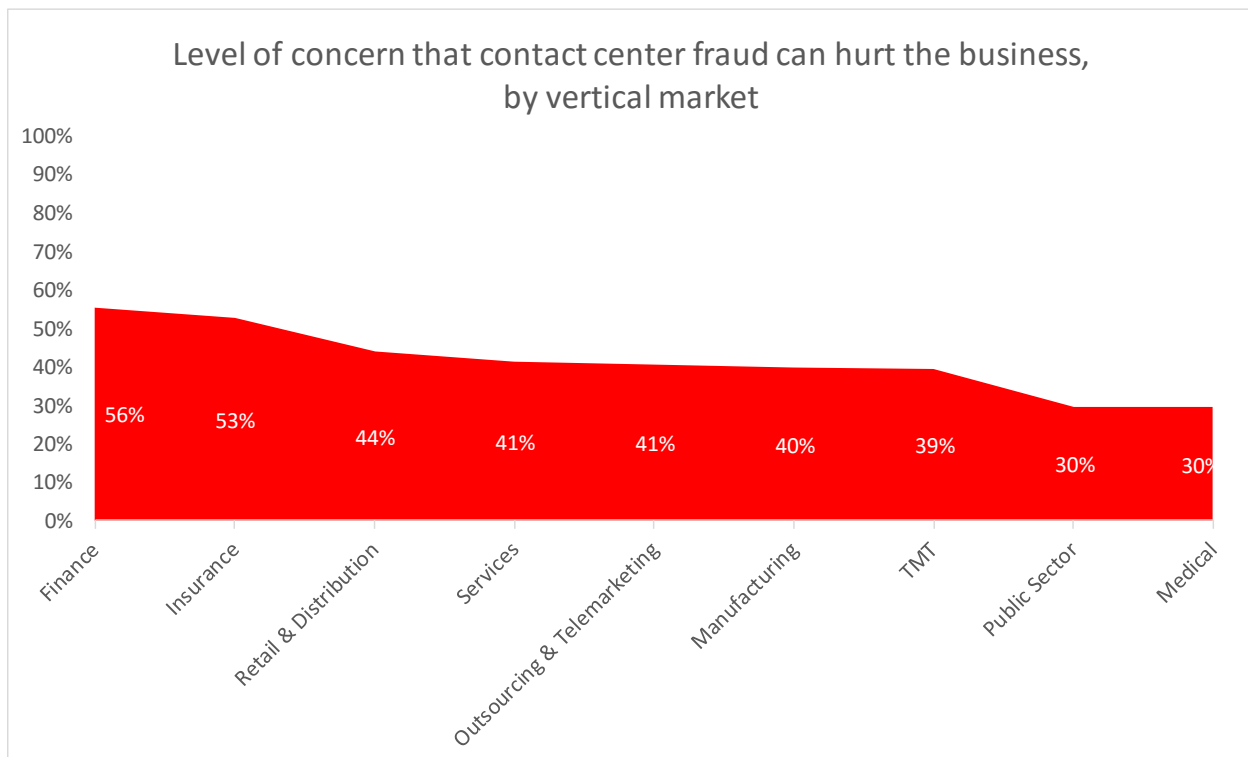
18% of respondents use **third-party cloud-based payment solutions**. Using a hosted or cloud-based solution to intercept card data at the network level means that no cardholder data is passed into the contact center environment, whether infrastructure, agents or storage. As such, this can be seen to de-scope the entire contact center from PCI compliance. Like any cloud or hosted solution, it relies heavily upon the security processes and operational effectiveness of the service provider, although the PCI DSS attestation of compliance and external audits, along with regular penetration testing may well show superior levels of security over what is present in-house. Some cloud-based solutions may require greater levels of integration or configurations than their on-site equivalents, but most seem to be engineered in such a way as to minimize changes to the contact center systems, processes or agent activities.

Further details about all of these methods, as well as other approaches to take, are investigated in depth in ContactBabel's free report, "The Inner Circle Guide to PCI DSS Compliance in the Contact Center", which is available from www.contactbabel.com/reports.cfm

The following chart shows the extent to which contact centers within each vertical market are concerned about the possibility of fraud within the operation. Respondents were asked to show their level of concern by giving a score between 1% and 100%, where “1%” was “Not at all concerned about fraud as we have the necessary measures in place”, and “100%” was “Extremely concerned, and we know we need to improve this”.

On average, contact centers tended to be more sanguine than concerned, although as might be expected the financial services sector seems to take things less for granted. While this may appear reassuring, the previous chart showed that the majority of contact centers had a patched-together and possibly even partial approach to PCI DSS compliance and fraud prevention, and these findings suggest that this low level of concern is more about complacency than reality.

Figure 75: Level of concern that contact center fraud can hurt the business, by vertical market



Depending on the merchant level (i.e. how many card payments are taken), businesses can either self-certify PCI compliance or use a Qualified Security Assessor (QSA) who is accredited by the PCI SSC. Only Level 1 merchants with over 6 million transactions per year or who are a 'Compromised Entity' (having experienced attacks before) must have an annual QSA audit rather than the self-assessment questionnaire. Businesses should see QSAs as expert consultants, rather than as auditors who are just there to tick boxes, agree compliance and then disappear for a year.

Service providers have two levels rather than four, with a cut-off point of 300,000 aggregated card transactions per year. Service providers also have to prove compliance, but to each card brand, rather than to an acquiring bank (which merchants have to do). The proof of compliance is a formal Attestation of Compliance (AOC) which is usually signed by the Financial Director, and states that all PCI requirements have been met. Each card brand provides a list of compliant service providers on its website. QSA-audited PCI certification offers independently confirmed security, which removes the issue of how an organization might interpret a PCI requirement in an internal self-assessment. Merchants who are looking for a service provider should investigate the limit of the scope that any self-assessment is taken, for example a cloud-based solution provider only applying it to the segments of their platform that handle sensitive data. Merchants may feel that a holistic perspective of security is more appropriate, and should also ask how the service provider tracks its assets (for example software versions, servers, operating and transport systems), in order to identify risk and react more quickly.

Businesses should be aware that proving compliance is not simply a matter of making sure all of the requirements are covered, but is also about understanding which parts of the business fall into the scope of the PCI compliance audit. It is important that whoever runs the PCI compliance program, whether internal or external, is experienced in interpreting it fully. QSAs should look at intent and risk - what was the PCI requirement trying to achieve, and what risk was it trying to minimize?

Respondents from small operations are likely to choose unaudited self-assessment questionnaires (SAQs) to prove compliance, with almost a quarter having no PCI compliance program at all. Larger operations are likely to have a mixture of programs, using both internal and external resources, especially QSAs.

Figure 76: How in the contact center's PCI compliance program run?

PCI compliance program method	Small	Medium	Large	Average
SAQ, not externally audited	32%	44%	27%	33%
SAQ, externally audited	21%	33%	27%	26%
External QSA	13%	22%	40%	24%
Internal dedicated resource	26%	56%	37%	36%
<i>No PCI compliance program</i>	<i>24%</i>	<i>12%</i>	<i>14%</i>	<i>19%</i>
NB: totals may add up to more than 100% as multiple selections allowed				

CUSTOMER IDENTITY VERIFICATION

Customer security processes are about two factors: are you who you say you are, and are you allowed to do what you are trying to do?

Until a few years ago many businesses relied on trust that the caller was who they claimed to be, asking only for a name and address. Today, strong identity verification processes are now seen as critically important and most calls that are not initial enquiries will need to verify a caller's claimed identity by asking for additional information that only the real customer should know. The increasing focus upon fraud detection, strengthened by the need to comply with regulations, has meant that identity verification continues to become more important year-on-year, yet businesses have been slow to take up alternatives to the traditional challenge/response method.

Identity theft is high-profile, and businesses have tightened security and been seen to do so by their customers: fraud prevention is a brand issue, as well as a regulatory one. While fraud certainly causes losses to a business, along with the threat of regulatory fines, risk of losing customers' confidence by being seen as lackadaisical about security is at least as great a risk. Criminals' methods and the technology used have become more sophisticated, and businesses have had to respond by introducing ever more complex identity verification processes.

Customer identity verification has become intrusive and inconvenient for the customer, who is expected to remember an increasing array of IDs, passwords, PINs, memorable information, details of their last transactions, or to carry smartcards or tokens everywhere they go. Customers can undergo a 'Spanish Inquisition' before being permitted to make their enquiry or place their order – not only reducing customer satisfaction, but also costing businesses time and money. It takes an average of over 30 seconds to verify a customer's identity manually, and this mounts up considerably: the US contact center industry spends many billions of dollars each year, just to verify the caller is who they claim to be, and are permitted to do what they are asking.

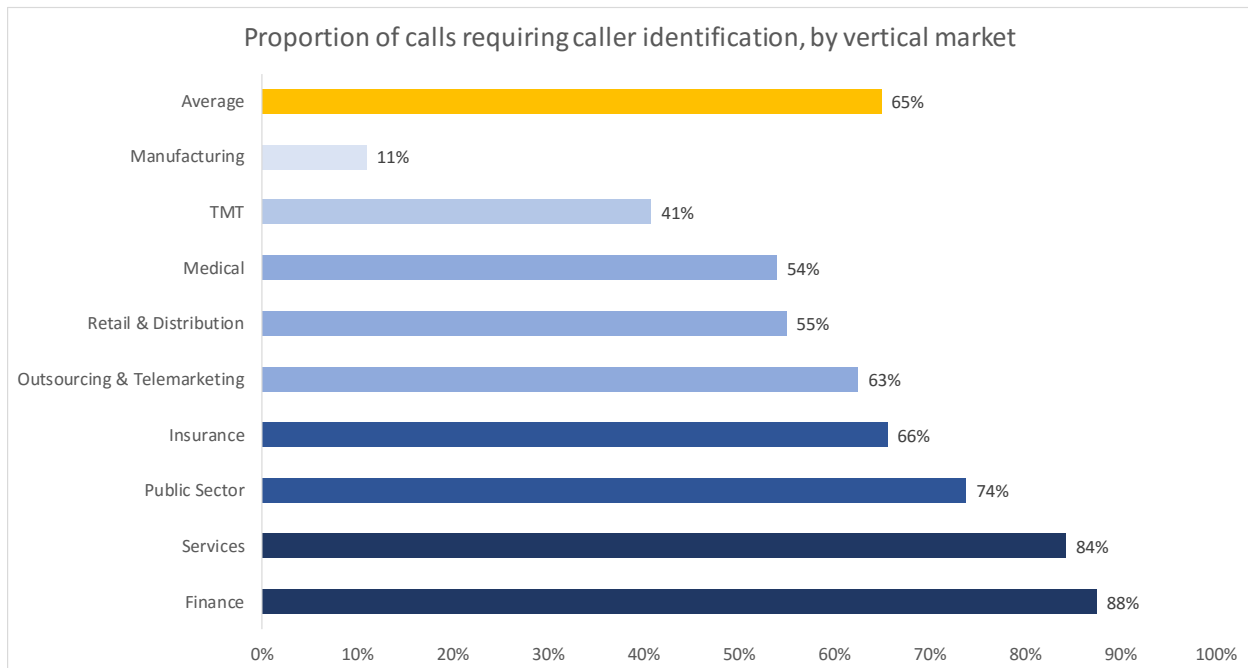
Over the past nine years, our surveys have found that over 40% more calls now require identity checks, which themselves take considerably longer due to more stringent testing. Although in-call efficiency has improved, identify verification is no faster than it ever was: all factors which drive up the cost of initial identification.

Identity verification processes are typically based on one or more authentication factors that fall into the following generally-accepted categories

- something you **know** - e.g. password, PIN or memorable information
- something you **are** - a biometric such as a finger print, retina pattern or voice print
- something you **have** - a tangible object, e.g. a PIN-generating key fob, or the 3-digit CVV2 code on some credit cards.

Combining these factors creates a more complex, and potentially more secure two-factor or three-factor authentication process, although being able to rely upon a previously enrolled voiceprint, rather than have to remember various pieces of information or carry round a code-generating device makes life far easier for the customer.

Figure 77: Proportion of calls requiring caller identification, by vertical market



Industry-wide, a mean average of 65% of calls require caller identity verification this year, with little difference in this figures between contact center size bands. As we would expect, service-oriented operations are far more likely than sales-focused contact centers to have to do this. The finance, services and public sector are amongst those most often authenticating callers' identity, manufacturers the least (often as much of this is B2B account management and product support).

Figure 78: Caller identity authentication volumes (only those contact centers which authenticate some or all calls)

Identification method	Proportion of calls authenticated using this method
Live agent	88%
Touchtone IVR	10%
Speech recognition	2%

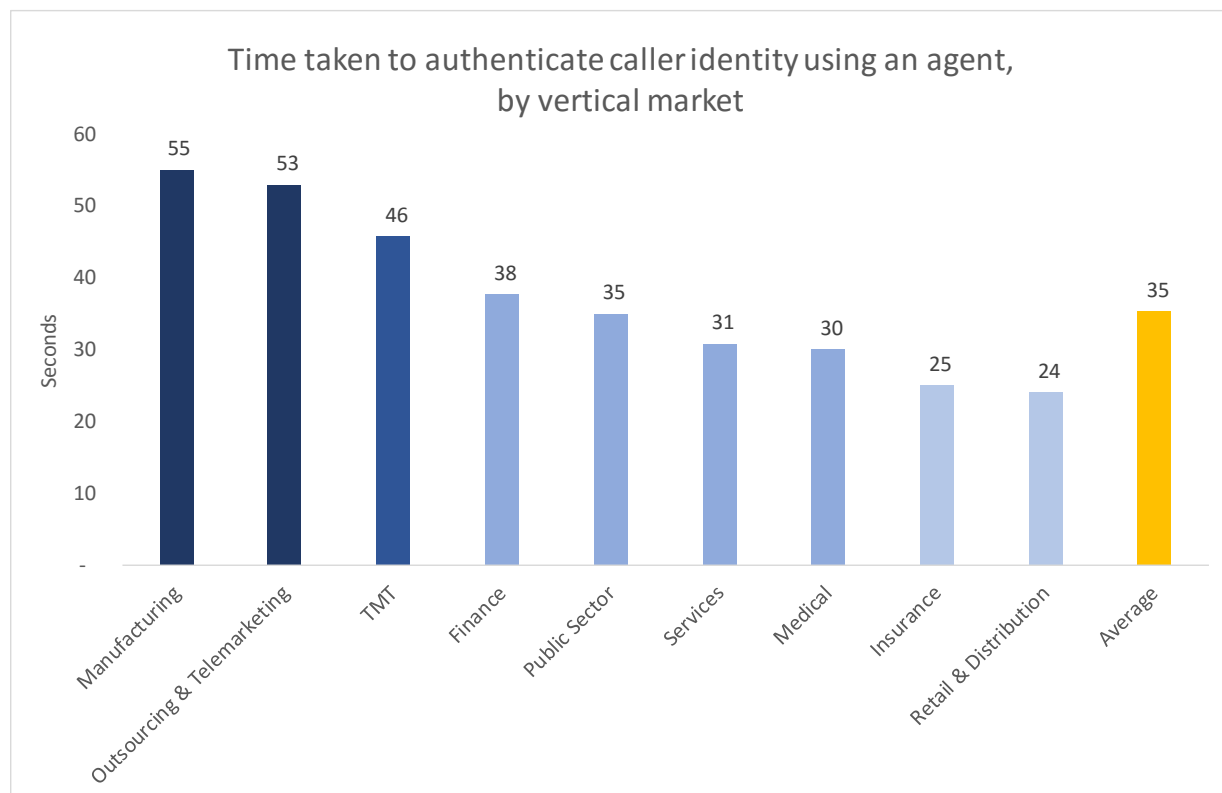
Live agent authentication accounts for 88% of calls. 10% of calls are authenticated with touchtone IVR and 2% use speech recognition to identify the caller, which itself can take around 20 seconds. However, the vast majority of respondents that use IVR or speech recognition may also use the agent to double-check once the call is passed through, wasting the caller's time and increasing the contact center's costs.

Figure 79: Time taken to authenticate caller identity using an agent (seconds)

Seconds to authenticate caller identity using an agent	
1 st quartile	16
Median	30
3 rd quartile	45
Mean	35
High	120
Low	10

Those in the manufacturing sector who do use customer identity verification take almost a minute to do so, as do outsourcers. Retail and insurance report taking the least time this year.

Figure 80: Time taken to authenticate caller identity using an agent, by vertical market



The unnecessary cost of caller authentication

Using figures from this report and other ContactBabel research, it is possible to estimate the industry-wide cost of customer identification authentication using an agent. Please note that as respondents change each year, this figure is an indicative estimate based on this year's survey and should be read as such.

65% of all calls require a security and identification process to be completed first. This year, 88% of calls were reported to be authenticated by agents. On average, it takes 35 seconds to go through security. Using these statistics, it is possible to estimate how much US contact centers spend each year on screening customers by using agents.

Inbound calls per year (handled by agents): 32.6bn⁴

Proportion of inbound calls that require security and identification checks: 58%

Average length of agent-handled security and identification check: 35 seconds

Average call duration: 6m 11s (therefore 9.4% of the call is ID&V)

Mean average cost per inbound call: \$5.58

Cost of time spent on agent-handled security and identification check: 52.5c per call

Overall cost of agent-handled security and identification checking: **\$9.2bn per year**

⁴ ContactBabel, "US Contact Centers in 2015: The State of the Industry"

To recap, there are several factors to consider when trying to predict changes in the ways in which customers are identified:

- businesses want to reduce the cost of fraud
- customers want convenience but also their personal information and assets protected
- businesses need to comply with existing and new laws and regulations
- contact centers spend excessive amounts of money on identifying and verifying customer identities
- existing methods of identity verification (e.g. PIN, password, device, etc.) are not secure and/or are user-unfriendly
- it is not just criminal fraud that identity verification aims to stop. The issue of privacy, especially in the healthcare vertical market, is a powerful driver for using right-party authentication to facilitate personal information sharing. This is also the case when using speech-enabled automated outbound calls, it being necessary to make sure that the person answering the call is the one to which the business actually needs to talk.

THE EMERGENCE OF BIOMETRIC TECHNOLOGIES

Biometric technology uses physiological or behavioral characteristics to verify a person's claimed identity. Physiological biometrics includes fingerprints, iris, or retina recognition, and voice verification. Behavioral biometrics includes signature verification, gait and keystroke dynamics.

Of these, voice is the only biometric that can currently be used over the phone, making it a viable identity verification solution for contact centers. (Future years may see thumbprint-enabled smartphones be used as trusted devices as well, but this is some way off). Voice verification systems use spoken words to generate a voiceprint, and each call can be compared with a previously enrolled voiceprint to verify a caller's identity. The most sophisticated systems generate a voiceprint by using spoken words to calculate vocal measurements of a caller's vocal tract thereby creating a unique digital representation of an individual's voice, as well as other physical and behavioral factors, including pronunciation, emphasis, accent and speech rate. These systems are not affected by factors such as the caller having a cold, using different types of phones, or aging. Voice verification systems are now delivering levels of accuracy and security that have proven robust enough for use by banks and insurers.

A significant advantage of voice biometric verification is that both enrollment and verification can be done unobtrusively - in the background during the natural course of customers' conversations with an agent - using text-independent and language-independent technology. Real-time authentication significantly reduces average handle time and improves the customer experience by utilizing voice biometrics to authenticate customers within the course of the conversation.

With this advanced technology, contact centers can:

- Voiceprint the vast majority of customers for seamless passive enrolment: in the course of a conversation, a voiceprint is created for that customer which lies on record for them to be authenticated against on the next call
- Securely authenticate customers with zero customer effort: the first few seconds of a call will be enough to match the customer's voiceprint against those on record
- Cut seconds off average handle time: no need for customers to answer numerous security questions as the conversation they are having provides enough information to identify them
- Significantly reduce fraud risk for all customers, and deter fraudsters when combined with other layers of security, for example, phoneprinting, which analyzes the background audio of the call.

The customer's experience

Since speaking is natural and intuitive, a well-planned implementation can result in a better customer experience that eliminates the need for PINs or passwords. For example:

- In the case of text- and language-independent authentication, the customer's voiceprint (collected on previous calls) is authenticated in the background during the natural course of conversation with an agent, while simply outlining their service request - minimizing both customer effort and time-to-service. There is no need to remember PINs or passwords, which greatly improves the customer's experience
- 'Account Number'-based voice verification - the caller is asked to speak their account number. The account number identifies the caller, and the spoken words are used to generate a voiceprint that verifies the caller is the account holder
- 'Challenge Response'. Typically, the customer is asked to repeat a series of numbers, e.g. "Please say 'one seven three four'". The spoken words are used to generate a voiceprint. The numbers spoken are usually different each time the caller phones.

In cases where a two-factor authentication process is required, voice verification can be combined with a 'something you know' - such as an answer to a memorable question. Real-time agent guidance can prompt agents to ask a further security question within the call if the process requires it.

The business benefits

Businesses benefit from two types of savings. These can be illustrated in the following example:

A contact center receives 10 million inbound calls per annum with the existing identity verification procedure taking on average 35 seconds and being performed by an agent:

- Eliminating the time taken by an agent to verify a caller's identity can save 52.5c per call (\$5.25m per annum)
- Secure automated identity verification enables a broader range of fully automated services to be offered, reducing agent cost.

The potential benefits for the business are huge, and the customer also gains through a better experience, longer opening hours and greater identity protection.

Similar savings will also be found in the case of text-independent authentication, where the caller's voiceprint is authenticated within the natural course of the conversation. The agent begins each call by immediately asking how they can help the customer, and the authentication process is carried out by voiceprint verification at the same time that the agent is listening to the caller and preparing to help them.

It is also possible to use contextual analysis, such as the caller's geolocation (as detailed from their cellphone's GPS coordinates, or their ANI) to add another layer of confidence in the security process, automatically notifying the agent whether the caller has been identified successfully, and guiding the agent to ask alternative questions if further verification is required.

Voice verification can also be used to protect the enterprise against repudiation (where the customer says at a later date that they did not do it) as it can verify the physical presence of an individual at the other end of a phone line. Interestingly, this capability is already used by various US law enforcement agencies to check that released offenders are where they should be.

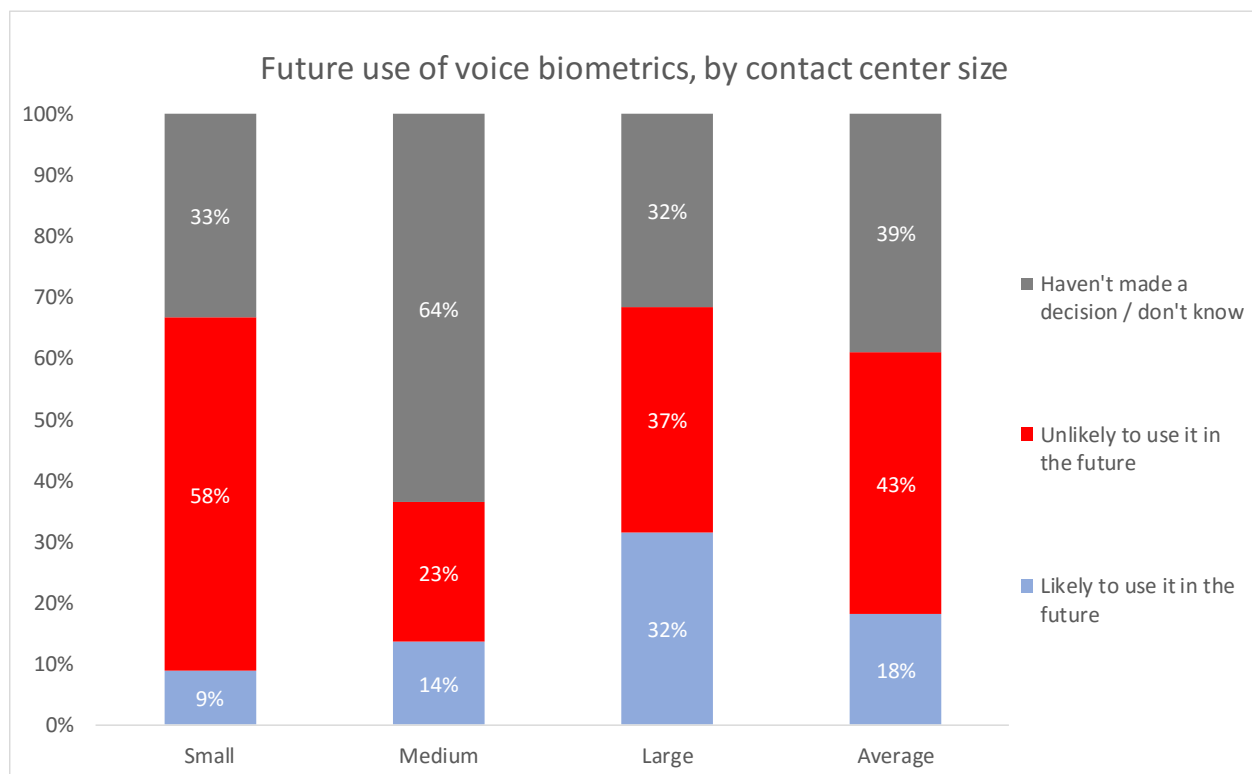
For procedures such as internet password resetting, the higher level of security achieved with voice verification can enable businesses to offer real-time password resets or reminders. This benefits both customer and business and can reduce up to 70% of helpdesk calls.

Voice verification has the advantages of near-ubiquity (the vast majority of people would be able to use it) as well as improving levels of security and reducing costs. The increasing demand of the public for identity protection, coupled with businesses' permanent desire to increase profits mean that voice verification is an option that any company concerned about identity authentication should now seriously consider.

The interest in using voice biometrics for customer authentication is tipped more towards larger operations, which are more likely to have high call volumes, meaning that 30 seconds cut from each call would add up to a very considerable saving, without affecting the customer or agent experience negatively.

Finance, outsourcers services respondents were most likely to look favorably on voice biometrics, and although the argument has certainly not yet been won, there is a very significant increase in interest compared to previous years.

Figure 81: Future use of voice biometrics, by contact center size

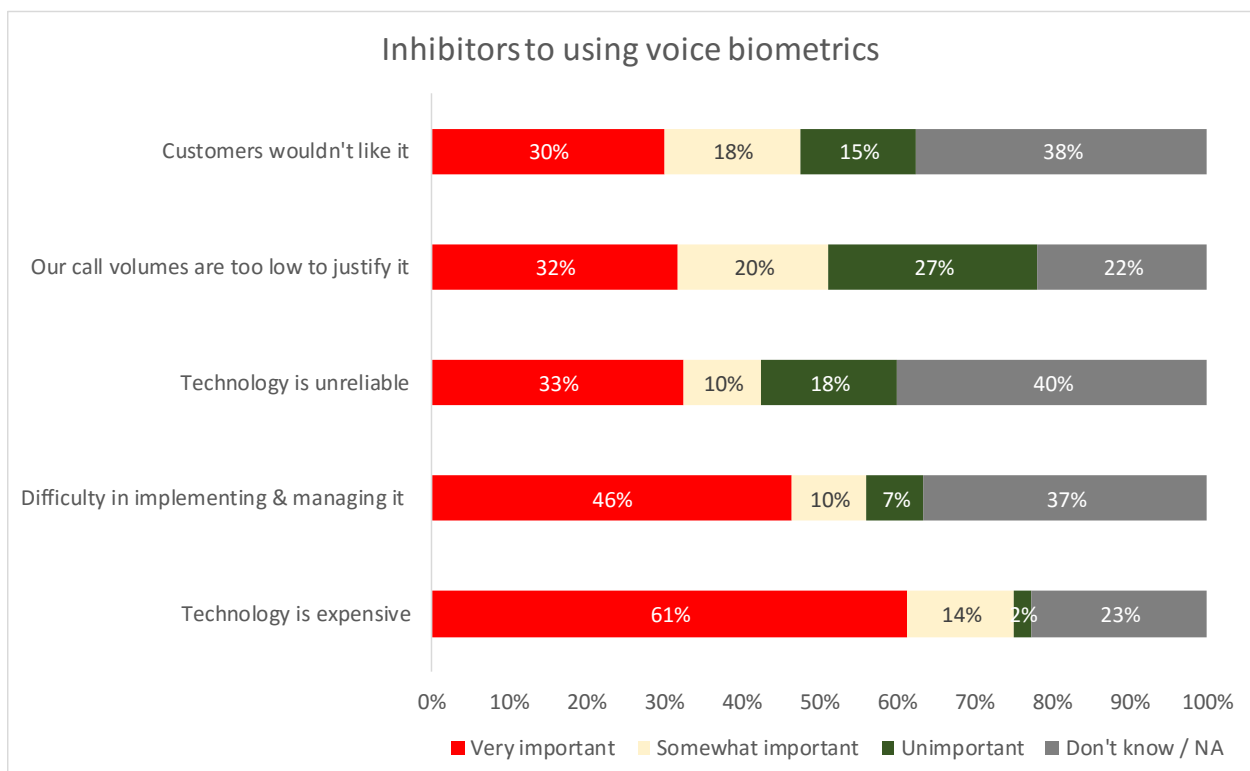


The main inhibitor to voice biometrics is the perceived expense of the solution, with 61% of respondents stating that this was a very important reason not to implement it. This was particularly the case for both small and medium operations, which reported over 75% of respondents considering this factor very important for them.

Although the reliability of the technology was a concern, 40% admitted that they did not know enough about this to even form an opinion. Worries about running the solution were also present in small & medium operations and although concerns over customer sentiment were still present for contact centers in all size bands, these are less than they have been in the past.

As might be expected, respondents in small contact centers are far more concerned that call volumes are too low to make the solution worthwhile: for large operations, it is not the case that the commercial benefit isn't there, but concerns over the use of the solution and its cost are far more important.

Figure 82: Inhibitors to using voice biometrics



QUEUE MANAGEMENT AND CALL-BACK

ContactBabel carried out a large-scale survey of the public that explored why customers notoriously hate queuing to speak to a contact center agent, yet seemed far more acceptant to wait in an actual physical queue, often for a longer time.

Figure 83: Reasons given for dislike of contact center queuing

Reason for disliking queue	Average score from 10 where 10 is "extremely frustrating"	% of public scoring this at a maximum 10
Not knowing how much longer you'll have to wait	8.7	61%
Repetitive announcements	8.0	45%
Having to restate account information already given earlier in the call	8.0	45%
Can't do anything else in the meantime	7.9	46%
The music you have to listen to	7.3	39%

Apart from the fact that customers have a lot of strongly felt reasons for disliking phone queues, the key finding from this table is that 61% of the public hate not knowing how much longer they will be waiting. This is less of a problem when waiting in a shop to speak to an assistant, as although they cannot give you an exact statement of when someone can help, the queuing system allows a customer to see how many people are ahead of them, to estimate their own wait time, and exercise some level of control over the situation. This makes queuing psychologically easier for the customer, **even if the actual waiting time is significantly longer than it would be in a contact center queue.**

The phenomenon of 'Dentist-Chair Time' - time which seems to stretch out to infinity - is very much active in the contact center world. ACD statistics from thousands of contact centers over many years indicate that an average wait time is around 20-30 seconds. However, when the public was asked to estimate the time they **usually** (not exceptionally) spent waiting to speak to a contact center, the average answer was 11½ minutes - 27 times longer than the reality.

Clearly, trimming 10% off a queue time isn't going to make a lot of difference to the **perception** of the caller, even though it may be a very difficult task for the contact center to carry out. If customers aren't informed of wait time, they may become discouraged and frustrated as hold time drags on. This can lead to increased abandonment and even if the caller does decide to hold on, this experience starts the call off badly leaving the agent with a lot to make up. Customers waste time complaining about their experiences and may even ask additional questions on the call so that they 'get their money's worth'.

If customers are given the estimated wait time, they may decide to abandon immediately or may judge that the wait is acceptable and remain on the line to speak with an agent. This alleviates some customer frustration but means that some of the callers which abandon may not call back - ever - and it doesn't solve the fact that customers are still having to wait. One solution is to implement a virtual queuing system, which not only provides customers with information about current queue conditions but also presents them with various active options, such as remaining on hold or choosing to be called back when it is their turn.

There are several different varieties of virtual queuing systems: the "First-In, First-Out" (FIFO) system keeps the customer's place in line by monitoring queue conditions until the estimated wait time hits a set target, at which point it intercepts incoming calls before they enter the queue, informing customers of the likely wait time and offering the option of receiving an outbound call in the same amount of time as if they had personally waited on hold.

At this point, customers choosing to remain on hold go directly into a queue. Customers who opt for a call-back are prompted to enter their telephone number and possibly some extra details that can be used for agent selection and skills-based routing, and are then asked to hang up. Virtual placeholders keep the customers' places in line and the virtual queuing system launches an outbound call to the customer at the agreed time. When the call-back is answered by the customer, the system checks the right person is on the line and ready to talk. If this is the case, the call is routed to the next available suitable agent, who handles it as a normal inbound call.

By replacing real hold time with this virtual version, customers are free to do other things, thus removing four of the five problems that they have with queues - unknown queue times, hold music, the inability to do anything else and repetitive announcements.

Scheduled call-back options differ from a FIFO experience, in that customers do not keep their place in queue, but are called back at some time in the future that is more convenient for them (for example, when they know they will be back at their desk and available to take a call).

There are several types of scheduled virtual queuing:

- **Datebook-type scheduling systems** allow customers to schedule appointments for days in the future, with times blocked-out that are unavailable for scheduling, and limiting the number of call-backs available. This system also allows customers that reach a contact center out-of-hours to schedule a call-back during normal working hours
- **Timer scheduling systems** promise a call-back after a specific amount of time, regardless of queue conditions. While this ensures an on-time call-back for the customer, a surge in call volume or staff reduction due to a shift change can create problems for the contact center's queue, lengthening wait times for other callers
- **Forecast-based scheduling systems** offer appointments during times that are expected to have low call volumes. These times may not be convenient for the customer, and the contact center runs the risk that their scheduling may be inaccurate.

Respondents were asked to state which types of call-back were presented to callers. The majority of respondents that offered call-back functionality allowed callers to request a FIFO call-back (i.e. acting as a placeholder in the queue), with a minority allowing customers to specify a scheduled time.

Figure 84: Types of telephony call-back offered to customers

Type of call-back	Proportion of respondents offering call-back that use this
FIFO (first-in, first-out) - holds the caller's place in the queue, then calls once they are at the front	67%
Forecast-based (called back at a time to suit the contact center)	18%
Datebook (caller can specify a day to be called back on)	18%
Timed (called back at or before a specific time, regardless of queue conditions)	15%

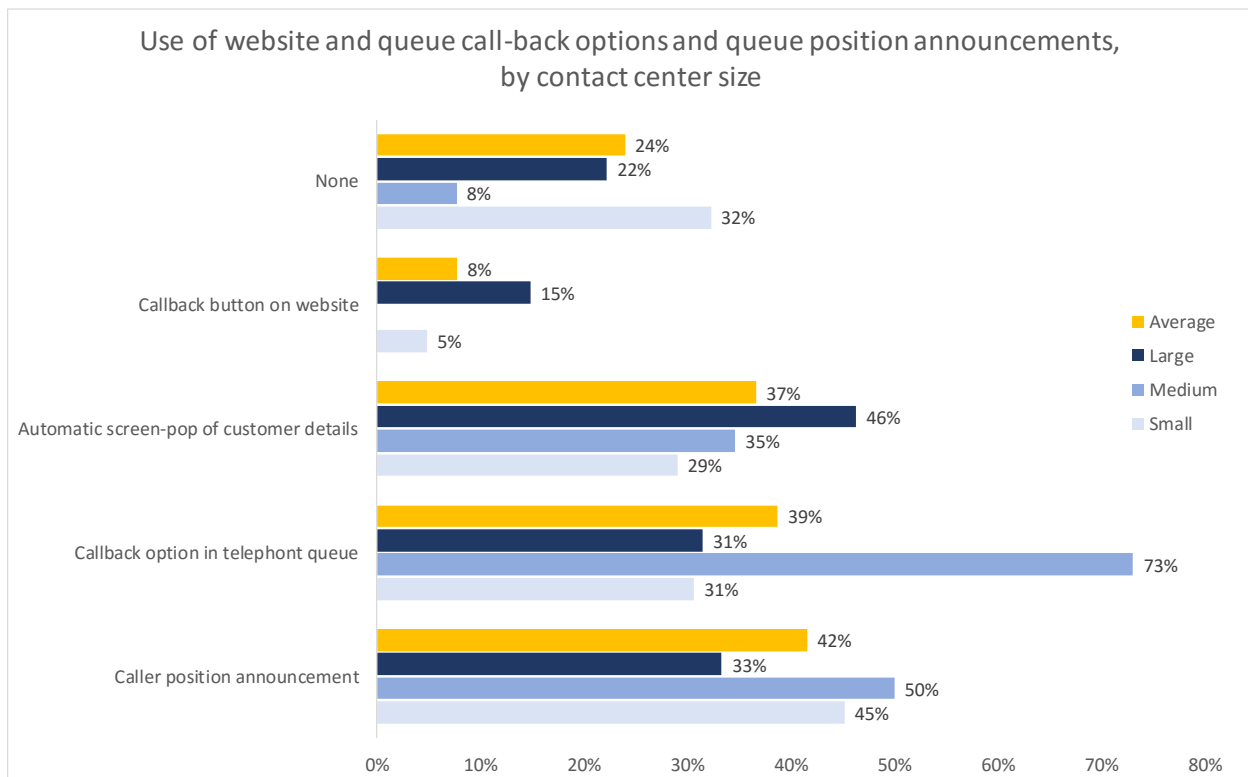
The use of a website 'call-me' button (which initiates an outbound call at a time specified by the recipient) is weighted towards operations that carry out significant sales, but is present only in the case of 8% of this year's respondents. We would expect to see this increase significantly, and play an important part in providing customer support via mobile / smartphone channels.

39% of respondents offer a telephony queue call-back option, with this being particularly the case in medium and large operations with high call volumes.

The proportion of respondents announcing the position of the call in the queue has increased to 42% this year.

37% of respondents use screen-popping functionality, putting information about the caller and possibly their requirements on the agent desktop as the call is delivered. Larger operations are more likely to do this.

Figure 85: Use of website and queue call-back options and queue position announcements, by contact center size

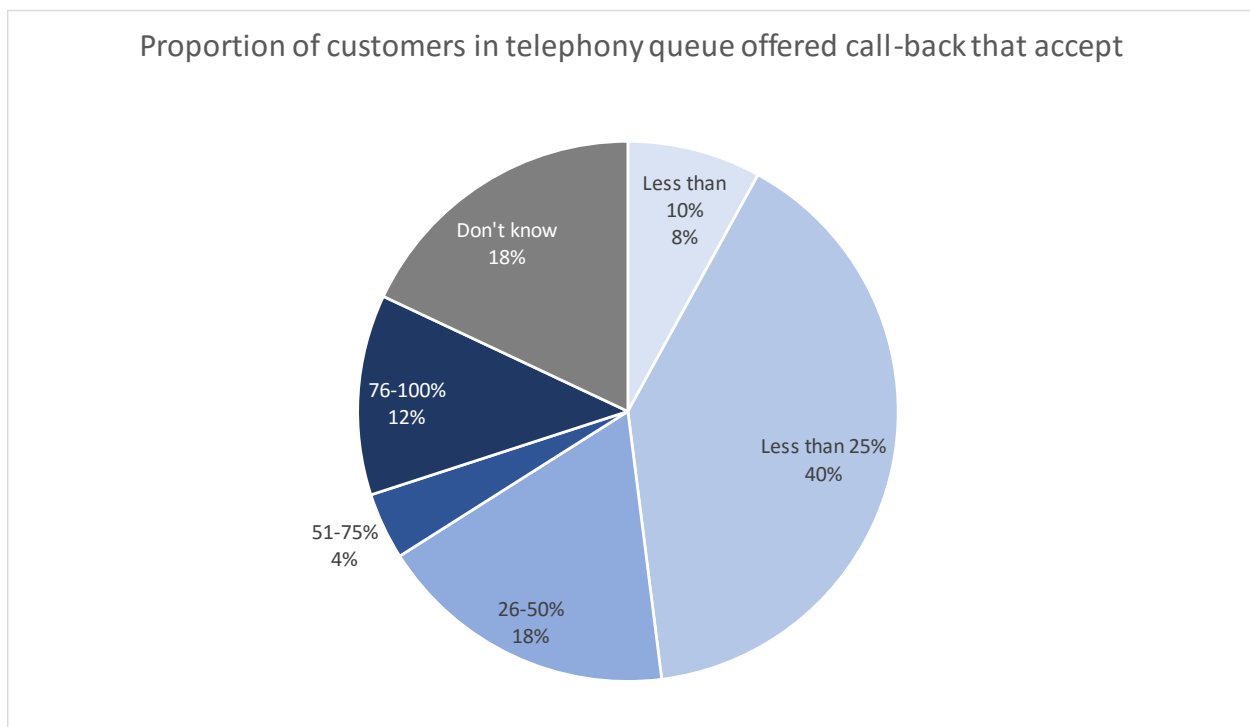


Respondents indicate that telephony call-back tends not to be universally available to callers, with businesses only offering it after a certain period of wait time or once the queue becomes so long that it triggers the functionality to be offered.

48% of respondents offering callback did so based on actual time spent in the queue, 21% based on estimated wait time, and 31% both.

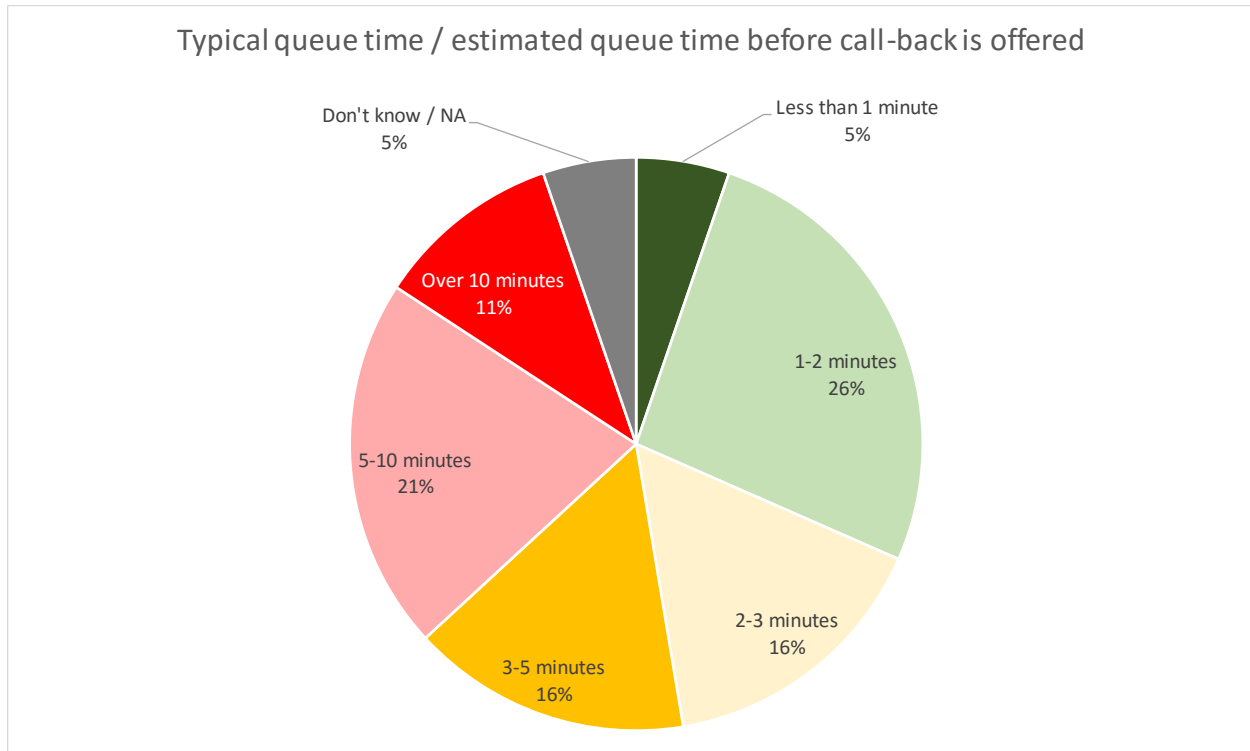
Almost half of respondents offering telephony callback report that fewer than 25% of callers accept. As familiarity increases – along with a specific reassurance in the announcement that the contact center will actually call back – we would expect to see this figure grow significantly.

Figure 86: Proportion of customers in telephony queue offered call-back that accept



Bearing in mind average wait time is close to a minute, call-back should of course be triggered at a point where the customer is still on the line but the queue time appears to be in excess of a 'reasonable' hold time, perhaps 2 or 3 minutes. 32% of respondents offered delayed callback will not trigger this until real or estimated queue time reaches five minutes, which is perhaps too long a wait.

Figure 87: Typical queue time or estimated queue time before call-back is offered (excluding immediately)

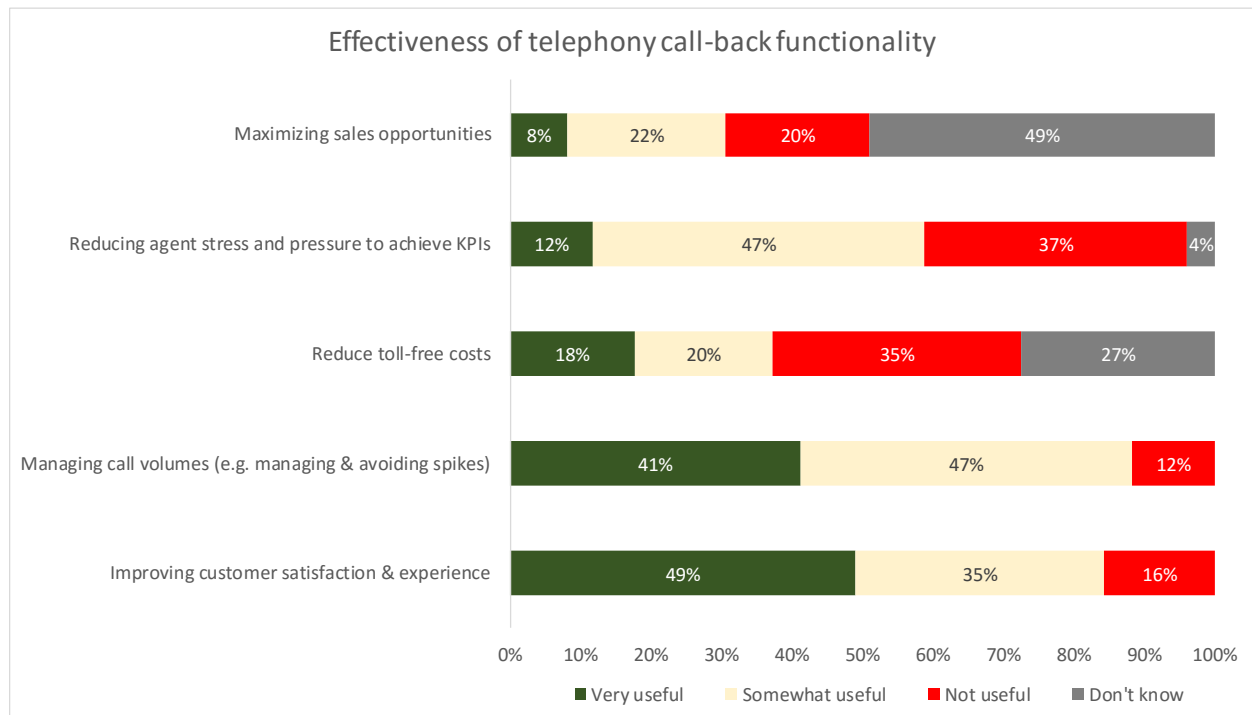


Virtual queuing and call-back, when implemented - and explained properly to customers - can be a win-win for both business and customer by:

- Increasing customer satisfaction
- Reducing average speed to answer
- Reducing call abandonment rates
- Reducing call lengths as customers should spend less time complaining and adding-on unnecessary queries "while they're on..."
- Reducing toll-free costs, as virtual queuing time does not incur telephone charges.

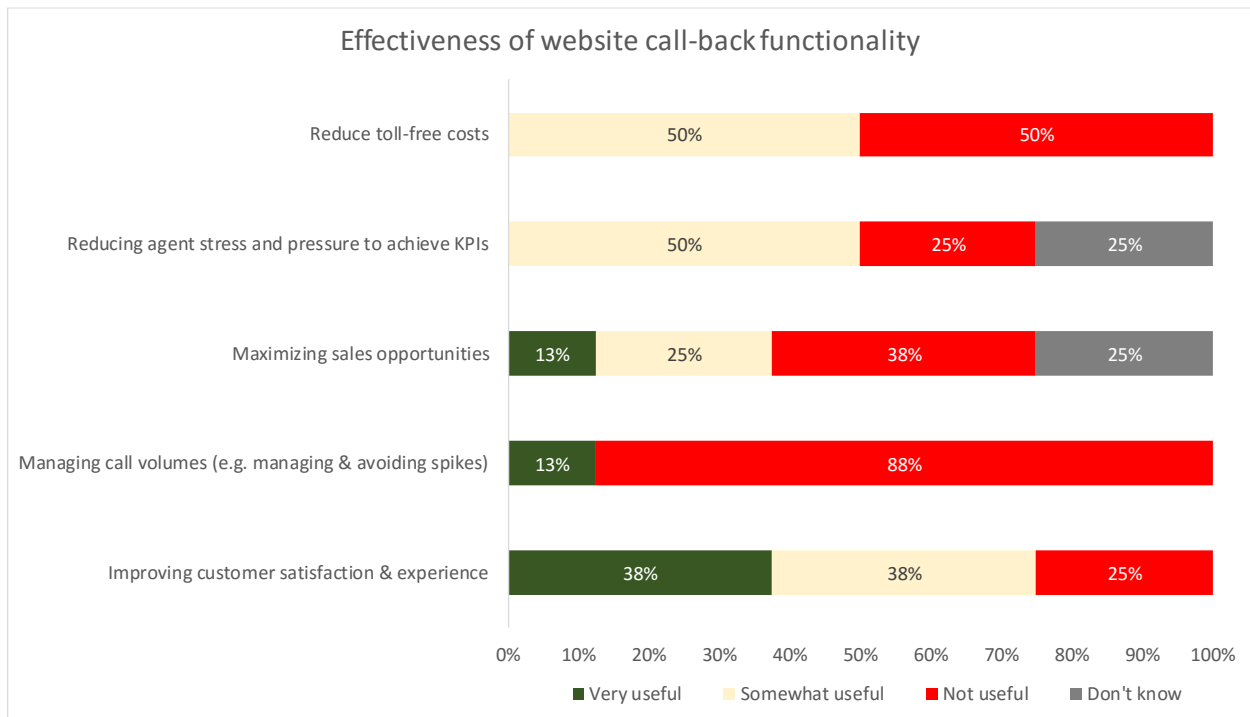
Respondents offering telephony call-back functionality stated clearly that it was most useful for managing call volumes and spikes in busy periods, and thus improving customer satisfaction and experience. Being able to spread calls out over the day and allow callers to keep their place in the queue - without actually having to queue – is seen by users as being of great use to both company and customer.

Figure 88: Effectiveness of telephony call-back functionality



A similar question about website call-back found that respondents believed web call-back was most useful for improving the customer experience and to a much lesser extent, maximizing sales opportunities. The general feeling was far less positive than for telephony callback.

Figure 89: Effectiveness of website call-back functionality



HEADSETS

There are various factors to consider when deciding which headset to purchase for your contact center workforce. If you have many hundreds or even thousands of agents, headset purchase is a large ongoing expenditure that is important to get right. There are many things to consider:

- Compliance with health and safety legislation
- Total cost of ownership
- Durability
- Performance
- Comfort
- Contact center telephony infrastructure
- Sound quality.

Most contact center agents wear headsets for hours every day, and the cost of replacing or repairing headsets should be considered in the total cost of ownership, requiring good levels of after-sales support and guarantees.

Some contact center agents like having the freedom to move around while on calls, especially in a high-pressure sales environment. Some contact centers may decide they don't want agents wandering around, but that the supervisor needs to be able to be mobile. Agents with wireless headsets can spend less time putting callers on hold as they can walk to where the information they need is held, taking the caller with them. This in turn can reduce the time taken on each call, improving customer satisfaction.

Headsets and the 'enterprise as contact center'

The newest headsets support the 'enterprise as contact center' model by allowing the agent to involve knowledge workers in a three-way conversation with the agent via Skype for Business, IBM SameTime or VoIP, for example. This could allow a 2nd-line technical support worker to help immediately with a difficult part of a query without a formal, long-winded escalation process taking place.

The majority of contact centers have implemented Internet protocol (IP) telephony as part of their technology environment. Agents will make and take calls via their PC, so choosing a headset that can adapt to future technology infrastructures is key.

The weight, sound quality, amount of background noise allowed in and out, comfort and the length of time the headset will be worn should also be considered. Having sound in both ears (binaural) allows noise levels to be lower than is the case with single-ear sound (monaural), although some agents can feel isolated if they cannot hear the world around them. In addition, noise-cancelling microphones filter out the unwanted background noise which can make the conversation harder for a caller to hear. This may be especially relevant for homeworkers, where the background noise (traffic, children, dogs, etc.) may be less easily managed or predictable. Voice tubes can also allow more flexible positioning of the microphone, with attendant improvements in sound quality.

The effect of headsets upon productivity

There are examples of how improving audio and speech quality can positively impact upon call handling time and overall contact center performance. A Spanish contact center gave some sets of agents headsets with digital audio processors, and some used the more traditional headset. The first group's technology had the effect of 'cleaning up' unwanted noise at either end of the line, allowing the customer and agent to communicate more effectively. Calls were handled more quickly, fewer mistakes were made with data collection (with the attendant knock-on effect that fewer repeat calls were required), and overall, agents handled an average of 10% more calls per day than did the control group.

In some countries, there has been legislation put in place around noise at work, which detail maximum average and peak noise levels that a worker may undergo, and the maximum amount of time that it is permissible for the worker to experience these sounds. We believe that it is only a matter of time until similar legislation is imposed in all Western contact center industries, and that businesses should be putting procedures in place before they are forced to, which could help agents' health, and limit the business's exposure to litigation.

Surveys have seen that only 6% of contact center managers are aware of the level of ambient noise within their contact centers, and only 9% regularly measure it⁵.

⁵ Source: CCF magazine

In the UK, “The Acoustic Safety Programme” has developed some simple advice for contact centers to help them meet or exceed legislation and make working life safer and more comfortable for their agents:

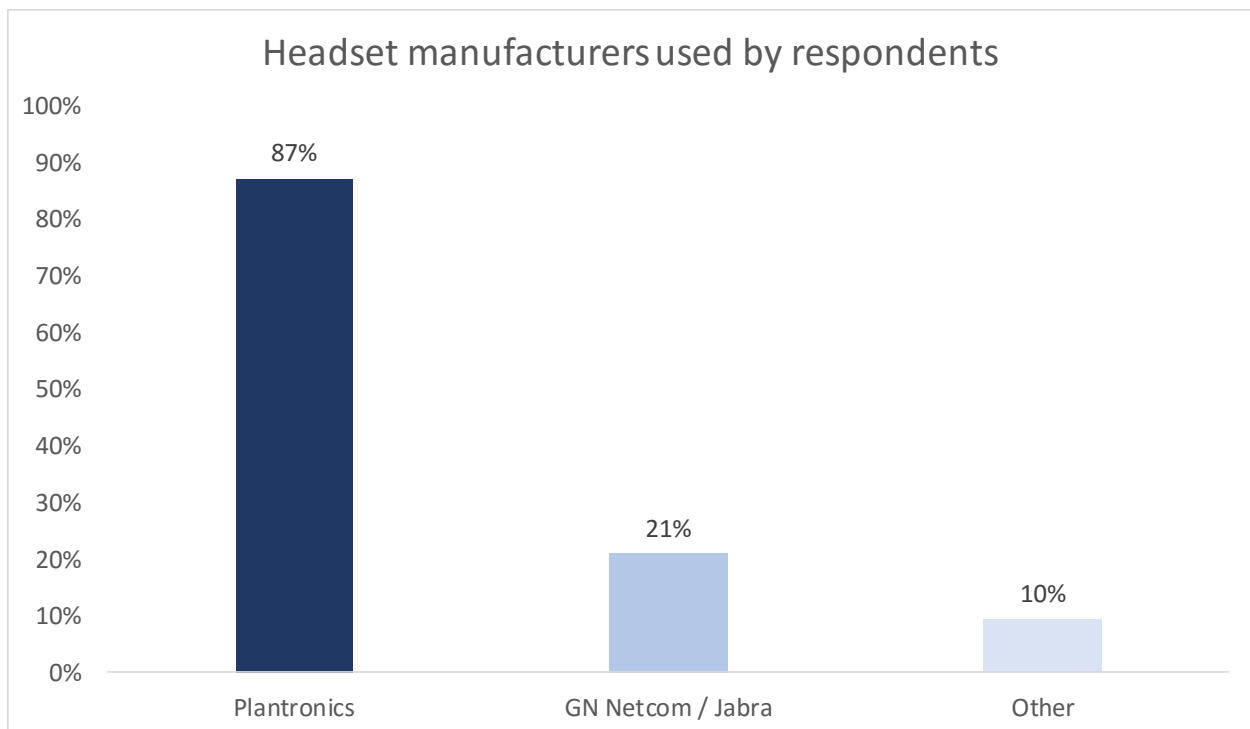
- Measure contact center noise regularly and record it
- Fully understand legislation and create a formal policy so that staff at all levels of a business are aware of it
- Make sure that the headsets used are compliant with current legislation, and test them throughout their life
- Provide agents with a choice of headsets - monaural or binaural - the latter can help to absorb background noise, but may make the agent feel more cut-off from their environment
- Be aware that excessively long shifts may cause damage to agents’ hearing, even if within nominally-safe limits
- Use sound-absorbing materials as much as possible to absorb unnecessary echoes and reverberation
- Educate agents on how to use their headset and phone correctly, including volume and ergonomic adjustments
- Test staff’s hearing throughout their contact center career.

For more information, please visit www.acousticsafety.org.

HEADSET MANUFACTURERS

Around 20% of respondents' headsets are replaced in a given year, meaning that the average headset will have a useful life of around 5 years. There has been a recent decrease in headset replacement which may be a response to the cost reductions put in place across most contact centers in the past few years, as well as the fact that the overall quality and durability of headsets is improving, meaning there are fewer requirements for replacement.

Figure 90: Headset manufacturers used by respondents (NB: total is greater than 100% as multiple headset manufacturers may have been used within the same operation)



WIRELESS AND IP HEADSETS

WIRELESS HEADSETS

75% of contact center respondents used some wireless headsets within the contact center, with an average of 44% of headsets in these contact centers being wireless. In past years, most of the wireless headsets were used by supervisors who are more likely to have to be mobile to help agents in their team, but this has filtered into the agent population as well. Industry-wide, 34% of headsets are wireless.

As usual, smaller contact centers are more likely to be using wireless headsets, perhaps as the importance of the incremental extra expenditure in buying 20 headsets that are wireless is significantly less than buying 2,000. As wired headsets reach end-of-life in larger operations, this figure is likely to increase significantly.

Agents working in product or technical support tend to have wireless headsets, as do supervisors. Outbound sales staff may prefer to be more mobile on their calls, and ask for wireless headsets too.

Figure 91: Use of wireless headsets, by contact center size

Contact center size	% respondents using wireless headsets	% of headsets that are wireless (ONLY in contact centers using them)	% of headsets that are wireless (industry-wide)
Small	88%	65%	57%
Medium	50%	22%	11%
Large	68%	19%	13%
Average	75%	45%	34%

IP HEADSETS

As VoIP is a digital signal and human speech is analogue, converting between the two takes a certain amount of time. IP was not initially designed to transfer speech and so does not guarantee a time between the signal leaving one point and arriving at the next. These two points mean that there may be more of a delay in speech being transmitted from one point to it being heard at another on a VoIP system than with a conventional system, although performance and delivery has improved considerably over recent years.

As with all telephone systems, the person speaking will hear some of their own speech in their ear. This is referred to as 'sidetone', and when the delay levels are low it is an important part of the telephone system. When delays are excessive, the sidetone becomes echo, which is distracting for the people on both ends of the call. Excessive delays are more common in VoIP systems than with standard telephony, meaning that echo cancellation is a critical component in improving call quality.

Some headsets are able to alleviate or even remove the impact of sub-optimal network performance on the conversation:

- Echo - how the earpiece fits to the ear and the positioning of the microphone relative to user's mouth helps prevent echo, and digital signal processing (DSP) alleviates echo management when it is unavoidable. DSP can help with unequal call levels, and manage sudden increases in amplitude and/or volume, and prevent acoustic shock
- Distortion - clipping the voice signal by taking away the highest and lowest voice registers can mean that the voice sounds distorted, an unpleasant sound for both agent and caller
- Latency - often viewed as one of the major bugbears of IP, latency is experienced as a lag, due to information being sent and received across the network in a sub-optimal manner. This can cause broken conversations, and can be extremely frustrating for both customer and agent, particularly when experienced as poor sound quality, such as missing pieces of sound, as well as the lag itself.

Currently, 88% of respondents have some headsets that are able to cope in an IP environment. Of these respondents, 91% of their headsets can handle IP. Industry-wide, respondents report that 80% of their headsets are IP-capable.

As with previous years, there is little real difference with across size bands.

Figure 92: Use of IP headsets, by contact center size

Contact center size	% respondents using IP headsets	% of headsets that are IP (ONLY in contact centers using them)	% of headsets that are IP (industry-wide)
Small	78%	90%	70%
Medium	100%	97%	97%
Large	91%	89%	81%
Average	88%	91%	80%

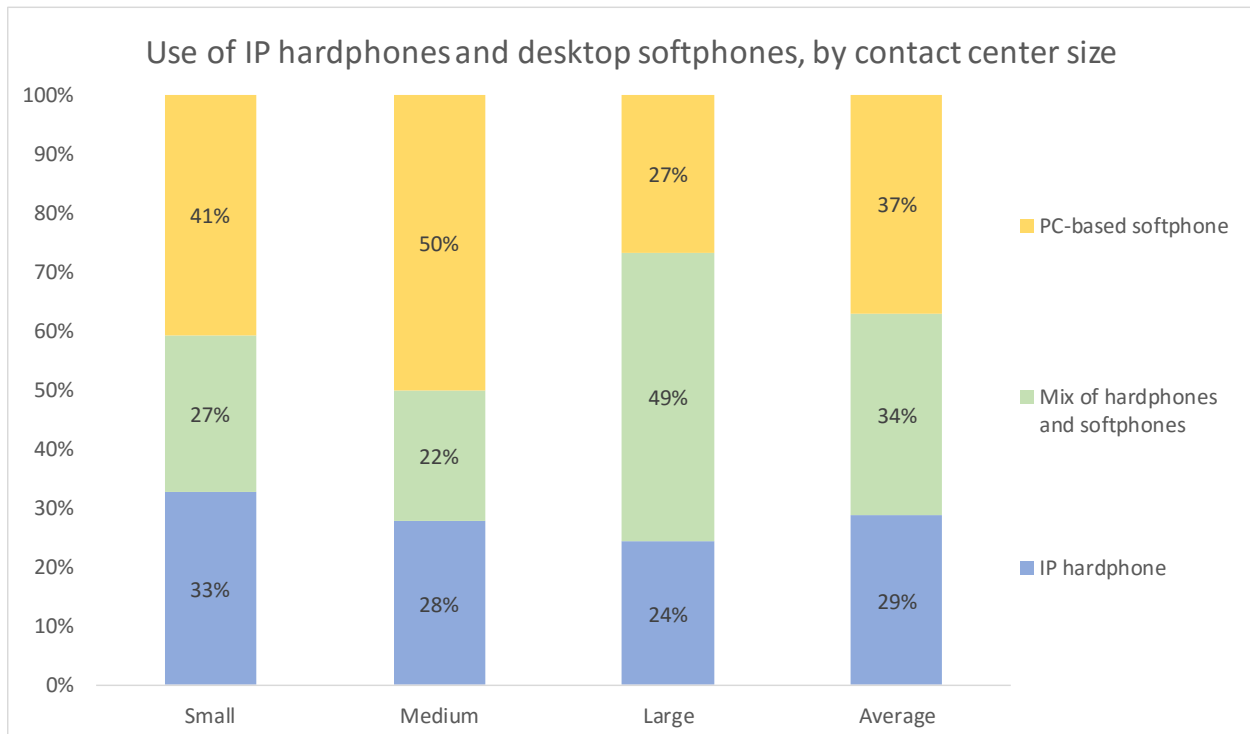
IP headsets and homeworkers

The homeshoring / homeworking model can be supported by using a headset and IP audio processor (that links the headset and PC), rather than an IP phone. This method is cheaper than an IP phone, is simpler to support, and has the added advantage that if the PC locks up, the agent can continue to speak and be heard.

An IP-based contact center can choose either: an IP hardphone, (a physical phone with a keypad and headset/handset), or a PC-based softphone, where the agent connects a headset to the PC, without having a traditional telephone at all.

Many respondents have a mixture of both types, especially larger operations.

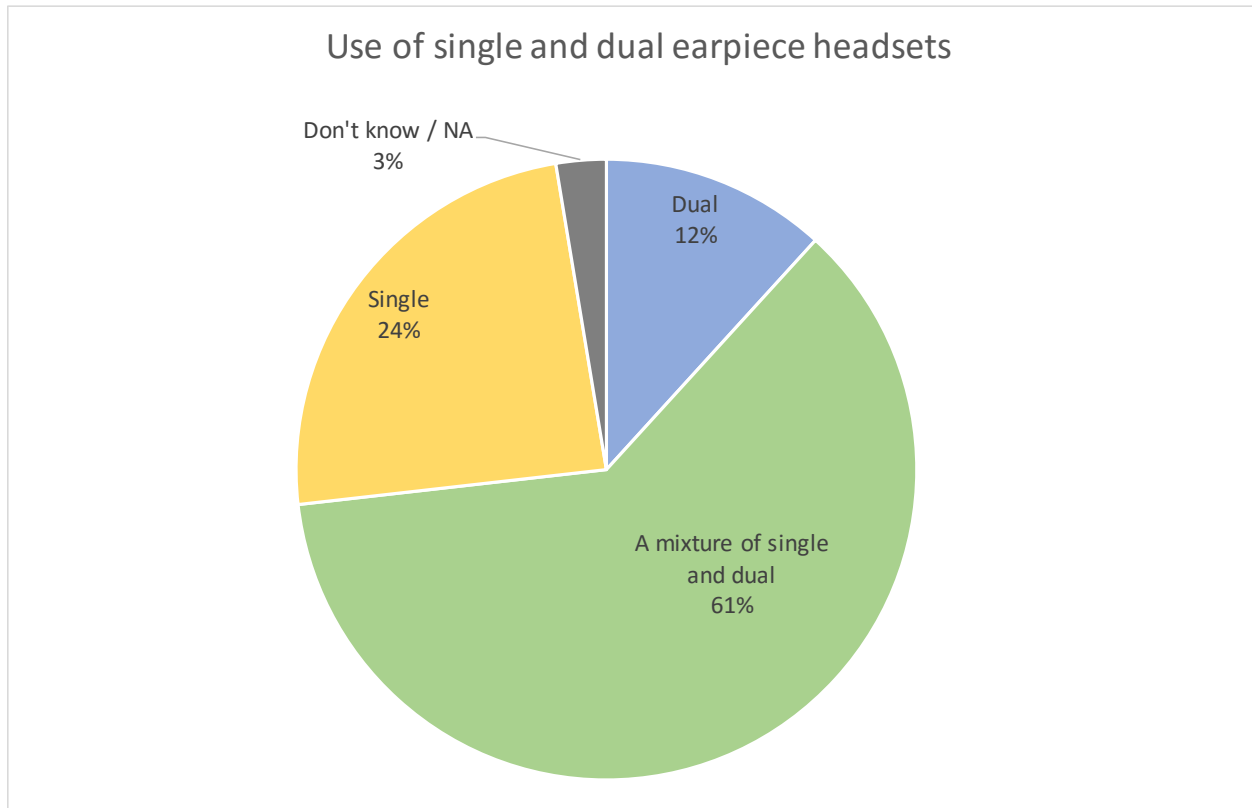
Figure 93: Use of IP hardphones and desktop softphones, by contact center size



SINGLE- / DUAL-EARPIECE HEADSETS

Whether an agent or operations prefers single or dual earpiece headsets will tend to depend on the environment: those working in noisier backgrounds may prefer to reduce external distractions with a dual-earpiece headset, while others may prefer to be able to keep in touch with what's going on around them and choose a single-earpiece headset.

Figure 94: Use of single and dual earpiece headsets

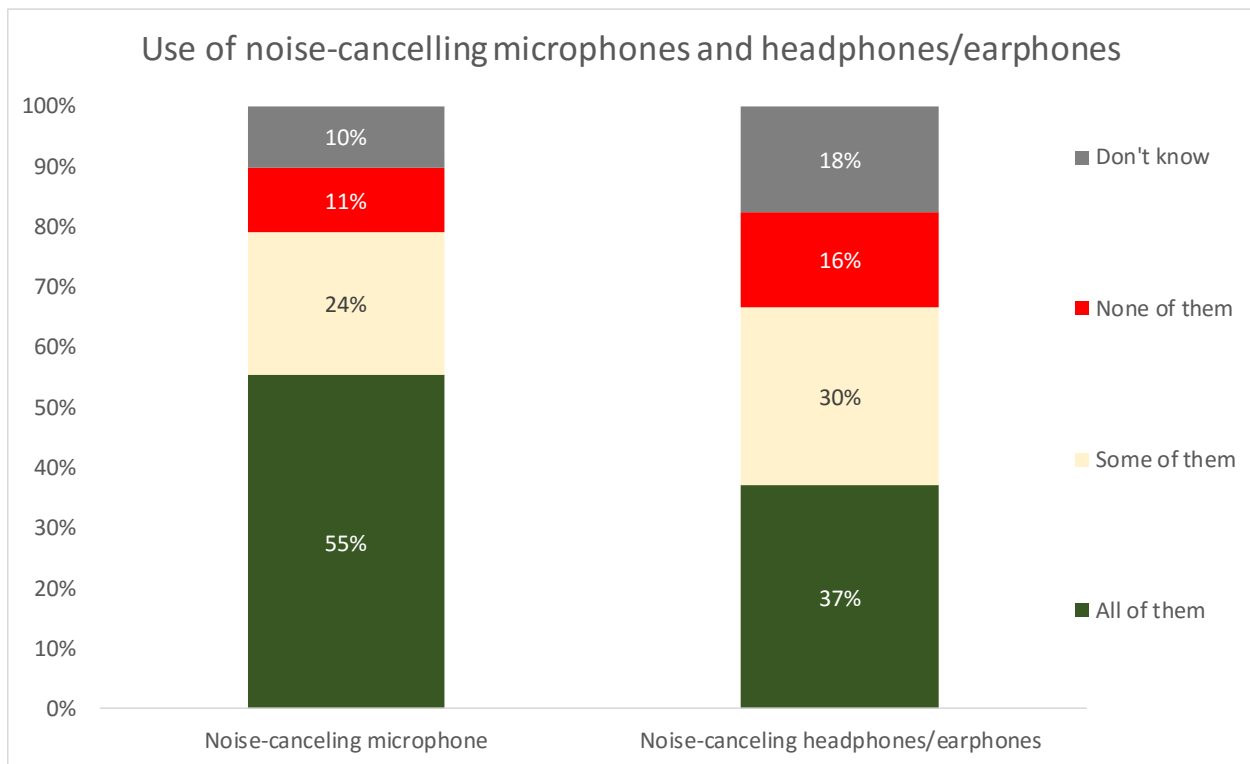


NOISE-CANCELLING HEADSETS

55% of respondents report that all of their headsets have noise-cancelling microphones, which cut out the background noise that can be distracting for the caller. 24% report partial use of these types of headset.

Only 37% have noise-cancelling headphones / earphones for all of their headsets, which means that many agents are still prone to noisy environments which can affect their concentration, accuracy and performance. 30% of respondents partially use this type of headset.

Figure 95: Use of noise-cancelling microphones and headphones/earphones



ACOUSTIC SHOCK

‘Acoustic shock’ is a phrase coined to describe a sudden, unexpected noise, often delivered at a very intense frequency. It may be caused by feedback from telephone equipment, faulty telephone lines, non-compliant switchboards and headsets. Other sources of acoustic damage include caller abuse (shouting, screaming, blowing whistles etc. - most often found in the outbound environment) or background noise on the call. Acoustic shock also refers to the damage done by long-term exposure to noise in excess of healthy limits. It can lead to permanent hearing damage and cases of psychological trauma. The CCMA (www.ccma.org.uk) has stated that tens of millions of pounds have been spent in the UK alone on settlements related to acoustic shock.

Readers wanting more information may like to consider viewing www.acousticsafety.org

Contact centers may like to implement a traceable reporting system for headset users who may have been exposed to acoustic shock incidents.

The following information should be reported:

- Date and time of the incident;
- Details of the source of the exposure;
- Description of the noise;
- Duration of the exposure;
- Details of the headset and telephone equipment used;
- Whether the incident was electronically recorded (a copy should be kept for future reference);
- Symptoms experienced by the operator directly related to the acoustic shock incident.

Operators should be trained to recognize such incidents and how to report them. Organizations that operate call centers are further advised that they should keep up to date with developments in this field through their professional associations and other representative bodies, as well as through their enforcing authority if applicable.

NEW MEDIA AND THE CUSTOMER OF THE FUTURE

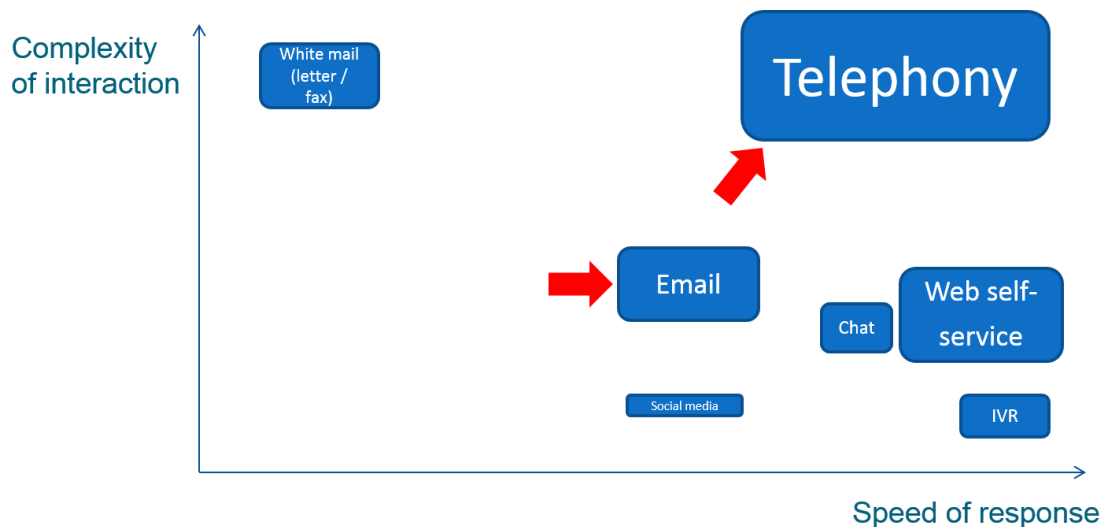
In the late 1990s, analysts predicted email to be the next big B2C communication method, only for customers to find that, in many cases, sending an email didn't get customers any sort of answer at all. Predictably, for many years, email accounted for only 1-2% of a business's inbound communication. However, individual organizations (especially those in the IT and retail sector) managed to make email an acceptable channel for customers, breaking the vicious circle that consumers had experienced: receiving poor service via email from a number of companies put customers off from using the medium, which meant that investments weren't made in improving the email channel because the required volumes weren't there, which further weakened its effectiveness.

It is consumers, not businesses, who make the decision on which communication methods will be most used. If the channel proposed by businesses is suitable for the type of interaction, then it will succeed - otherwise, it will fail. Predicting which channels will be used in future, and by whom, will give businesses a better chance to deliver high-quality service at the right points, while reducing cost where possible. Getting it wrong is expensive and damaging to the brand.

Multichannel contact centers have been mainstream for years, and the web - as a channel for self-service, sales and increasingly person-to-person contact - is an integral part of most businesses' customer contact strategy, with the advent of social media and the mobile channel throwing other elements into the mix.

The following chart gives an idea of where things stand today. The size of the boxes gives an indication of the relative importance of major channels, by volume (with the exception of web self-service, for which we do not have comparable data on volumes).

Figure 96: Inbound contact channels: popularity, suitability and speed of response



Each channel can handle interactions of certain complexity, and some are far quicker to provide a response than others. The red arrows indicate how the phone and email channels have altered their capabilities within the last few years.

White mail: suited to issues of great complexity and importance, due to the ability to establish a paper trail, found particularly in industries that are contract-driven, for example, insurance. Response times are, by definition, relatively long.

Telephony: on average, by far the largest inbound interaction channel. It has ubiquity, is a real-time two-way channel that is able to cover many different topics, and if queue length is reasonable, has one of the quickest speeds of response of any channel, despite popular perceptions. Since the widespread uptake of self-service, telephony is in the process of reinventing itself as the channel of choice for lengthy, important or complex interactions. For many businesses, contact center agents have actually become ‘knowledge experts’, without this having being planned.

Email: despite the inherent difficulty of establishing a real-time, two-way conversation, email volumes have grown dramatically in the past few years. Like white mail, email allows customers to go into considerable detail, expressing their thoughts in the order in which they wish. This ability is particularly valued in issues such as complaints, where the customer may have detailed information to impart which it is difficult to put across on a phone conversation, and the ability to create a paper trail with attached documentation and reference is particularly valued for complex issues. The red arrow shows that email response times have improved considerably, but it is still by no means the quickest channel.

Web self-service: this channel has grown enormously in the past few years, to some extent at the expense of telephony self-service. The visual medium provides customers with a far more flexible experience, and it is a very quick channel to use for simple queries. (As we do not have statistics on the volume of web self-service interactions, the relative size of the box should be ignored in this case).

IVR: this channel has declined somewhat, but is still widely available and widely used. It is most useful for handling the simplest of transactions, such as balance-checking or providing a meter reading. The appearance of visual IVR - which allows users of smartphones in particular to view the IVR menu structure - should give this technology a major boost.

Web chat: this formerly niche channel is establishing itself with significant recent growth, particularly in retail-based environments. As telephony agents provide a live back-up to telephony IVR self-service attempts, web chat offers the same capabilities to support a web self-service session which cannot be fulfilled successfully. It offers a similar speed of response to the phone channel, and there is no reason why customer authentication cannot take place which would allow access to a wider level of service than is currently the case. Cobrowsing can be seen as a very closely related channel to web chat, with similar capabilities and uptake which will be closely tied to that of web chat.

Social media: social media as a customer service channel is growing rapidly and has an extremely high profile both outside and within the organization, and grabbing the attention of senior executives far more than the traditional contact center has ever managed to do. As such, there is a great deal of interest being shown in social media as a customer contact channel, due in no small part to the potentially damaging nature of a customer service failure being made extremely public.

For more information about the future of multichannel and omnichannel customer communication, please download the free 2016 report: “The Inner Circle Guide to Omnichannel Customer Contact” from www.contactbabel.com.

Figure 97: Multimedia channels

Channel	Current use	Drivers	Inhibitors	Proportion of interactions
Email	Widely offered for inbound and outbound service by all sectors, especially IT and retail.	Email is widely-used and accepted by customers. As a non-real-time application, businesses can deal with emails in slack periods. Written format is suited to long and complex answers. Templated responses offer cost savings.	Without investment in email systems, email is no cheaper to handle than a phone call. Service levels are often poor or inconsistent, leading to customer dissatisfaction. Any interaction that requires security is unsuitable for email checks.	IT and retail often highest. Insurance and finance usually low. On average, the US contact center industry has 10-15% of inbound interactions as email.
Self-service	Both voice and web self-service are widely used, the former either through touchtone IVR or speech recognition, which handles simple queries and transactions.	Variable costs of using self-service are very low (i.e. once the system is set-up correctly, incremental cost per use is negligible), making it suitable for high-volume, simple interactions, avoiding the costs of these calls being handled by agents. Allows 24/7 service at low cost.	Excessively pushing the use of self-service, & badly-designed IVR menus can mean that callers feel frustrated & alienated. The use of natural language self-service is not yet widespread, & older voice-based applications are often inflexible & long-winded.	c.10% of inbound contact center interactions are dealt with by voice self-service, higher in some sectors with very large contact centers. Movement to web self-service continues.
SMS	Often used for marketing messages, SMS can also provide proactive customer service, such as balance threshold alerts and appointment reminders.	SMS is a cheap channel, mobile phone penetration is greater than 100%, and SMS senders are very likely to have their messages read.	The same rules against email spam apply to SMS, so customers must give their permission to be sent SMS. Inbound SMS is like email, in that security cannot be established, and it is not a real time application. Cost associated with receiving SMS in the US.	Minority of US businesses currently use SMS to communicate with customers, although a great deal of interest is being shown.

Channel	Current use	Drivers	Inhibitors	Proportion of interactions
Web chat / instant messaging	Growing as specific applications for its use emerge. Used in significant minority of businesses.	Real-time nature of web chat means it is akin to a voice conversation in immediacy. It is possible to ask security questions through web chat, although it is debatable whether the customer will feel happy about passing on this information over the web. Multiple concurrent web chat sessions can be run, cutting cost. Younger generation is used to messaging.	Web chat may be too alien to the older generation who may feel pressured by the sudden appearance of a chat initiation. May encourage people to ask unnecessary questions that they would otherwise use the website to find the answer to.	3-4% of interactions into US contact centers, with potential to grow rapidly, especially in retail.
Video agents	Limited current use. Can be delivered through PC, kiosk or interactive digital TV. Canned video via YouTube is growing for product demos. Also C2B video also emerging.	Eye contact is critical for establishing trust and 60% of the communication process is visual. Opportunities for demonstrating product features. "Show, not tell" is powerful. Growth driven by 4G, Web RTC & smartphones.	Instead of live video, customers may prefer the impersonality of telephony. Agents will need training in visual presentation	Currently very low.
Cobrowsing	Currently limited. Page-pushing and joint form-filling more used in the US than elsewhere.	Allowing an agent to work alongside a customer's desktop can give more personal and effective assistance.	Can be expensive per session. Not widely understood by customers.	Interest from finance, insurance and medical sectors, used alongside web chat.
Social media	Many US businesses offer social media as a customer service channel, predominantly through Facebook and Twitter.	Personal social engagement (e.g. Facebook, Twitter) is spilling into the corporate world. Originally used by businesses as outbound marketing / brand awareness, has developed into de facto inbound customer service.	No security or ID verification process means not all interactions are suitable for social media. High risk of negative PR associated with this channel may lead to over-resourcing at the expense of others.	Around 2-3%, but seen by senior management as far more important than volumes suggest.

Channel	Current use	Drivers	Inhibitors	Proportion of interactions
Kiosks	Supermarkets, cinemas, banks, fast-food outlets and train stations have touch-screen terminals which can deal with financial transactions, issuing tickets, taking orders & scanning items.	Low-cost, effectively another variant of self-service, with a possible option to move to a video agent if required, although privacy issues are present. It takes an average of \$3 for an agent to check-in an airline traveler, but only 14c each with a kiosk (source: Forrester Research).	Possible mechanical breakdown. Non-private. Limited functionality.	Growing, especially in the cellphone sub-sector, as well as financial services in rural areas.
Mobile app	Around one-third of survey respondents have a mobile customer contact channel.	Ubiquity, powerful processing allowing specific apps to be used, 'always-on', video and camera offer additional routes	Small screen and expensive to develop apps	Not tracked separately, although growing rapidly.

OMNICHANNEL

Today's customer has numerous devices, both voice and text-based, with which they can contact the business. They may decide to query an automated system, or a live agent. They may want the answer in real-time, or prefer to receive a reply at their convenience. They may use a fixed-line phone, a smartphone, PC, letter or use a kiosk in the street or in a physical store. Of course, not all contact is one-way - the business can also initiate outbound communications with its customers as well.

The complexity of the situation increases exponentially once a new channel, device or medium is added to the customer service mix. The only constant is that - regardless of the method they choose to communicate with the business - customers want accurate, timely information delivered in a form with which they are happy. The challenges for the business are to provide a high quality of service which is consistent across the channels and to do so in a cost-effective manner. To do this, and break down the boundaries between contact channels that has been stifling the potential of non-telephony contact, a platform is required which automatically captures, processes, routes and reports on customer interactions and related activities based on a company's specific business criteria, providing a view of each and every customer interaction. Customer interactions through channels such as voice, e-mail, fax, instant messaging and activities such as work items must be handled according to business-defined processes and strategies, avoiding the problem of rogue interactions that are left outside normal workflows, or favoring one channel (usually voice) to the permanent detriment of others.

The universal queue approach can set priority levels to incoming calls, e-mails and chats, and offers functionality to blend inbound and outbound calls into a single queue to allow agents to move between media as required. This approach also facilitates a single view of the customer across all channels, which is one of the key ways to improve the quality of service offered, as well as improving the agent's confidence and morale.

Such is the theory. The reality for most businesses is that the requirements of their customer base, along with the opportunity to cut service costs has thrust numerous new channels into the customer service mix, leaving them with the headache of deciding how to implement and integrate new technology, recruit and train agents appropriately, and forecast and schedule the right staff to handle these new types of interaction. The quickest and easiest option has generally to treat each channel separately, having agent siloes and treating each interaction as being independent, rather than part of a wider customer journey. If the customer changes channel, or contacts the business later about the same issue, they tend to have to start again from the beginning.

Recent years have seen the word ‘omnichannel’ introduced as describing the goal of customers being able to contact (and be contacted) through any channel - switching between them during the interaction as appropriate, while taking any relevant data and history along with them – with a single, unified view of the customer’s journey being available to the agent.

For the purposes of describing how far along the omnichannel process our survey respondents are, those who offer multiple communication channels to customers were asked to place themselves into one of three categories:

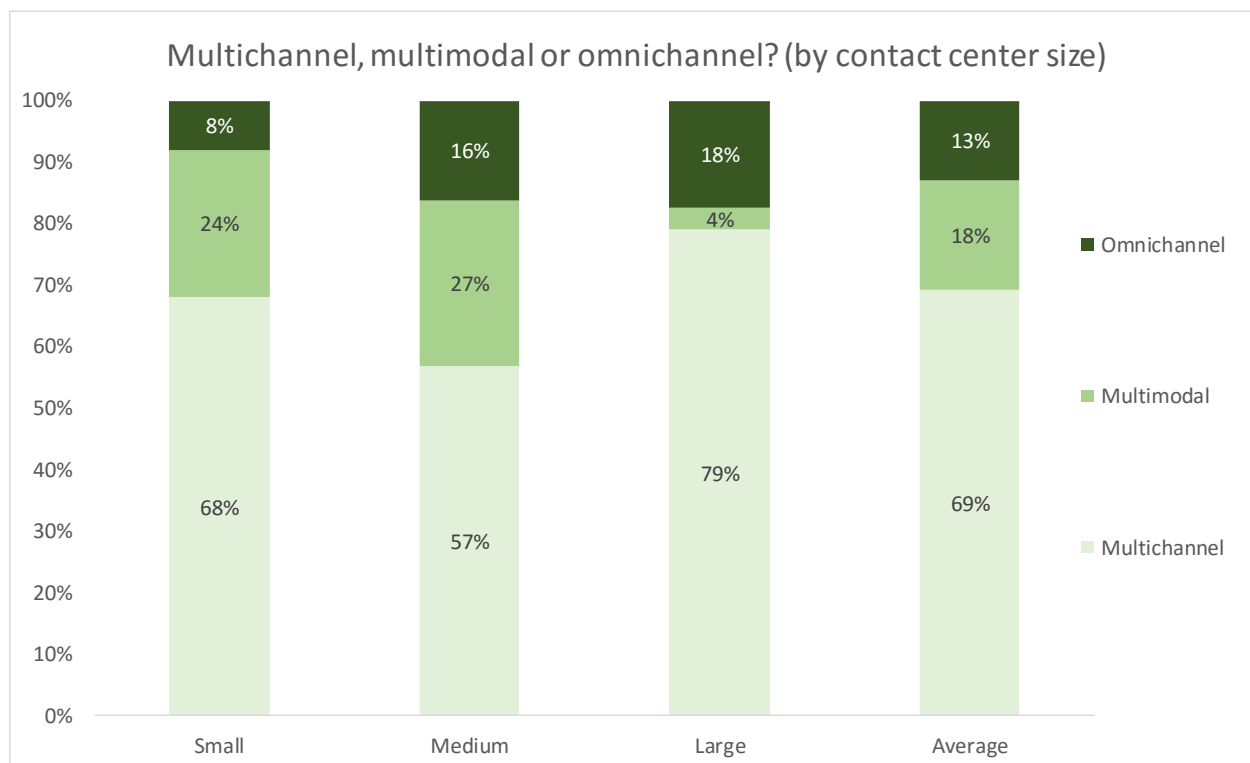
- **Multichannel:** “We offer a choice of channels to customers (i.e. several of voice, email, social media, web chat), from which they can use one in a single interaction. If they change channel, the context and history is lost”
- **Multimodal:** “We offer a choice of channels, and customers can use more than one in the same interaction (e.g. an agent can send an email or SMS to a customer while they are talking on the phone)”
- **Omnichannel:** “We offer a choice of channels, and can use more than one over multiple interactions, while retaining the history and context of the original enquiry. Relevant information follows the customer across channels and interactions”.

Only 13% of respondents described themselves as omnichannel, 18% assessing themselves as multimodal and 69% multichannel.

This was not entirely a factor of contact center size - smaller, sub-50 seat operations were almost as likely as medium-sized operations to identify multimodal - and this makes sense, as the proportion of non-voice activity in smaller operations is generally far higher than in large contact centers.

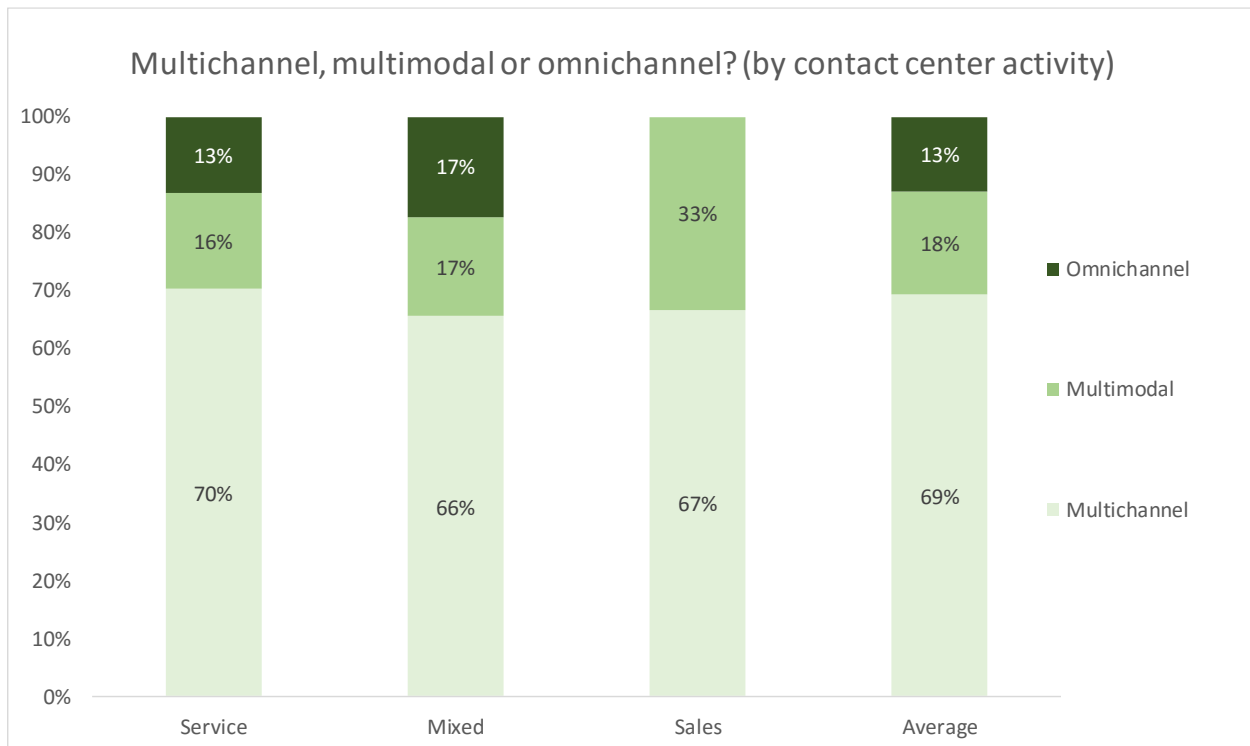
For true omnichannel, the platform, infrastructure, applications and resources need to be available to identify, route and switch interactions between agents and channels seamlessly, while keeping all relevant data gathered in the course of the interaction: larger operations are more likely to have had the investment made to deliver this sort of experience.

Figure 98: Multichannel, multimodal or omnichannel? (by contact center size)



Self-assessment of omnichannel at a contact center activity level shows that service-oriented operations are far more likely than pure sales contact centers to consider themselves as omnichannel, although multimodality is more likely to be the case in the latter group.

Figure 99: Multichannel, multimodal or omnichannel? (by contact center activity)



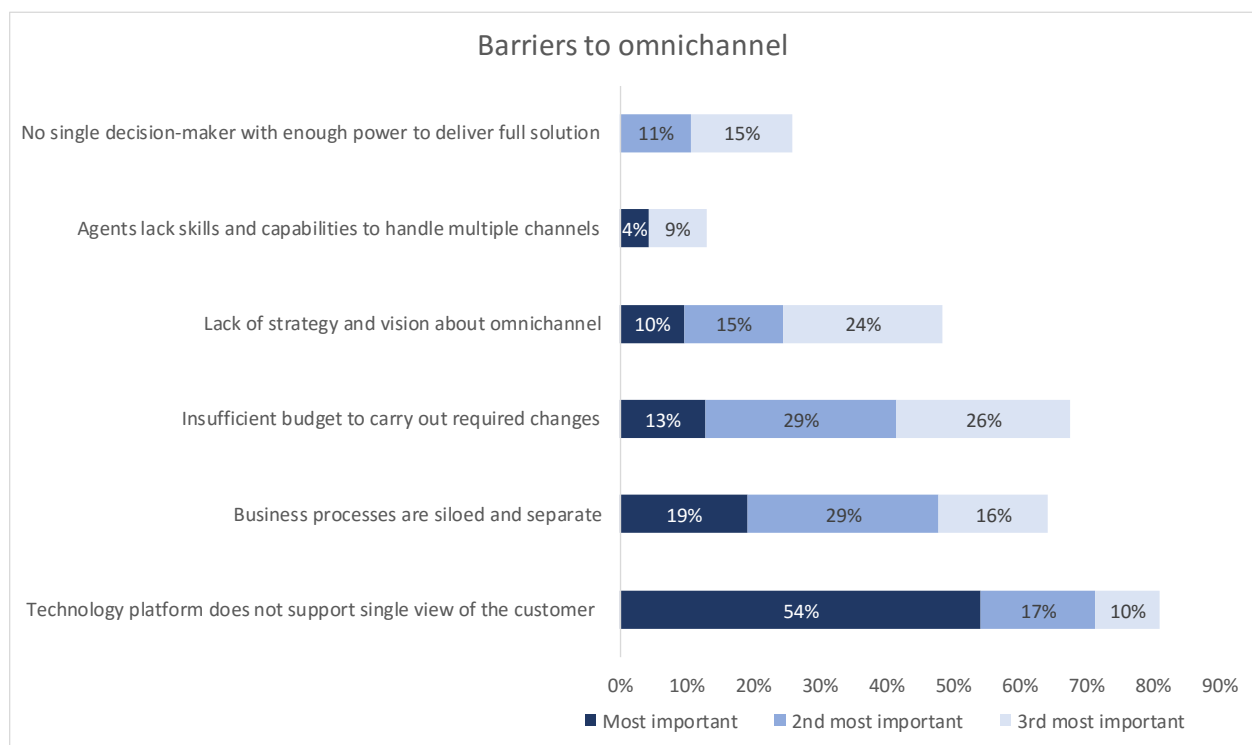
Respondents believe that there are three main barriers to omnichannel, any of which in isolation would be hard enough to overcome, but together appear to be quite daunting:

- the technology platform does not support a single view of the customer
- there is insufficient budget to carry out the required changes
- business processes are siloed and separate.

While these inhibitors to omnichannel are certainly formidable, they are not insurmountable. From a technical viewpoint, the starting point is to have a single integrated platform that is capable of identifying a customer regardless of the channel which they choose to use. This will involve mean evolving from the siloed, channel-focused point solutions that were put in place to handle a specific need, and using a services architecture that is extendable to different channels in the future. It is also important to have a master dataset for product and customer data which is a 'single source of truth' that can be drawn upon by any customer or agent through any channel.

A key aim of omnichannel is to provide a consistency of customer experience, and this requires access not only to the same master dataset, but also the same knowledge bases and business logic must be applied equally. There must be real-time data flow and updates between channels and databases, as without this, consistency is impossible.

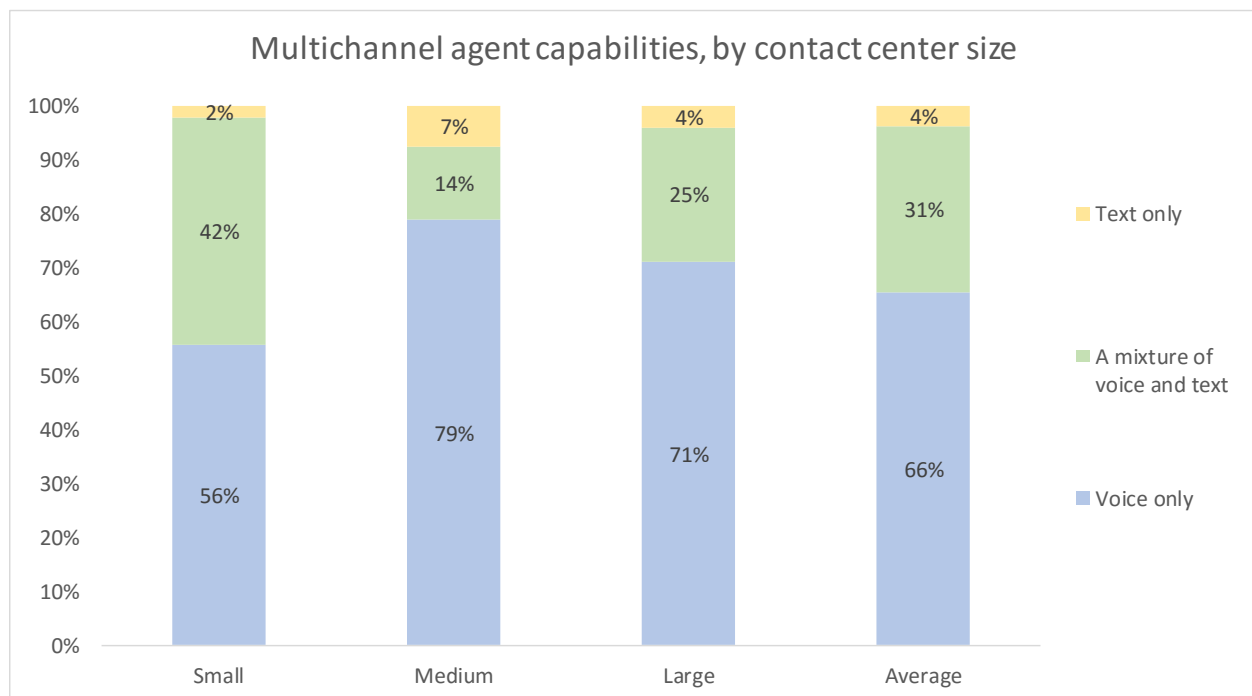
Figure 100: Barriers to omnichannel



Respondents were asked a question of how they used agents to handle multichannel. In medium and large contact centers, around 70-80% of agents handle only voice, with around 5% handling text only (including email, web chat and social media).

As has been found in previous years, smaller contact centers - which tend not to have the depth of resource available to operate a dedicated single channel teams - are far more likely to have agents moving between voice and text interactions as required. This approach, whether ad hoc or through a more formal blended approach, has been proven many times in past years' data to be positively correlated with improved agent attrition. This is not to claim causality, but that a variety of work may impact positively upon agent engagement and attrition rates is a point to consider.

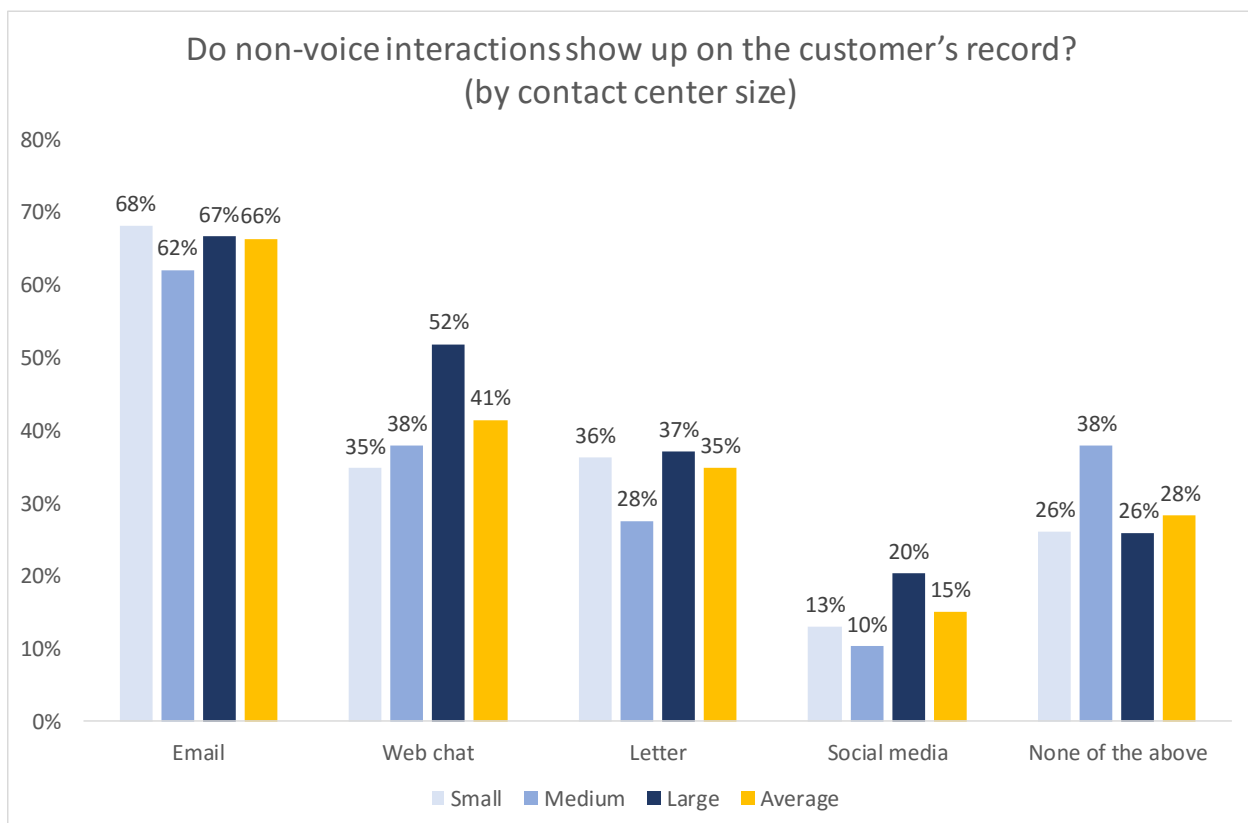
Figure 101: Multichannel agent capabilities, by contact center size



The importance of master dataset and real-time updates cannot be overestimated. The following chart shows just how far most contact centers have to go in achieving even a small portion of this, as the majority of respondents do not even update customer records with details of non-voice interactions such as web chat, letters or social media interactions. Without this relatively basic information, omnichannel is impossible to achieve.

However, one positive finding is that customer emails will tend to be linked to the master customer record: the challenge is to make sure that all interactions are.

Figure 102: Do non-voice interactions show up on the customer's record? (by contact center size)



One of the main irritants for a customer is having to contact the business on numerous occasions, often through different channels, about the same issue. Omnichannel promises a way in which this experience can be made less painful and more effective for both customers and businesses, by providing a single view of the customer's journey - not just that particular interaction, but the entire experience - so that agents do not have to ask the same questions again and again, and can treat the customer's request more effectively and intelligently.

A question was asked to respondents about how they identified the topics or reasons that caused customers to contact the organization multiple times. Knowing this should allow an organization to amend its business processes to reduce this demand, proactively assisting customers by removing a problem or issue entirely.

Figure 103: How do you identify the topics or reasons that cause customers to contact your organization multiple times?

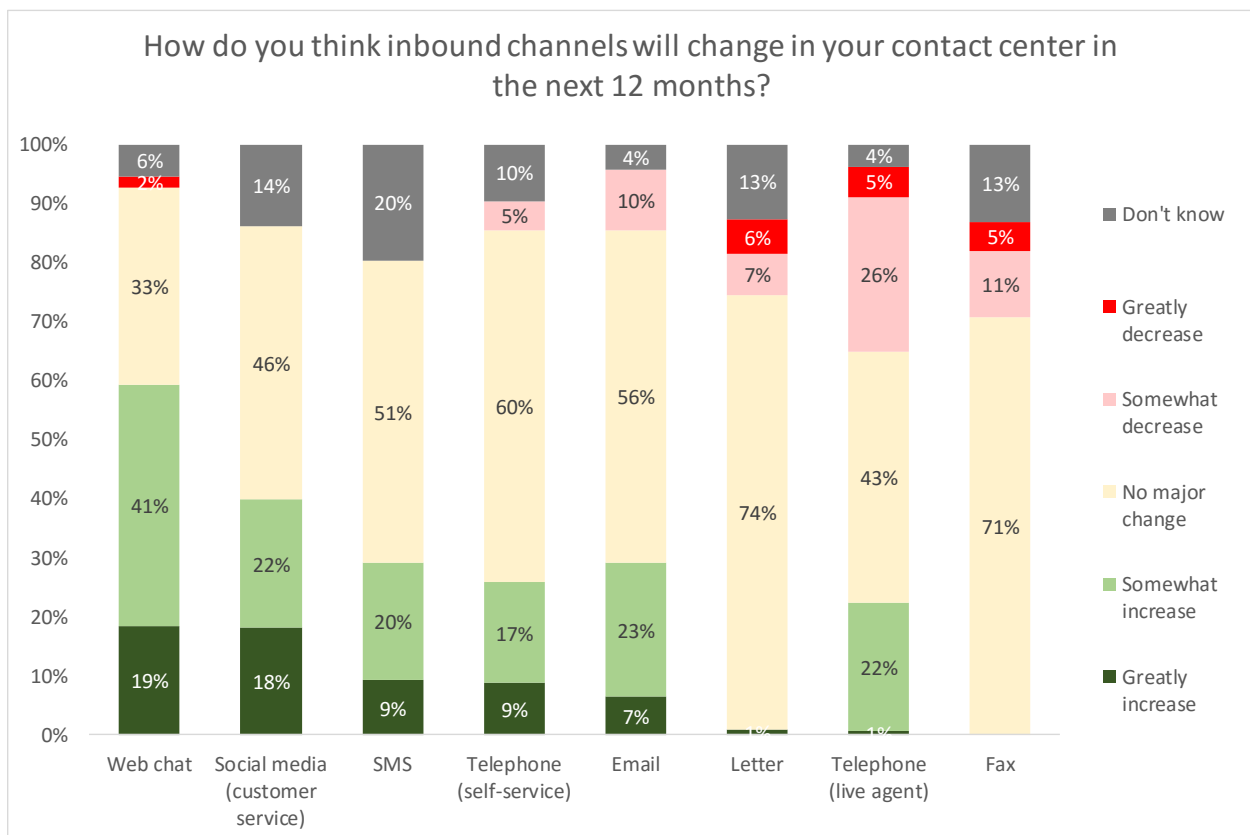
Method of identifying issues	% respondents using this method
Agent feedback	76%
Customer experience surveys	53%
Supervisor monitoring	51%
Interaction analytics	13%

It is found that the majority of respondents rely mainly upon agent feedback to identify reasons for recurring calls, which as a method is very dependent upon the culture of the organization and the agents' own initiative. The second most popular method was to run customer experience surveys, with some respondents also using supervisory monitoring and reporting. Relatively few used interaction analytics to identify the root cause of repeat calls, and this is an opportunity which will surely grow in importance in the future.

Looking at the reality of multichannel, multimodal and omnichannel activity, the US contact center industry has embraced the various forms of non-voice customer communication, with 86% of respondents who provided information about their interaction volumes offering an email channel. 7% of respondents offered SMS, 40% web chat and 26% social media. Traditional channels such as letter and fax are still present in around one-third of cases.

As not all of the same respondents take part in this survey every year, a jump or drop in the usage of a minor multimedia channel could be an industry-wide phenomenon or a case of a handful of early-adopters skewing the results, which is certainly possible where only a few use a channel, and where mean averages are used. As such, a question is asked to respondents about how each inbound channel will change, so being able to judge if any alterations in the use of channels is due to real changes at a contact center-level, or is more of a statistical blip caused by a different set of respondents providing data each year.

Figure 104: How do you think inbound channels will change in your contact center in the next 12 months?



As usual, the traditional media of letters and fax will have a net decline in our respondents' eyes, although still have their place in the likes of the insurance, medical and manufacturing industries. Interestingly, more respondents this year (31%) believed the live telephony channel volumes would drop than thought they would rise (23%), a finding that is repeated this year, and which signals a trend in the industry.

Strong growth is expected in web chat and social media customer service interactions, with email volumes still predicted to grow although at a lesser rate. After some years of relative decline, telephony self-service is expected to grow once again, with its twin benefits of customer convenience and low cost still very much relevant. New approaches, such as visual IVR, are likely to encourage further use of self-service. Although not shown on this chart, 40% of respondents offer an app or mobile service option for customer service. More information is available in the 'The Mobile Customer' chapter of this report.

The previous chart's real message is that channels aren't being replaced - even letters and fax will continue to be supported - but rather augmented, and businesses have to accept that they need to develop an omnichannel approach, as that's what their customers are expecting. This means that the pressure to unify the view of the customer across channels is a challenge that isn't going to go away.

The proportion of live inbound interactions by telephone has dropped in 2015 from 70.4% to 66.2%, but has risen this year to 68.9%, suggesting that the downward trend is not as strong as last year's figures suggested.

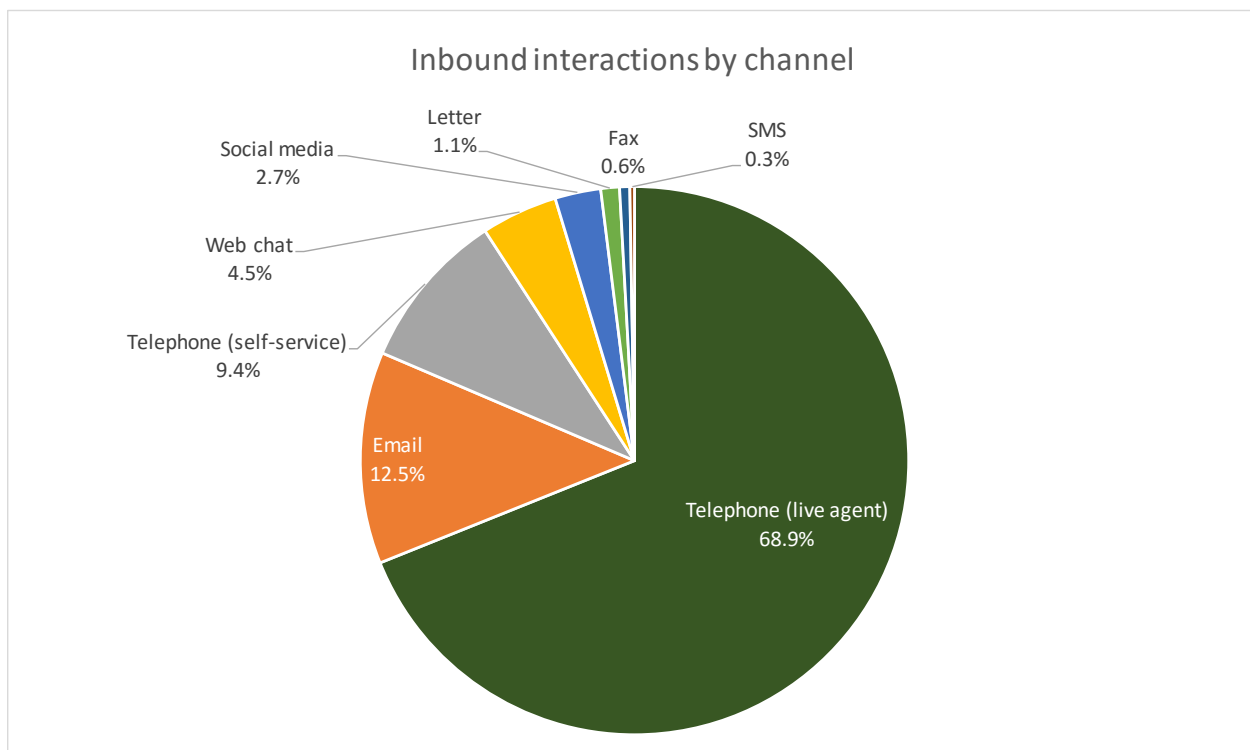
The proportion of telephony self-service interactions has dipped slightly: 2014's figures of 10.2% rose to 11.7% in 2015, but dropped to 9.4% this year.

The email channel paused its growth this year, being at around 11-12% for a number of years.

It may be that web chat is taking up some of the growth that email had seen: web chat showed strong growth in 2015, rising to 3.2%, and 2016's figure of 4.5% is a real jump again.

Social media also maintains last year's jump to 2.6%, consolidating at 2.7% this year.

Figure 105: Inbound interactions by channel



The following table shows both median and mean averages of the most important interaction type - live telephony – with the mean average being a representation of what is happening in the entire industry at an aggregated level, whereas the median - the midpoint - purposefully takes out any outlying, eccentric data points: this latter figure is what the ‘typical’ contact center might recognize in themselves.

Agent-handled calls are most important to respondents in the insurance, medical and outsourcing sectors, with respondents in finance once more this year being significantly under the average with their levels of telephony.

Figure 106: Inbound interactions that are telephone (agent), by vertical market

Vertical market	Mean average	Median average
Medical	85%	92%
Insurance	81%	89%
Outsourcing & Telemarketing	80%	88%
Services	77%	85%
Public Sector	66%	81%
Manufacturing	62%	66%
TMT	61%	69%
Retail & Distribution	55%	51%
Finance	53%	62%
Average	68.9%	76%

EMAIL MANAGEMENT

Email was the first of the non-voice multimedia channels to be used, and is still by far the most well-used, having been mainstream for well over 10 years. Although its current penetration rate of over 12% makes it a relative success, this should be placed in the context of the expectations of contact center managers who in a 1998 survey confidently expected email to account for 25% of inbound traffic by 2003.

Email should stand as a salutary lesson that it is not businesses that make new channels a success, but customers. Put bluntly, email in its first incarnation failed almost entirely. Too many businesses rushed to push customers to this new channel - commonly supposed to be cheaper than voice - without having the processes, solutions or staff to manage this properly. What happened next can be understood as a 'herd inoculation': enough customers had enough bad experiences from enough organizations that the entire channel was discredited, even for those businesses which were providing a reasonable service through email or just keeping a watching brief.

The reason for this rejection was the appalling level of service provided by many of the early multimedia businesses. With response times stretching into many days, if not weeks, the companies failed to understand that any communication with the business has a degree of urgency to it, else why would they be trying to speak with the business at all? Of course, even when a response was eventually provided, the issue might have gone away, or been dealt with by calling the contact center, meaning that customers' existing confidence in the voice channel was further reinforced at the expense of the email channel. It is also the case that email does not fit the type of enquiries that people make in some cases, such as the need for quick, simple and confidential information (such as an account balance), and the increasing requirements for identity checking places a cap on the usefulness of email as a channel for some types of business.

It took many years, much investment and the coaxing of customers to try new channels again for email to emerge as being credible. Of course, businesses and customers now both realize that email is more suitable for some interaction types than others (the rise of web self-service has meant email is no longer the only online communication method available), and complex issues such as complaints, or other enquiries requiring a formal paper trail are well-suited to email. In fact, much of the demise in the letter and fax as channels can be traced to a direct replacement by email. Email is also an excellent outbound channel, providing reassurance, great levels of detail and attachments, and is able to link to other specific areas of information via hyperlinks. As an inbound channel, it has inherent weaknesses: an inability to carry out customer authentication and to carry out a real-time 2-way conversation being amongst them, as well as the lengthy wait to get a response. In the longer term, it is likely to be superseded to some extent by more immediate online channels such as web chat and social media. It does however have the advantage over virtually every channel that there is no queue time at all - the customer writes the email and presses 'Send' immediately - a 'fire and forget' interaction.

As with previous years, emails are proportionally less important for large contact centers, with similar differences between size band seen year on year.

Figure 107: Inbound interactions that are email, by contact center size

Contact center size	% of inbound interactions that are email
Small	17.3%
Medium	9.9%
Large	6.4%
Average	12.5%

The cost of email seems quite reasonable, being generally somewhat less than live telephony (which tends to be around \$5-6), but more expensive than a self-service session. The cost of web chat is usually a little less than email (a mean of \$3.04 this year).

Figure 108: Estimated cost per email

	Email cost
Mean	\$3.51
1 st quartile	\$5.30
Median	\$2.80
3 rd quartile	\$1.33

Do you need an email response management system?

An organization that has relatively small volumes of email will tend to handle it initially on an ad-hoc basis, often using Microsoft Outlook to do so. At some point, the contact center will realize that costs are going up and quality going down, and that they need to implement the more sophisticated email response management system. What signs are there that show this is the right time to do so?

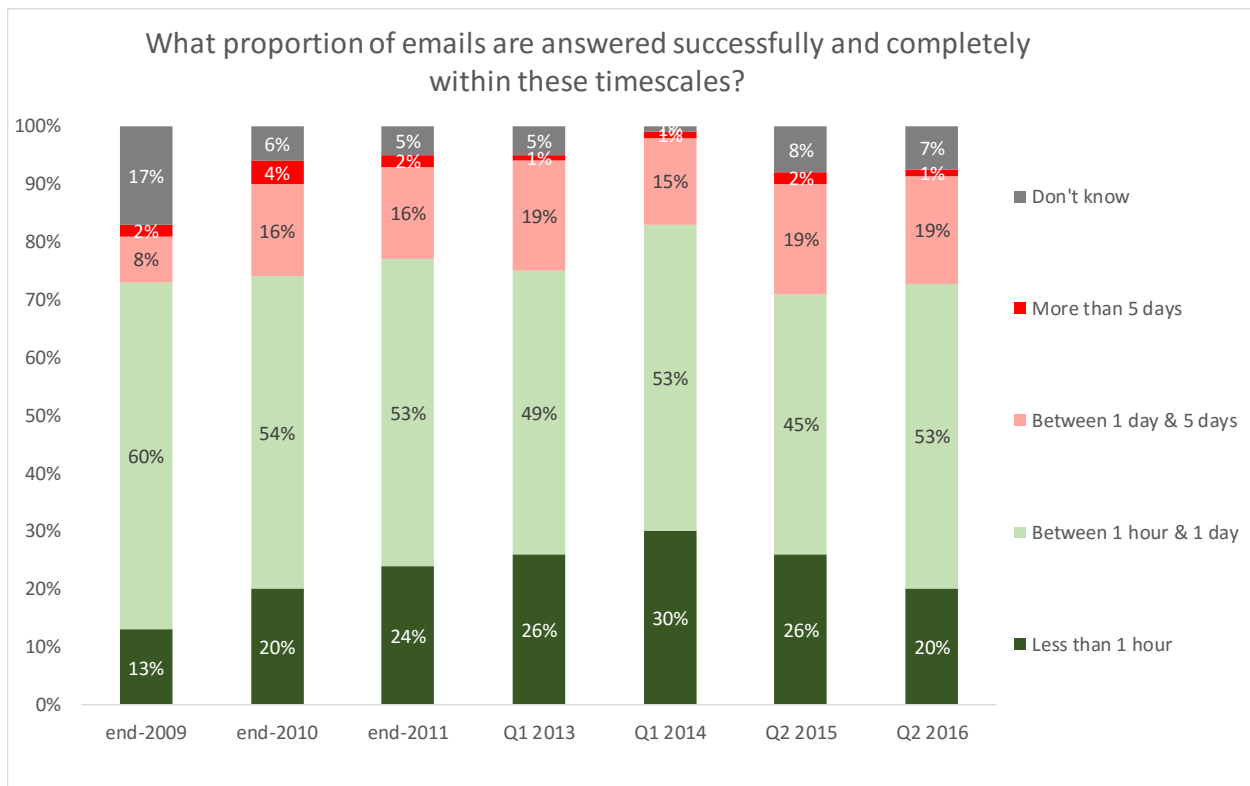
- While there is no fixed figure for email volume, as it will depend on the complexity and time required to handle each one, organizations receiving greater than 100 emails per day are likely to have issues handling and tracking them
- There are a significant number of customer telephone calls that refer to emails that were sent, but which never received a response
- Prioritization and routing of emails to agents with specific skills sets is no longer a matter of a few minutes of management time
- Email handling times are not going down, despite most being about a small number of topics
- Complex emails may take days or even weeks to resolve, and different agents may be working on similar types of issue without even realizing it, thus duplicating the effort
- You lack flexibility in dealing with spikes in email traffic, as it is too difficult to bring secondary email agents to bear without damaging the voice channel's service level
- Visibility and accuracy of service levels for email channel is worse than that for the voice channel
- It is difficult to report on the content of the emails that you receive as this has to be done manually.

For businesses that handle substantial volumes of email, while it is not suggested that they should aim to answer an email in the same amount of time that it takes to complete a phone call, it is desirable to manage all interactions closely to consistent business rules, and to act quickly if service levels slip. Too often it seems, contact centers have become so used to managing the telephony queue that they neglect multimedia interactions. The result is that multimedia response times (mostly email) have historically been sacrificed to meet telephony service levels, although there have been steady and significant improvements in the response rates in recent years.

Email response handling times have fallen back somewhat in the past two years, with the proportion answered within one hour going back to 20% from 30% in 2014, although the proportion answering between one hour and one day has steadied. We believe this may be a factor of simple interactions being more likely to take place over self-service, social media and web chat, leaving longer and more complex issues to be handled via email and phone.

Taking longer than one day to answer an email runs the risk of the customer losing patience, and going elsewhere or phoning the contact center, placing a greater cost burden on the business than if they had just called in the first place. This figure has increased somewhat from 16% in 2014 to 20% in 2016%.

Figure 109: What proportion of emails are answered successfully and completely within these timescales?

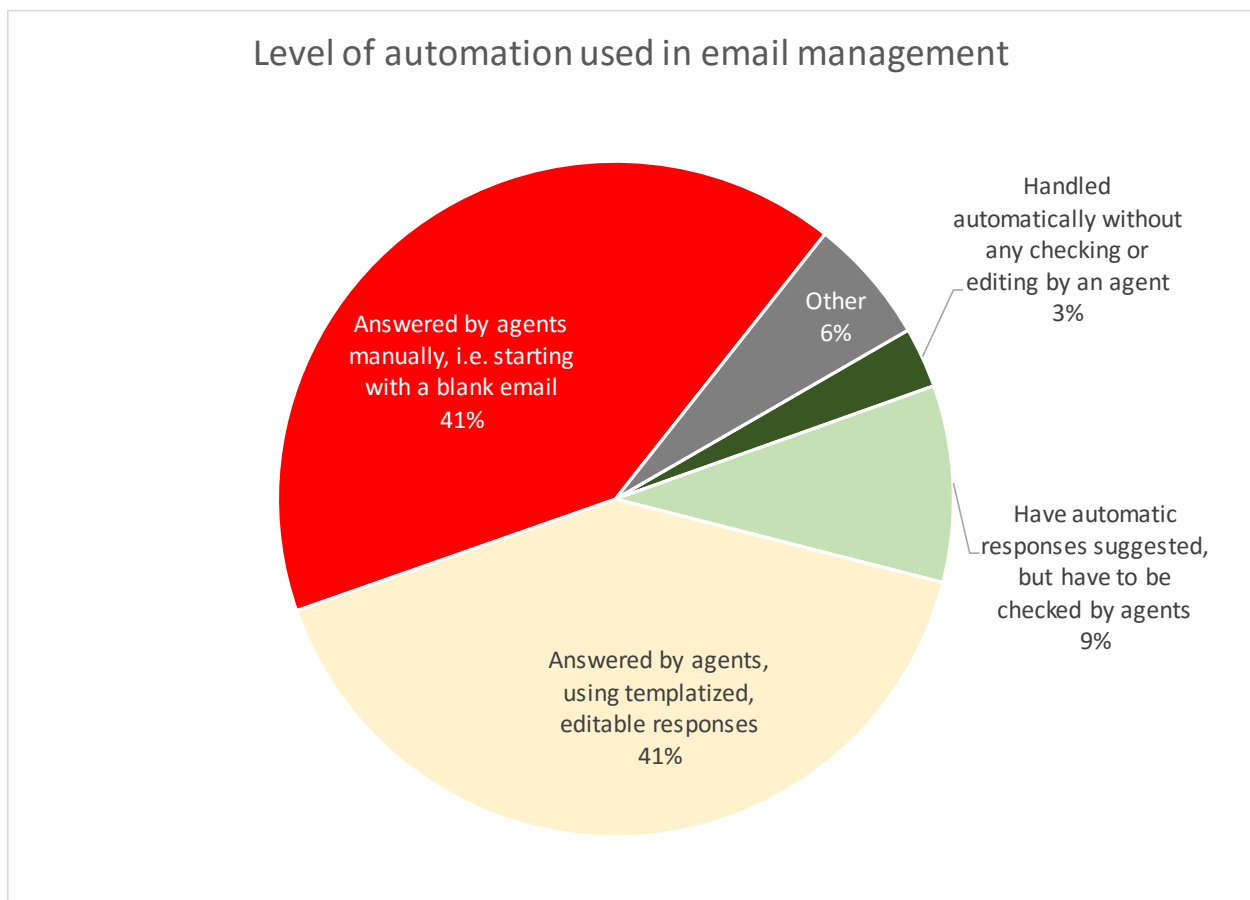


The most popular method of answering inbound email was to use agents, who start with templated, editable responses and change them accordingly, thus not having to compose every email from scratch, but also being able to draw from a common pool of knowledge.

The second most popular method of answering emails is to start with a blank email, and let agents completed themselves. This is not only likely to take longer, but also leads to an increased risk of poor grammar, spelling and punctuation, as well as a less consistent response.

Only 12% of emails have automated responses, (these statistics do not include simple automated acknowledgements), and of those, the majority have to be checked by agents before sending.

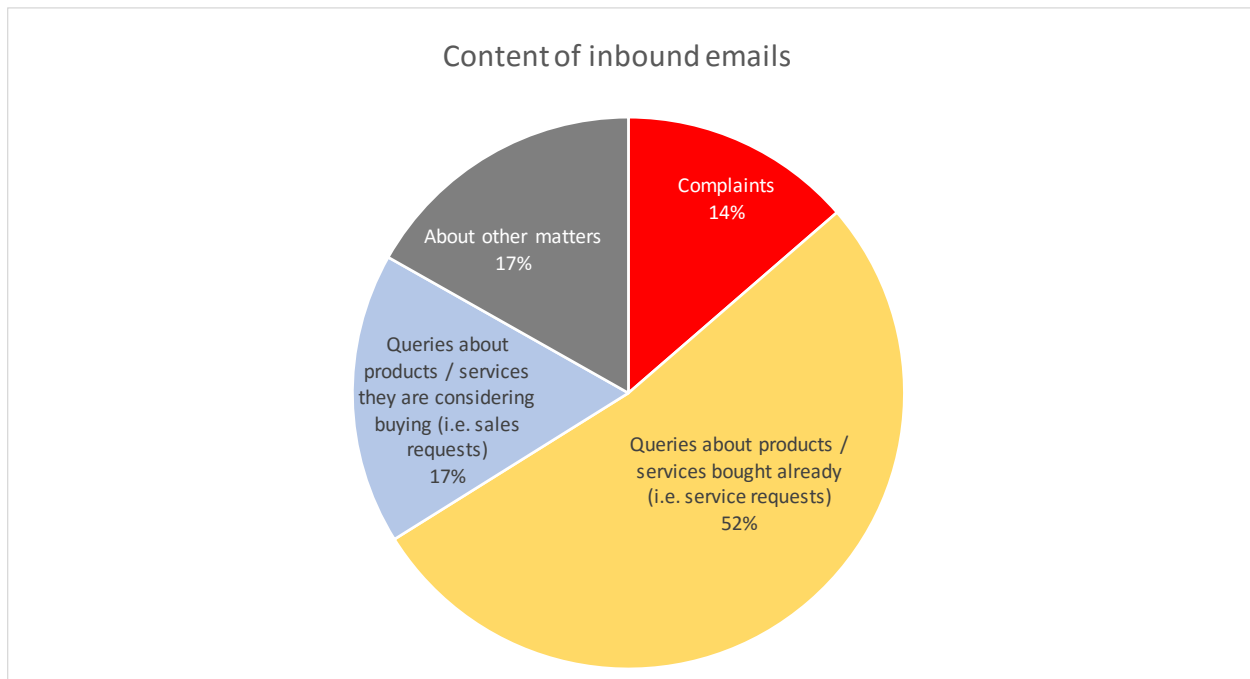
Figure 110: Level of automation used in email management



Respondents state that 52% of their inbound emails are queries about products or services that have already been bought, with only 17% being from prospective new customers, who have queries about products or services which they are considering buying, who may prefer to use web chat.

Complaints represent around 14% of inbound email traffic for our respondents, the same as this year's telephony figure.

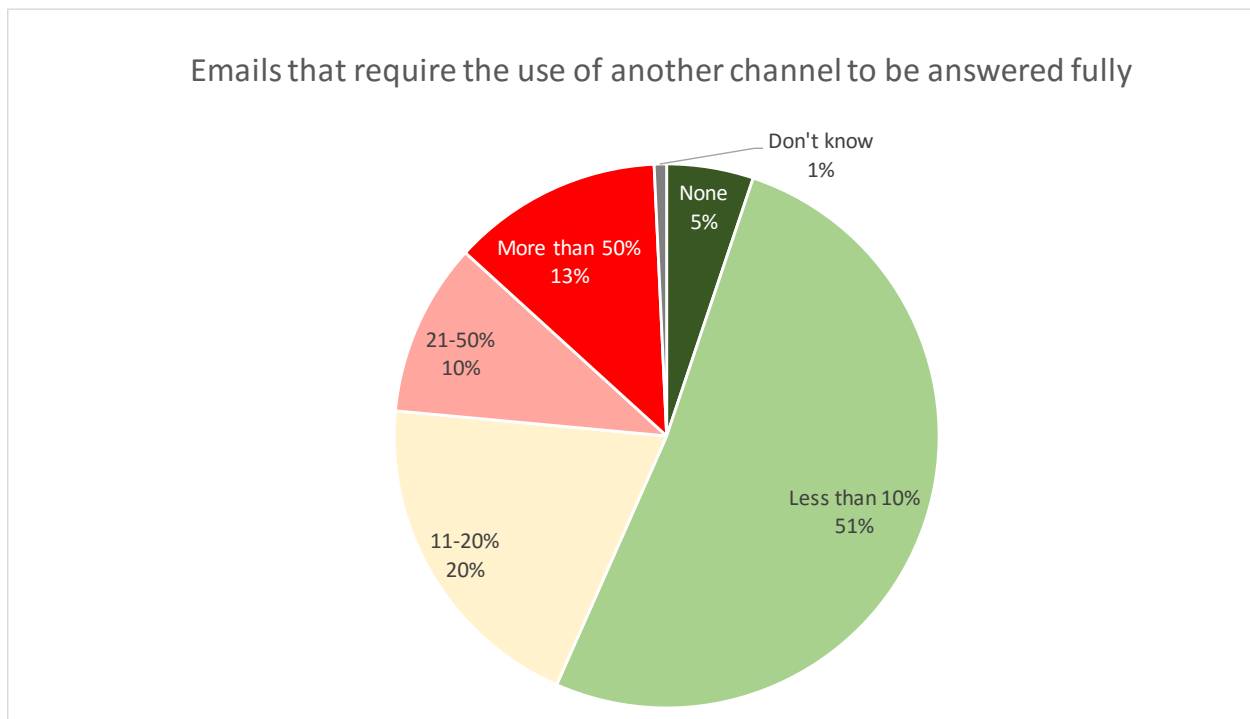
Figure 111: Content of inbound emails



Respondents were asked to estimate the proportion of emails that required the use of another channel to be answered fully. Only 5% of respondents stated that all of their emails could be answered fully without recourse to alternative channels, with a further 51% of respondents stating that fewer than 10% of their emails needed supplementary channel assistance.

However, 10% of respondents said that between 20-50% of their emails had to be followed up using an alternate channel, and 13% of respondents said that more than half of their emails needed multichannel assistance.

Figure 112: Emails that require the use of another channel to be answered fully

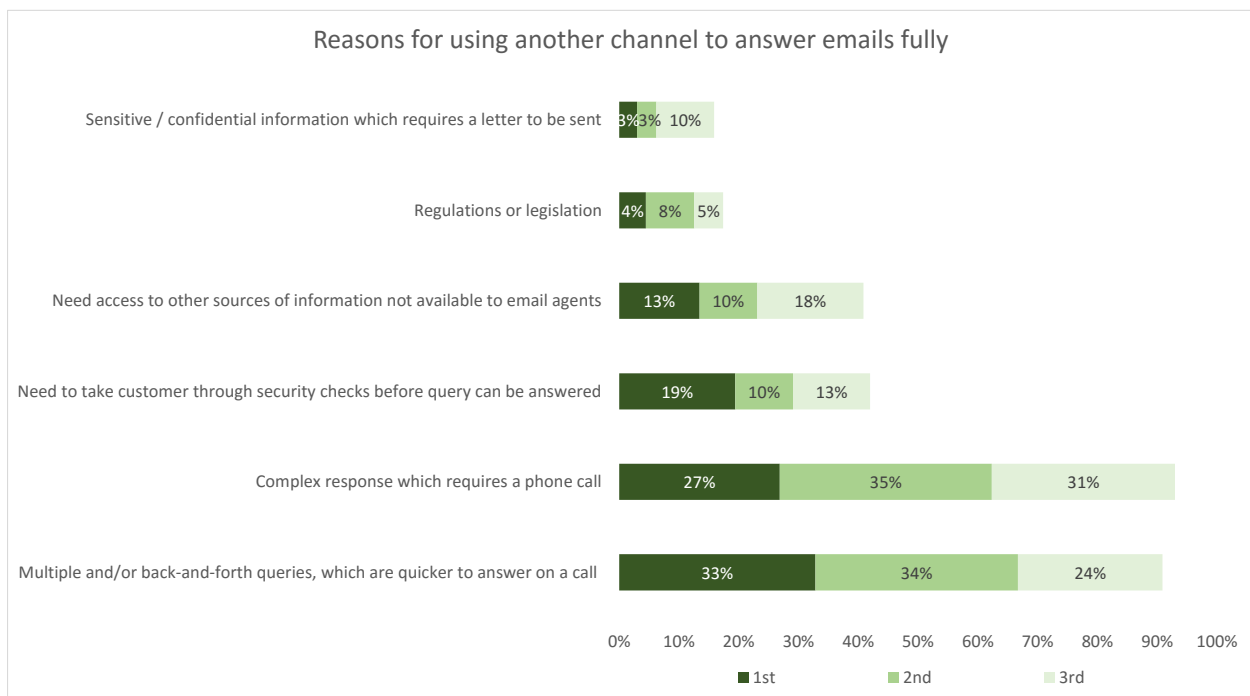


Respondents that indicated that a proportion of their emails require the use of another channel to be answered fully were asked to give the top three reasons causing this.

Two interlinked responses came out clearly ahead: the multiple, back-and-forth nature of the queries are quicker to answer on a call; and complex issues are better handled with a phone call rather than an email.

The ability to take customer through security checks more easily in a different channel was also considered important by 42% of respondents, and 41% considered that email agents do not always have access to the sources of information that they need to answer the question fully.

Figure 113: Reasons for using another channel to answer emails fully



MULTIMEDIA BLENDING

There is no general agreement within the industry on how best to deal with email, although there are genuine reasons to encourage email/voice blending. On one side, there is a case made that letting agents answer email makes the job more interesting for them, lowering attrition and improving skills. The other side to this says that the skills required by email agents are different from voice agents, and that it is difficult to find the agents to do both jobs. Both sides make sense logically, and historically, of those contact centers which use voice/email blending, only around 1 in 5 have experienced problems finding the right staff for these types of role, a figure that decreased each year that it was surveyed.

The great majority of respondents in most sectors allow at least some of their agents to carry out both email and telephony. However, email requires certain skills, including grammar and punctuation, which not every agent has, even with assistance from an email management system's response template.

On average, 59% of agents in a blended multimedia environment are allowed to do both email and voice work, a figure which had been growing year-on-year, but which has steadied recently.

Those in small and medium operations are much more likely to use the same agents to handle email and telephony, probably because there is not the option to have the specialized teams found in large contact centers, which are much more likely to have a dedicated group handling email.

Simply because a contact center uses the same agents for email and voice does not mean that all operations use the same level of multimedia blending. For some operations, multimedia blending is a strategic decision which has been invested in with the right levels of technology and training being provided. For others, it is a necessity, with agents encouraged to answer emails in slack call times. Small and medium operations - which in the past may not have had sufficient email volumes or the investment available to formalize the blending by forming a universal queue to deal with all types of interaction - are now as likely to use a universal queue as the ad hoc method. Many larger contact centers prefer to use dedicated email groups.

WEB CHAT

Web chat (or instant messaging / IM) and co-browsing are similar in that they offer a live assistance option to the process of web browsing. Like email, they have been around for a long time, but have yet to achieve the usage that had been predicted, although this is certainly changing quickly.

Web chat offers an organization a chance to cut costs through running more than one chat session at a time with customers, using the time that a customer spends reading and replying to an agent's response to deal with other customers concurrently. Solution providers offer the option for an agent to deal with 4 or more sessions at the same time, but whether this is a sustainable model for the agent or provides an acceptable quality of service for the customer is quite another question. Agents can respond to frequently-asked questions by using 'hot-keys', which provide templated answers and can escalate queries if required.

Web chat has often been used as a 'point of crisis' channel, for example, to convert an online shopping basket into a sale by providing timely service, or if a browser is paused on a webpage too long, perhaps as they can't find what they are looking for. In such cases, there are two main benefits to the business to provide text chat: revenue maximization, and the avoidance of unnecessary calls.

Web chat can also act as a safety net for the customer if an online self-service attempt fails. An analogy can be made with voice self-service, where a failed session is often ended with the customer 'zeroing-out' - pressing zero to get in touch with an agent. Failed web self-service sessions may end with a phone call being made, but web chat can avoid a number of these, which is a cost saving for the business, and better for the customer as well.

The customer of the future - especially the younger generation - are often accomplished Instant Messengers, and will be keen to use the web chat option with the businesses they work with. However, web chat is in reality most useful for general information and sales purposes, as users usually aren't taken through security processes, so the agent can't help with specific account queries; the same usually applying to email. Putting some form of trusted biometric device on a PC or mobile device (such as a thumbprint reader) which then assures the businesses' system of the user's identity could possibly overcome this issue. Alternatively, and more simply, there doesn't seem to be any reason why the web chat agent can't ask the standard security questions to the customer via chat, but this is rarely done today, perhaps as some customers are wary of giving out personal details online.

A **Virtual Agent** appears to a browsing website visitor to be a human agent, offering web chat. However, it is an automated piece of software which looks at keywords and attempts to answer the customer's request based on these, including sending relevant links, directing them to the correct part of the website or accessing the correct part of the knowledge base. If the virtual agent cannot answer the request successfully, it will seamlessly route the interaction to a live web chat agent who will take over. It is possible that the browser will not even realize that any switch has been made between automated and live agent, particularly if the web chat application is sophisticated enough to pass the context and the history to the agent, although some businesses believe it is best practice to identify clearly between virtual and real agents.

Proactive and reactive chat: originally, web chat was reactive, relying upon the browser to initiate a conversation. Businesses then decided to go on the offensive, popping up chat boxes and encouraging customers to start conversations. Some more sophisticated customers are unfazed by this, but overly-insistent use of web chat can put some customers off entirely.

There are various levels of intelligence that can be used to support proactive chat more effectively. If the customer has logged in, it is possible to identify them, and take into account past channel preferences, purchase history and other relevant information in order to personalize the experience, (for example including details of relevant offers to that customer).

As an aside, some US contact centers report that those experienced in playing online games - are particularly suited to the fast-paced, text-oriented nature of web chat, and some businesses are actively recruiting such people to work as web chat agents. It is also worth commenting that although offshore customer contact has received a mixed press, many of the negative issues surrounding offshore are not applicable to the multimedia channel, such as the possible mutual incomprehensibility of accents.

Current and future role: web chat

Web chat is experiencing strong growth in the US, with the proportion of interactions rising to 4.5% on average in 2016. There is no reason why this growth will not continue: it works well for customers as providing an immediate response, and with multiple concurrent chat sessions per agent, it can be a lower cost channel than voice for the business to support. Solution providers report that web chat is currently being trialed by numerous businesses, often at a limited, or departmental level so they can assess the suitability of the channel for a company-wide rollout, and understand what needs to be done to ensure full implementation is a success.

Web chat is estimated to cost less than a phone call or email, being perhaps the cheapest form of live customer channel.

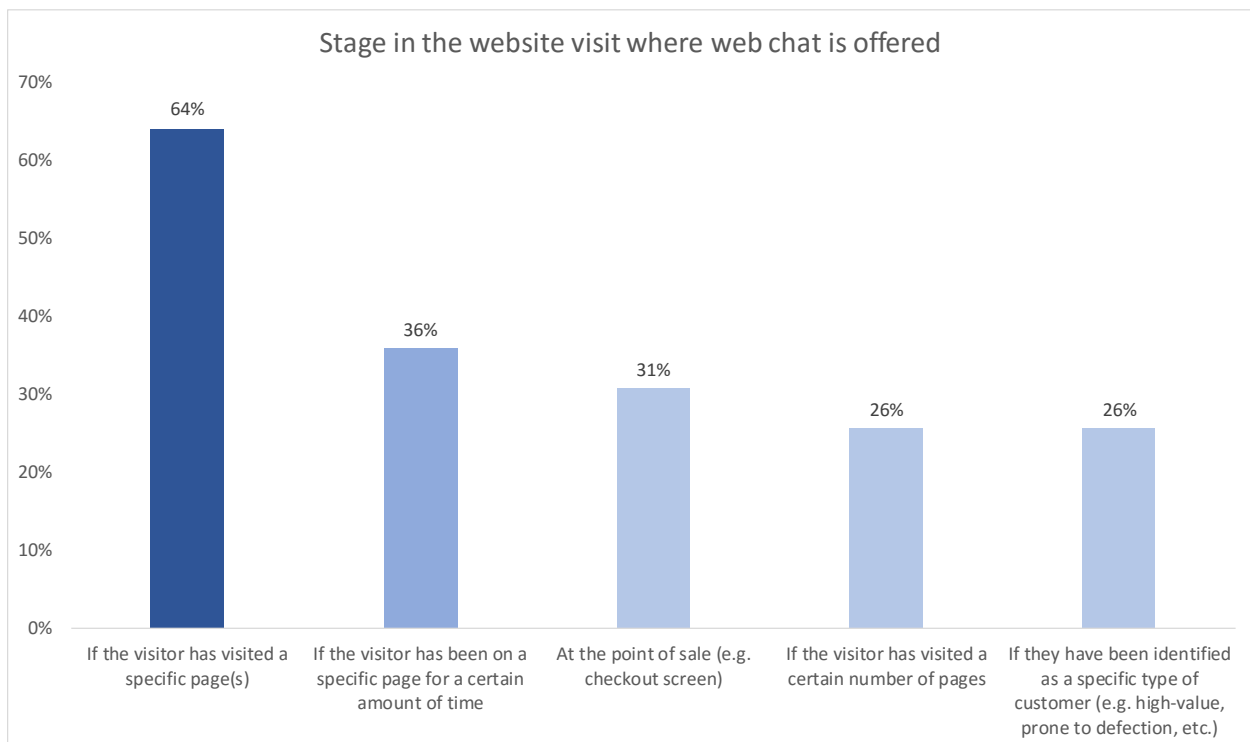
Figure 114: Estimated cost per web chat

Web chat cost	
Mean	\$3.04
1 st quartile	\$4.19
Median	\$2.55
3 rd quartile	\$1.00

35% of respondents using web chat offer the option immediately to all website visitors, with 65% only doing so at some specifically-triggered point in the interaction.

Of these 65%, the most frequently used trigger for web chat was when a visitor went to a specific page, with other popular triggers being when a customer was on a page for a certain amount of time, and at the point of sale.

Figure 115: Stage in the website visit where web chat is offered

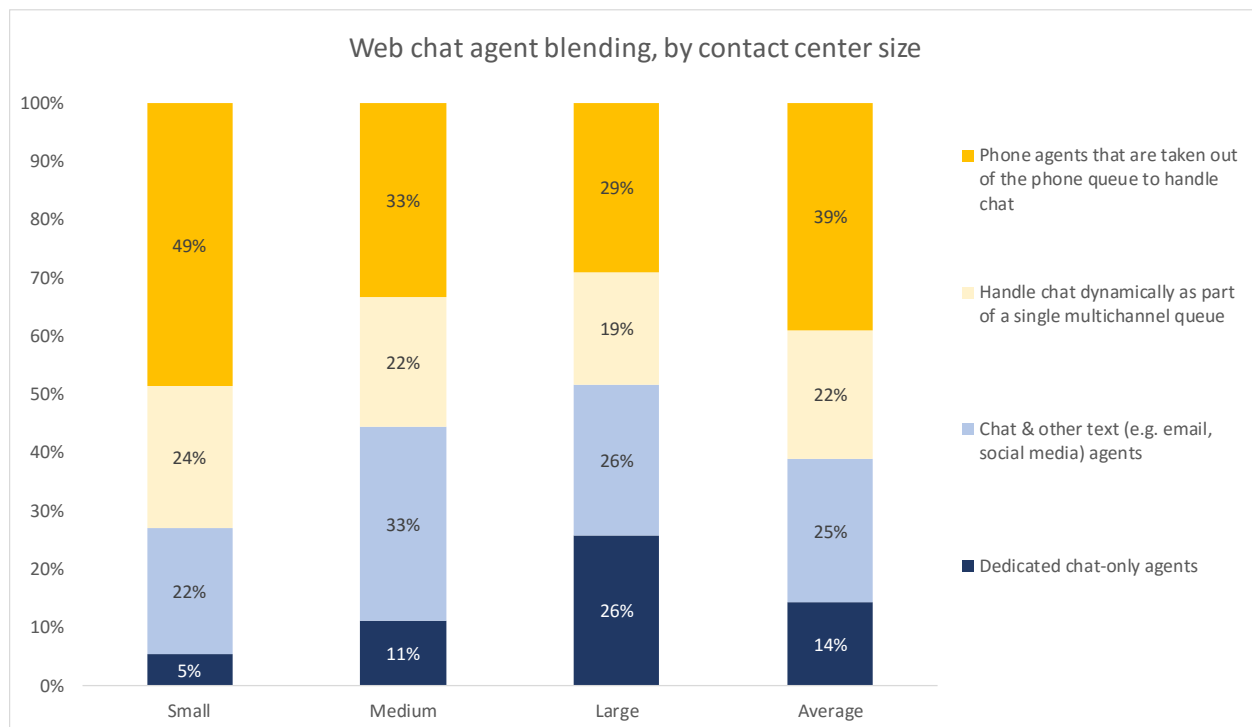


Respondents from smaller contact centers tend to take phone agents out of the queue to handle web chats on an ad-hoc basis, probably because chat volumes are low and unpredictable.

Respondents from medium and especially large operations are more likely to use dedicated chat agents, with multi-channel text agents (e.g. handling social media or email too) being quite popular in all sizes of contact center.

Small and medium operations seemed slightly more likely than large contact centers to have a single dynamic queue which handled voice as well as text customer interactions.

Figure 116: Web chat agent blending, by contact center size



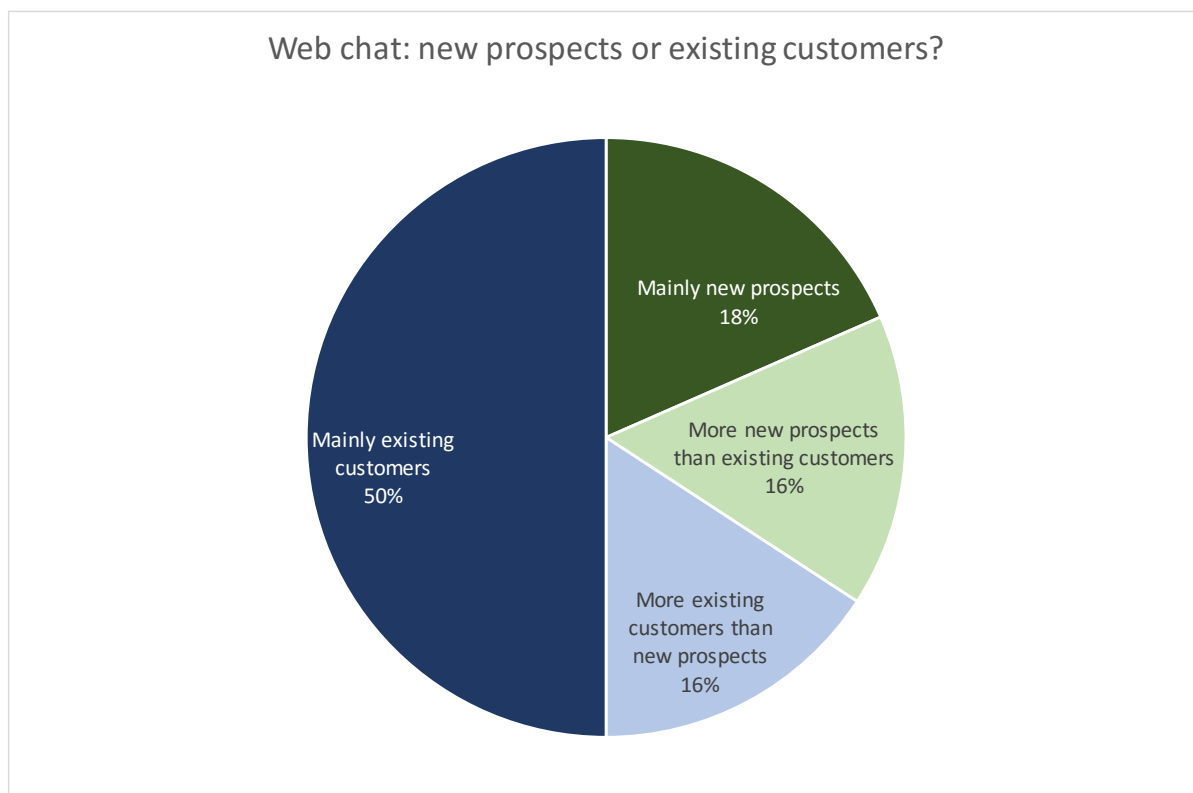
One of web chat's traditional strengths is seen as the ability to have agents handle multiple chats concurrently (of course, it only seems this way to a customer, as the web chat agent uses the time that the customer is typing their response to handle other chats). Some vendors have stated in the past that agents could run five or six concurrent chat sessions: the reality seems to be that two sessions is a reasonable consistent average, with a peak of three or four if required, but which is not possible on a long-term basis.

Figure 117: Concurrent web chats per agent

	Average number of concurrent web chats	Maximum number of concurrent web chats
Mean	1.9	3.4
1 st quartile	2.5	4.6
Median	2.0	2.9
3 rd quartile	1.0	2.3

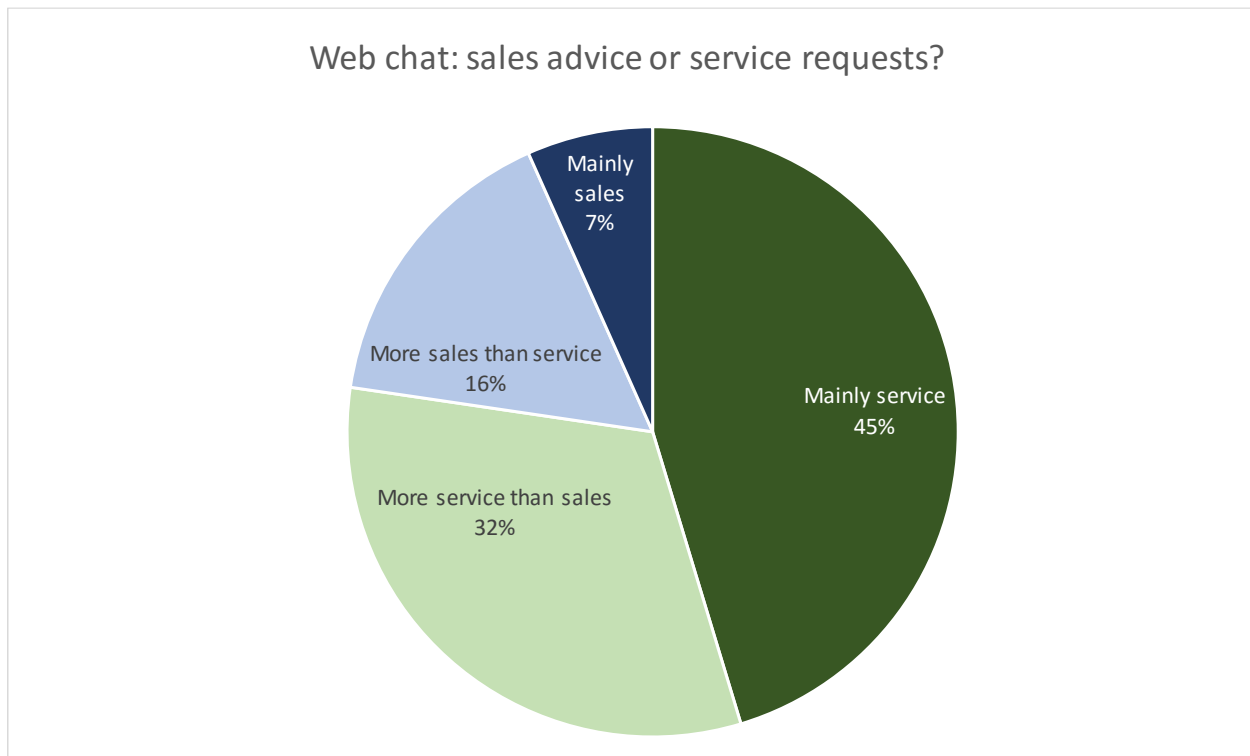
50% of respondents indicate that web chats are mainly carried out with existing customers, and 18% said they deal with mainly new prospects.

Figure 118: Web chat: new prospects or existing customers?



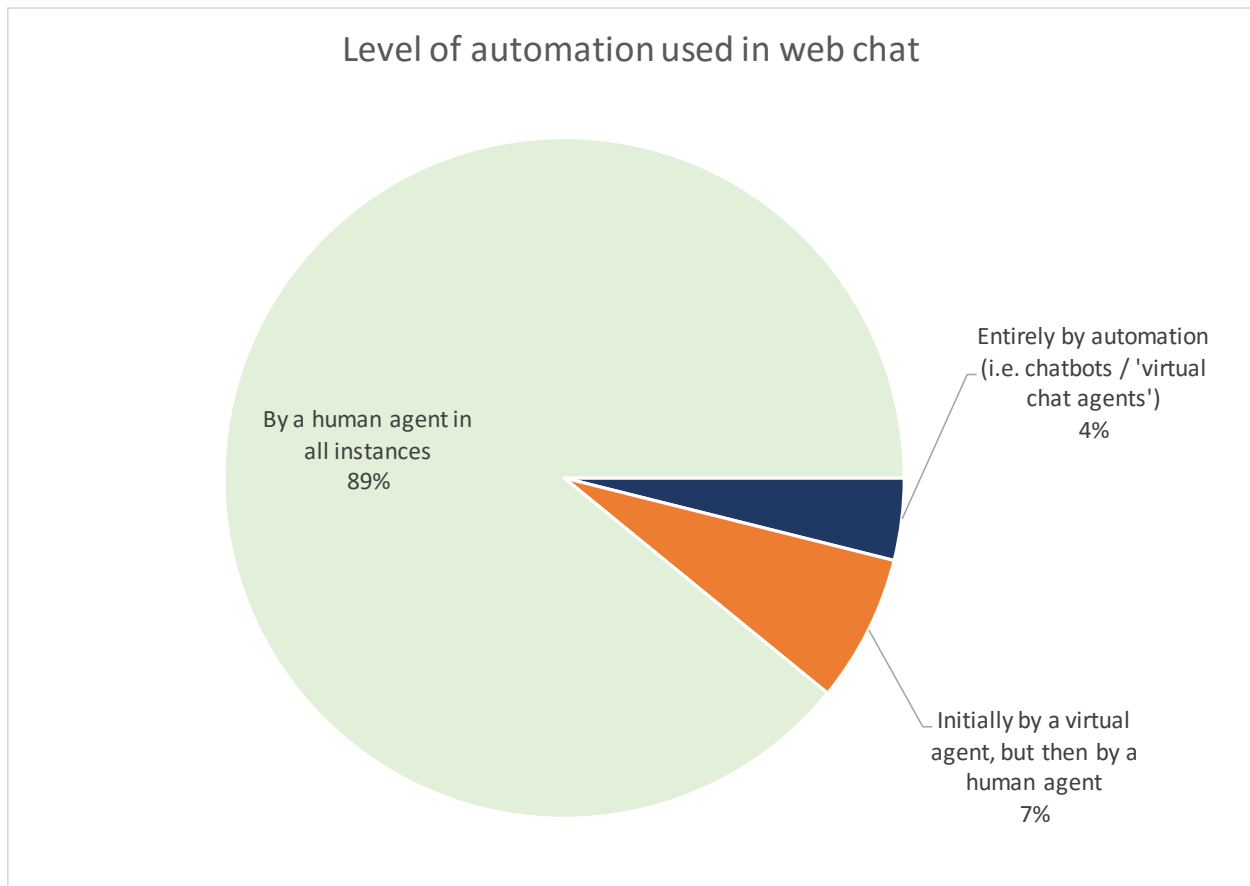
This finding is supported by the nature of most text chat: 45% of respondents state that their web chats are mainly about service of existing products and services, with only 23% of respondents stating that they dealt with more sales queries than service requests.

Figure 119: Web chat: sales advice or service requests?



While web chat is seen in the report's findings to offer the lowest cost of the live service options (voice, email, web chat), there is still considerable room for increase efficiencies and lower costs. Only 11% of web chat involves any automation, and this is an area ripe for improvement.

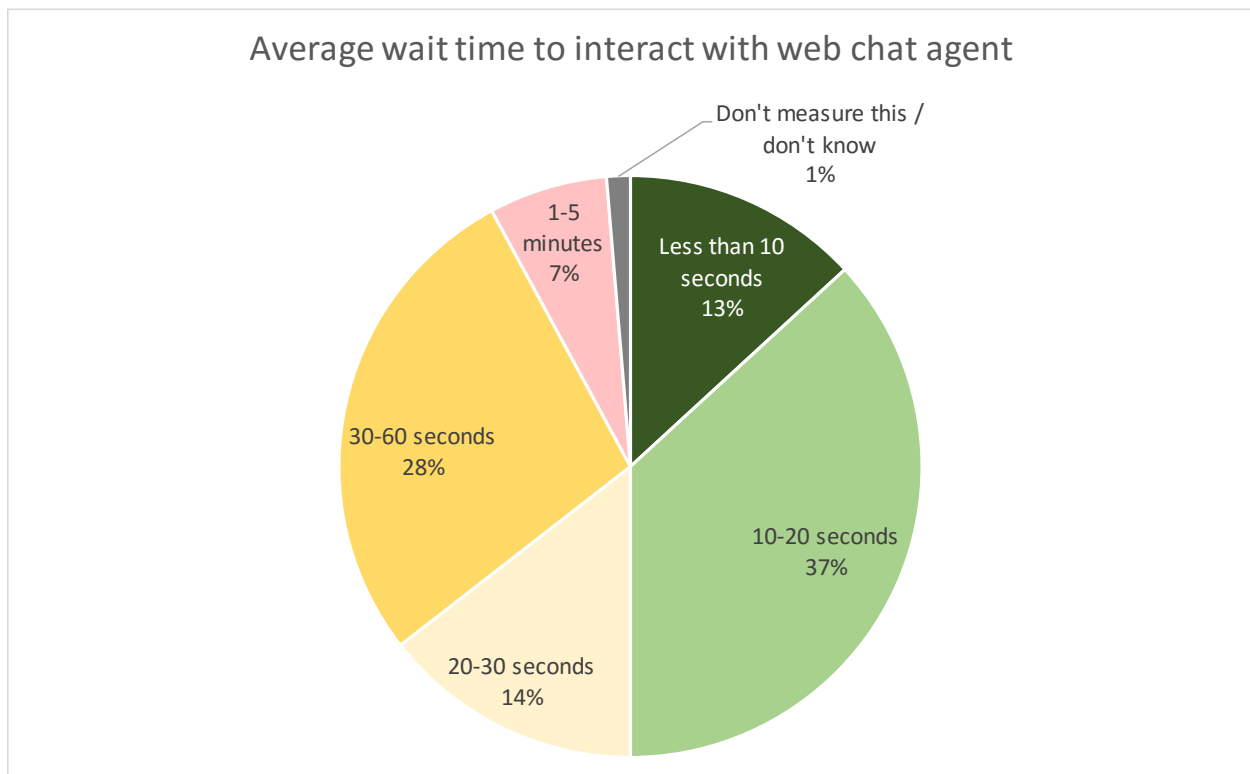
Figure 120: Level of automation used in web chat



13% of respondents have a wait time for web chat of lower than 10 seconds, with a further 37% stating that the average wait time is 10-20 seconds.

Little research has yet been carried out into the expectations of customers around web chat service levels, but it is reasonable to expect a channel being presented as an alternative to phone to have similar service level expectations and reality. If only 7% of web chats take longer than 1 minute to initiate, then we can expect customers to flock to this channel enthusiastically, as these service levels are generally superior to that of voice, and this year's reported jump in web chat volumes bears this out.

Figure 121: Average wait time to interact with web chat agent



Tips for using chat and cobrowsing successfully

Understand the role that you want web chat to have within the customer contact mix. Do you see it as a replacement for email? Or is it more of a call avoidance strategy? Or is it perhaps a way to close the sale? Without understanding this, it'll be difficult to measure its success. Some businesses will offer web chat and cobrowsing only to their premium customers, or to those who are in the final stages of purchasing but who have stalled.

Choose the most suitable metrics for what you're trying to achieve. If web chat is about revenue, then perhaps focus on sales conversion rates, rather than average handle time, in order to encourage agents to make the most of cross-selling and up-selling opportunities.

Some customers may use web chat as an initial method to ask tentatively about products and services. The solution should provide the option to continue the conversation via a phone.

Work with the solution provider to determine what a reasonable and realistic number of concurrent web chat sessions might be. While it is theoretically possible for an agent to cope with six conversations at once, the reality is that this is unsustainable over long periods or with complex issues. It is far more realistic to expect a well-trained agent to deal with perhaps three conversations concurrently, and this should be fed into your workforce planning system. However, it may be that agents who deal with both telephony and web chat find it too difficult to deal with multiple chat sessions as well, and will deal with only one chat at a time.

As with any real-time interaction channel, monitoring traffic is vital to success. Plans need to be made to handle web chat spikes and providing estimated wait times to those in a web chat queue will allow them to choose a self-service, phone or email option instead.

Plan how web chat will integrate with existing customer service channels. It is possible to run web chat as an entirely separate, siloed channel, but customers expect to be able to move between channels seamlessly. Being able to treat web chat interactions in the same way as other communication channels means that resources can be spread across channels as and when needed.

Sophisticated web chat solutions allow for 3-way chat, so that an agent can bring subject experts into the conversation as required.

Consider using a trial, in a discrete department, product or service area. This will allow you to understand what works and what doesn't, in a relatively low-risk environment. Changing a small number of variables will also provide a more accurate understanding of how web chat affects customer service levels, customer satisfaction and revenue. It will also provide information about the types of customer and queries that web chat is likely to be used by and for.

Make customers aware that you're offering web chat, by promoting it through existing, higher-cost channels such as within the telephone queue's recorded announcement.

Co-browsing (or web collaboration), which sometimes includes form-filling and page-pushing as a subset of functionality, is a very intensive, one-to-one channel, formerly used for high-value customers or in those cases where it is quicker and more effective for an agent to take over the reins than to talk the customer through the process. While it has been useful for certain businesses, processes and customers, it is difficult to make a case for it on a cost-saving basis alone, although it will encourage the completion rate of sales, and as such, improve profitability.

Co-browsing may be used to help customers fill out forms, or to complete online transactions, and may be done in conjunction with a concurrent telephone call or web chat. Unlike page-pushing - which is a one-way movement of information from agent to customer - and screen sharing - where the agent takes control of the customer's desktop - co-browsing is a true two-way collaboration tool. Either the agent or the customer can control the cursor or enter data into fields, and business rules can be set up so that the agent does not see or enter sensitive information.

While it is not a cheap option, cobrowsing, particularly in association with a telephone call or web chat, can be an effective way of closing a high-value sale. It is, however, currently used in few US organizations.

SELF-SERVICE

TELEPHONY SELF-SERVICE

Despite the rapid growth in the use of web-based services, the importance of the voice channel has not diminished, with the proportion of inbound activity that is telephony self-service being reported as 9.4% this year:

- Customers still find voice the most convenient, flexible and quickest communication channel in many instances, especially in older demographics and for complex enquiries
- Customers' expectations continue to rise. Not only do they seek out competitively-priced goods and services, but they require quick, efficient service as well
- The general level of awareness of identity theft as a real issue has also grown, and customers expect to see that their private and personal information is protected by those organizations with which it is shared. The voice channel still provides customers with the greatest level of confidence.

The challenge for businesses is to improve the customer experience, protect their customers' private and personal information and control their own costs. As such, the use of automated voice-based solutions has become widespread and offers a rapid service option to customers while keeping contact center costs down.

Voice self-service is usually delivered either by touchtone (known as DTMF – dual tone, multi-frequency) IVR, which allows customers with a touchtone phone to access and provide information in a numerical format. A minority of businesses, usually with large contact centers, use automated speech recognition (ASR), which allows customers to speak their requirements to the system, allowing greater flexibility and functionality.

IVR (interactive voice response) - whether through DTMF or speech recognition - has four main functions:

1. to route calls to the right person or department (e.g. "Press 1 for sales, or 2 for service...") in auto-attendant mode
2. to identify who's calling via either caller-line identity (where the caller's number is recognized, and their records brought up immediately), or through inputted information, such as account number. The caller's information is then "popped" onto the screen of an agent who then understands who the customer is and what they are likely to want
3. to segment and differentiate between customers, prioritizing against business rules in order to deliver a premium standard of service to them (e.g. minimizing time on-hold, spending longer on the phone with them, offering high-value services, etc.)
4. to deliver a total customer service interaction without having to use a human agent, saving the business money - historically, it has been calculated that 6 or 7 self-service IVR calls cost about the same as a single person-to-person call.

This section of the chapter considers the role of IVR and speech recognition as part of a full telephony self-service solution, i.e. one that takes the place of an agent to handle the whole interaction.

To learn more about IVR as a call routing solution (i.e. options 1, 2 and 3), please see the chapter on ‘Queue Management & Call-Back’ earlier in the report.

Figure 122: Advantages and disadvantages of telephony self-service

Advantages	Disadvantages
Fantastic cost-cutter: 6 or 7 IVR calls cost less than a single person-to-person call	Can be inflexible to change IVR options, due to proprietary nature of many existing IVR solutions
Captured customer data from an IVR enables key CTI (computer-telephony integration) solutions, such as screen popping and skills-based routing to take place	IVR menus difficult to visualize for customers, leading to stress and dissatisfaction. Users may feel “there is no end in sight” and become frustrated.
Frees agents from boring and repetitive work, reducing staff attrition and improving morale	Long-winded menus annoy customers, where shorter ones can reduce the options available, and thus, the functionality
Allows agents to spend more time doing high value-add work, like cross- and up-selling, and complex customer care and loyalty work	When overdone, self-service can be seen as a low-cost option aimed at helping the business, not the customer. Overuse of IVR makes customers feel as though the company does not value them
Reduces queue times and call abandonment rates, improving customer satisfaction for those needing live agent help	Expensive, proprietary hardware has kept businesses locked into existing suppliers in the past, although open standards and cloud-based delivery has alleviated this issue somewhat

Customers need to be persuaded to use IVR self-service, and success can be measured in two ways: through the “play” rate (the proportion of customers that try to use IVR), and the “completion” rate (how many can successfully interact with the company without having to involve a human agent by “zeroing-out”, i.e. pressing the ‘zero’ key to try to connect to an agent). Customers need to be motivated to use IVR (i.e. there’s something in it for them), and the business needs to design, maintain and promote the self-service application to get them to keep using it.

Simply making IVR self-service available without too much thought or effort results in perhaps fewer than 20% of possible calls being completed without human interaction. Designing the IVR self-service experience with customers’ needs in mind, marketing it as an aid for customers, rewarding the customer for using it and tuning the application to make it even better can mean up to 90% of relevant calls are dealt with automatically: a massive cost saving, an improvement in the customer service experience and a boost for the company’s reputation with its customers.

Self-service is found across most industries - there is often at least one function that self-service is suitable for, regardless of what a company actually does - but some sectors use it more than others. Many businesses are finding that web self-service is increasingly popular with their customers, especially with the uptake of smartphones which allow web browsing on the move (see later in this chapter, and ‘The Mobile Customer’ chapter of this report for more information on web self-service).

Figure 123: Some functions for self-service, by vertical market

Self-service activity	Typical sector offering this form of self-service
Problem reporting and resolution	IT helpdesk
Account access & card payments	Banking
Product information & registration	Retail
Online registration	Any
Order entry	Retail, travel
Balance enquiry	Banking, credit cards
Dealer or store location enquiries	Car sales, retail
Ticket booking	Cinemas, other entertainment
Real-time punctuality checks	Airlines, trains
Order status and delivery checks	Telecoms, Retail (esp. online), IT helpdesk
Address changes	Subscription services, utilities
Form filling	Any
Brochure request	Travel, retail
Password reset	Finance, IT

SPEECH TECHNOLOGY AND CLOUD-BASED SOLUTIONS

DTMF IVR has been a notable success for many businesses, and many businesses have added to this, leveraging both the added flexibility and power of speech recognition as well as being able to share the functionality that businesses have recently developed with their web self-service applications. Of course, this is likely to come at an additional cost, and trying to find capital budget to invest in these solutions may be difficult. In such cases, businesses should consider alternative application delivery methods, such as a cloud-based solution.

One of the most consistently strong inhibitors against the uptake of speech recognition is the initial cost involved, as well as the expected ongoing support costs, and cloud has a particular appeal to organizations who don't wish to invest or tie-up large sums of up-front capital investment on their own systems or software, or pay for the in-house IT resource to run them. One advantage of cloud is that the need for significant upfront technology investment is lessened, providing on-tap access to extensive telephony resource, albeit of a third-party nature. Additionally, the use of cloud-based solutions means that businesses don't need continual ongoing investment to upgrade their own systems.

Like other self-service applications, automated speech has of course been more attractive for organizations with high volumes, where the cost of handling the call can even exceed the business value it represents. In this scenario, the need to reduce cost is imperative, but for speech-based self-service to work well, the technology infrastructure on which it depends must be robust enough, and the number of phone lines linked to it large enough to accommodate the maximum number of callers ever likely to contact the service, or run the risk of turning callers away, a cost which can be very high. Cloud-based speech services, where the telephony and technology infrastructure is centrally-owned and managed by a third party overcomes this capital investment hurdle, and the pay-as-you-go model adopted by most cloud suppliers means that ongoing operating costs are directly pegged to transaction volume, providing valuable operational flexibility.

More information can be found in the 'Cloud-based Solutions' chapter of this report.

Looking at the prevalence of voice self-service, 49% of respondents – slightly higher than previous years' figures - offer a full telephony self-service channel, with the finance, retail & distribution and TMT sectors leading the way with more than 70% of these respondents offering this service. Outsourcers and manufacturers were least likely to do so.

Figure 124: Overall proportion of calls handled entire through self-service (only in respondents which offer telephony self-service)

Proportion of calls handled entirely through self-service <u>if offered</u>	
1 st quartile	55%
Median	24%
3 rd quartile	9%
Mean	31%

On average, 19% of voice self-service is handled through automated speech recognition, rather than DTMF IVR, similar to last year's figure of 17%.

89% of self-service interactions in small contact centers are through DTMF IVR, with automated speech recognition much more widely-used in larger operations: 24% of self-service interactions in large operations were reported to be through ASR. This is a clear example of how the more expensive and complex ASR applications are more likely to be used by those with the resources to implement and support them, and are also the operations that can really benefit most from the power and flexibility that automated speech recognition can bring.

Figure 125: Proportion of self-service calls handled through DTMF IVR or automated speech recognition, by contact center size

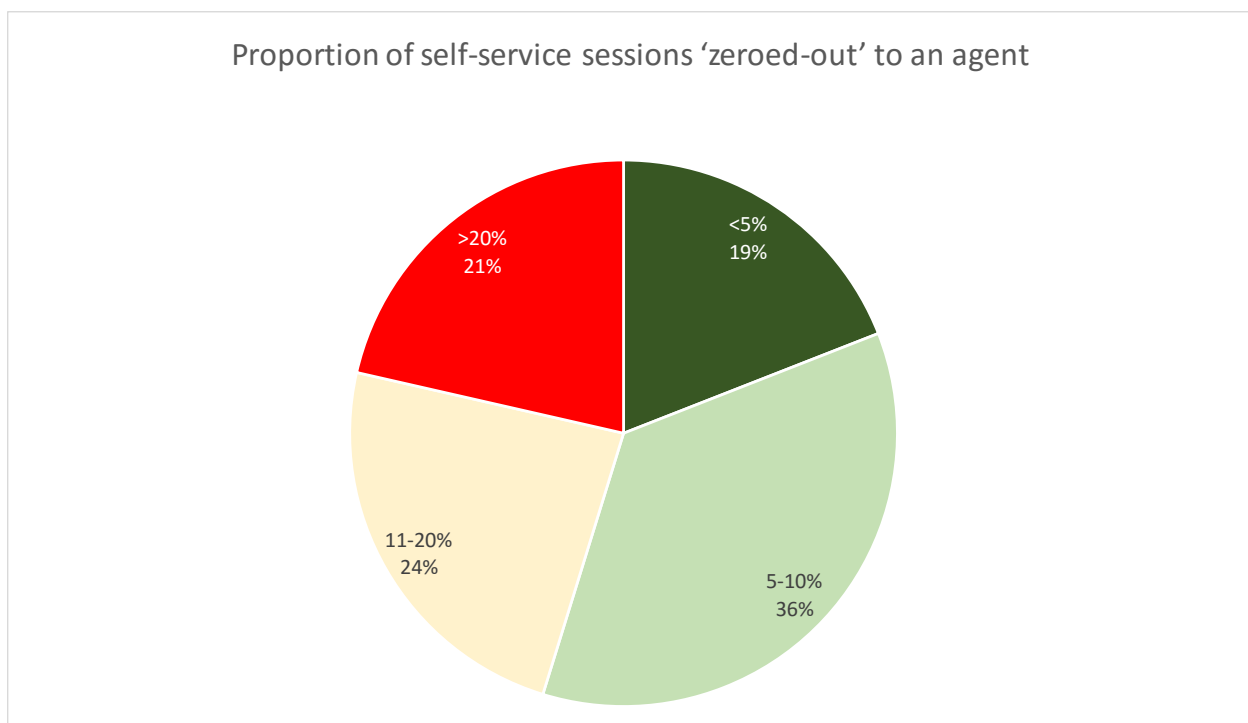
Contact center size	Proportion of self-service calls handled by DTMF IVR	Proportion of self-service calls handled by automated speech recognition
Small	89%	11%
Medium	82%	18%
Large	76%	24%
Average	81%	19%

Many calls are not suitable for self-service, as they may require multiple requests within the same call, be of a complex nature or be from a caller who feels that they need to speak with a human agent. Additionally, some small businesses may have such a low volume of calls that it is not cost-effective to implement self-service.

Even amongst those respondents for whom telephony self-service is a vital part of the customer contact strategy, it's no use trying to shift every customer service interaction onto IVR self-service, as if customers don't want to use IVR, they will "zero-out" (press 0 for a live agent, or try to find a similar shortcut). And if businesses don't offer a live agent option to an irate and frustrated caller, they won't need to worry about providing customer service to them in the future, as they'll go elsewhere.

It is worth reiterating that if callers agree to try a company's self-service system rather than insisting upon talking to an agent, there is an implied contract that if the self-service session is unsuitable, the caller should be allowed to speak with an agent. Few things can frustrate callers more than being hectorred into using an unhelpful and irrelevant self-service system.

Figure 126: Proportion of self-service sessions 'zeroed-out' to an agent



Overall, a mean average of 17% of calls that go into the self-service option are "zeroed-out": instances where the customer decides that they in fact wish to speak with an operator, which is up once again the previous years' figures (2015's statistic was 21%, 2014's 18%, and 2013's 13%).

NB, 1st quartile performance for 'zeroing-out' is 5%, the median is 14% and the 3rd quartile is 23%, which indicates that this is not simply the case of respondents coming from a relatively small number of contact centers where self-service failure rates are high.

If this increase in 'zeroing out' is a structural trend within the industry, this should be of concern, suggesting that self-service systems are increasingly not offering what customers need. The following table looks in more depth at the reasons for abandoning self-service sessions.

There is a broadly positive correlation between the size of the contact center and the proportion of self-service sessions that are abandoned in favor of speaking to an agent: the larger the contact center, the more often customers 'zero out'. One possible reason for this might be that larger operations are trying to do too much with their self-service. There is some evidence to suggest that this is the case, as it is very noticeable that respondents from larger organizations tend to have far more options in the auto-attendant functionality of their IVR solution, and this tendency to offer a great deal of functionality and options may well also apply to IVR's self-service functionality as well. Overly complex or long-winded IVR functionality will tend to encourage session abandonment, and this may well be what we see here.

Due to the potential additional flexibility and functionality offered by automated speech recognition over DTMF IVR, we would expect the zeroing-out rate (which can be viewed as connected to customers' rejection of the self-service option) to be lower for speech recognition than DTMF IVR. However, once again this year, the opposite is the case:

- In contact centers where the majority of self-service is offered through speech recognition, the mean zero-out rate is 24%.
- In contact centers where the majority of self-service is offered through DTMF IVR, the mean zero-out rate is 15%.

Without interviewing these respondents in more depth, there is no certainty as to why this is happening. It is possible that customers are simply more used to DTMF IVR; that speech recognition often offers an option to speak to an agent early in the script (which is taken as the easy way out); or that customers do not know what to say to an automated system to make it work, so look to speak with a live agent. That customers may actually currently prefer to choose from a finite group of options is an interesting conundrum, and one which deserves more attention from the industry.

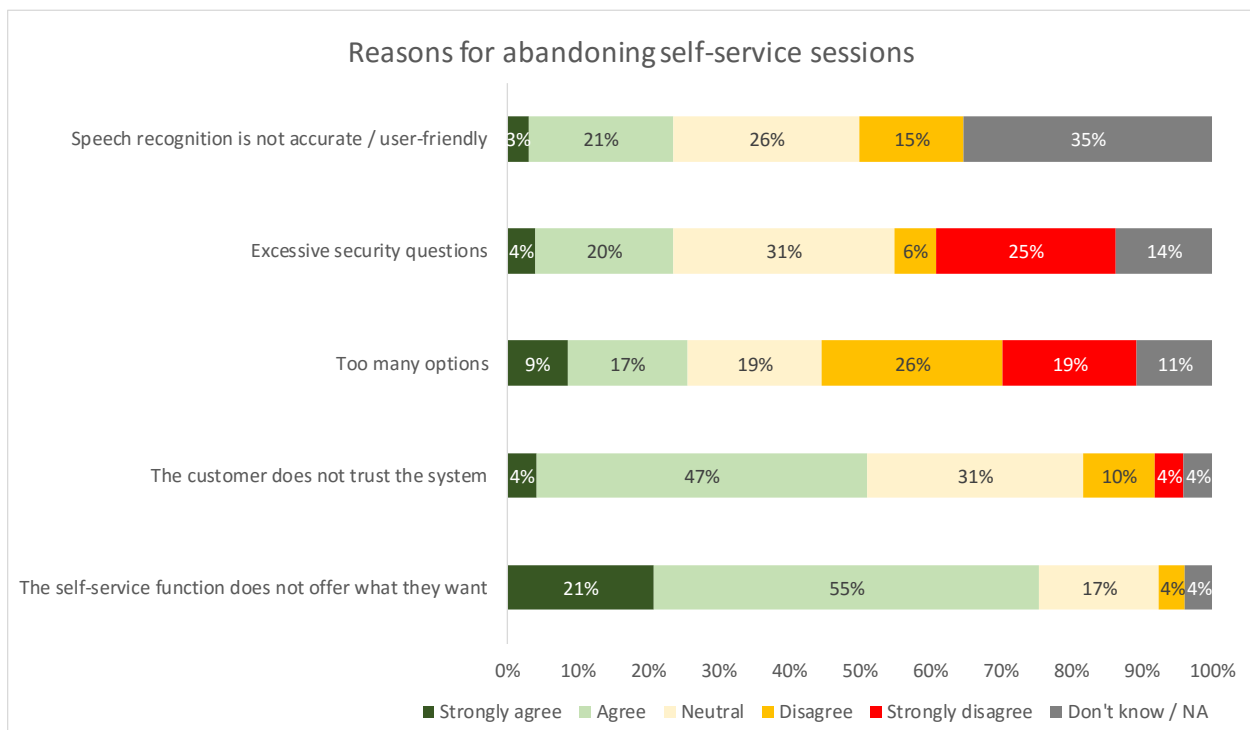
Cost differentials in self-service and live voice support

- The cost of a live service telephone call varies considerably, but has a mean average of \$5.52
- Past research found that the average cost of a telephony self-service session is \$0.50-\$0.90.

By considerable margin, respondents agreed that the main reason for abandoning self-service sessions as at the self-service function simply does not offer what the customers want. While this at first glance may appear negative, it is the case that even in the most commoditized and transaction driven environments, a substantial proportion of customers will want to speak to a person: either because the system does not allow them to do what they want, there is a complicating factor involved, or simply that they wish reassurance or have multiple questions. In such circumstances, it is the customer's choice to abandon the session, and this does not have to be a particularly negative experience as long as a clear exit path that leads to a live agent is marked early in the process. Situations where businesses hide their agents from customers, making them go around in IVR loops are the ones that give all telephony self-service a bad name.

More than one in four respondents agree that having too many options presented to customers as a major reason for them seeking human assistance, and it is noticeable that over half of respondents believe that the customer simply does not trust the system, preferring to have human reassurance that the request they have made has been carried out, or the information they are looking for is actually correct. (NB – the speech recognition question was asked only to those respondents using it).

Figure 127: Reasons for abandoning self-service sessions



DEVELOPMENTS IN DTMF IVR

The rise in VoIP and SIP (session initiation protocol) has allowed IVR to run on standard servers, rather than more expensive and proprietary telephony cards or specialist hardware, with media gateways and IP PBXs being supported within an open standard, commoditized telephony environment.

The pure software IVR platforms used today run on standard servers, reducing the restrictions that proprietary hardware placed upon functionality, scalability and flexibility, as well as the cost of purchasing and maintaining dedicated hardware, and a growing proportion of companies prefer to adopt the cloud-based method of providing IVR options to the customers.

Speech-enabling IVR increases the features available to the caller. Standards-based languages such as CCXML and VoiceXML support speech recognition and improved access to relevant corporate data, the integration of which into the IVR experience supports text-to-speech and the use of caller profiling to enable personalized IVR sessions based on who the caller is, their history, their contact preferences and any other relevant information that would further assist the self-service session.

With PCI compliance so much to the fore for many businesses, we would expect to see an increased use of IVR to take card payments, whether within a call or at the end of it (more information on this can be found within the 'PCI DSS Compliance' chapter of this report). With the focus of many solution providers on achieving the relevant ISO security standards, it can be seen that the vendor community is very aware of what the market requires. DTMF has the advantage of extreme simplicity, which means that it may well have an important role to play on a sector-specific basis, even with the advent of newer and more sophisticated solutions. In situations where callers need the same piece of information on a recurring basis - such as checking the balance of prepaid credit cards - customers can access the information within a few seconds by typing in the DTMF digit sequence that they have learnt off-by-heart, and it may well be that this method of accessing information is the most convenient and quickest for customers. In addition, interactions that require a simple list of digits, such as e-parking, may be more suited to the unambiguous nature of DTMF (which, unlike speech recognition, is unaffected by background noise). Of course, by far the most common application for delivering long sequences of numbers is through making a payment via credit card, and placing a customer call into an automated DTMF session in order to do this has numerous advantages for businesses and customers in terms of convenience, familiarity and security.

The take-up of cloud-based IVR solutions, particularly by small-medium sized companies, is driving growth within this sector. The ability to personalize IVR sessions, as well as the low initial start-up costs and limited in-house maintenance required, means that businesses that traditionally were unable or unwilling to see the benefits of IVR for their own company are now revisiting this.

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.

FROM DTMF IVR TO AUTOMATED SPEECH RECOGNITION

Despite the wider and more powerful functionality that speech recognition gives to an IVR system, significant inhibitors are present. It is generally acknowledged that speech recognition can be considerably more expensive to implement than DTMF IVR, and is also likely to require significant, highly-paid in-house resource to fine-tune and operate it going forward. Some solution providers note that the majority of businesses' interest in moving from DTMF to speech recognition comes when the existing telephony self-service legacy system is approaching end-of-life.

Speech-based IVR is particularly useful in cases where very long lists of items such as place names or surnames may be chosen, for which the more structured DTMF IVR is unsuited. The success or otherwise of speech-based IVRs is very affected by how callers are encouraged to use the service. It has been the case that some speech implementations have actually made life more difficult for the customer, who may not have the confidence that the system will understand their natural language request and provide very short, one-word answers; if nothing is given in the way of prompts or examples, callers may give too little or too much information as they are unsure of the sophistication or capabilities of the system, and this may be a reason for the high self-service abandonment rates seen earlier. Using prompts such as "describe in a few words why you are calling us, for example 'to start a new mortgage application'" can be extremely useful in setting ground rules for the successful use of the system.

Some solution providers offer a semi-automated option for their speech recognition-driven IVR, whereby the agent has a chance to hear one or two pertinent words from within the speech recognition session before the live call is taken, giving the agent an initial insight into the context, mindset and intent of the customer before the conversation actually begins.

In previous years, the main issue that held back speech-enabled self-service was that their business wasn't really suited to automation. However, previous research has shown that more than half of the contact centers that currently offer no full self-service options could see some benefit in automating at least some part of their processes.

As such, there are likely to be issues around expenditure, operational costs and customer reaction to address for these potential users of self-service. Respondents are more concerned than previously they do not have the in-house IT resource to run automated speech self-service, and many believe that the ongoing costs and effort would not be worth it. However, the biggest inhibitor was the initial investment, which could be alleviated through a hosted model. As DTMF IVR, when badly-implemented, is a major bugbear for customers, replacing it with a quicker and more powerful alternative (ASR) could be seen as a benefit.

In all, there is still a great deal of work to be done by solution providers to deliver ASR solutions - either as a replacement for DTMF IVR, or as a new solution - through offering innovative payment and service delivery methods, and to create a greater market awareness of the success stories in this area. Against a background of potential inhibitors, there is some positivity coming from the consumer base. Because there are so many speech recognition applications now in use in daily life - for example Siri, PC-based voice recognition software, and voice-enabled hands-free dialing - consumers are now becoming more comfortable giving voice commands to an automated system. With every successful speech interaction, customers' confidence increases and speech-enabled self-service becomes a little more firmly embedded in the customer base's psyche.

VISUAL IVR

The audio-only nature of DTMF IVR places limitations upon how user-friendly the experience can be for a customer. There has always been a trade-off required between functionality and usability, which manifests itself in the number of menu options and levels that made available within the IVR system.

The rapid growth in smartphones has meant that it is now possible to offer a visual representation of IVR menus on a device which will then be used to call the business. Because it is far quicker to read text than to listen to text being spoken - some studies show that a caller can navigate a visual IVR menu between four and five times quicker than a DTMF IVR menu - the customer experience is improved without sacrificing any functionality or options. Furthermore, visual IVR can be used to send video presentations while waiting for an agent, for educational or marketing purposes, or to answer the self-service requirement (for example, pushing the relevant YouTube clip in order to show the caller how to do something).

Many businesses that use DTMF IVR have made long-term investments in this technology, and retiring the system entirely is not desirable. Giving existing IVR functionality a visual interface simply means that the IVR's path can be shown as a picture on a website or smartphone, with callers touching the selection that they require without having to listen to all of the options or to go up and down levels or branches. This has the dual benefit for the customer of being far quicker than listening to IVR menu options, and of being significantly more likely to get them the correct information or to be routed to the department most appropriate to their needs. Visual IVR menu systems integrate with existing DTMF structures and reuse the same VoiceXML scripts, meaning that any changes made to the existing DTMF IVR system will be automatically replicated regardless of channel or device.

Visual IVR offers companies the ability to develop value-added applications for their customers, rather than simply providing a visual representation of existing IVR menus. For example, in cases where very specific expertise is required, visual IVR can be used to help the caller self-diagnose where in the organization they need to be going, rather than having to speak to a front-line agent who will then have to ask them the same questions in order to route the call to the appropriate resource.

It is worth noting that despite the huge uptake in smartphones and mobile apps, it is very unlikely that customers will find it convenient to have an app for every company with which they deal. Like apps, a visual IVR option provides businesses with an opportunity to display corporate branding and deliver an improved customer interaction experience.

Figure 128: Visual IVR: benefits for businesses and customers

Business	Customer
Cost reduction through improved call avoidance and more accurate routing, improving first contact resolution and decreasing call transfer rates	Greater granularity of routing, and improved functionality means that callers are more likely to arrive at the place where they need to be. Consistent functionality shared across IVR channels and customer devices means that customer engagement and confidence in using the system will be improved
Leveraged existing IVR investments, without having to rip and replace	Significant decrease in customer effort to access self-service or call routing capabilities
Reusability of existing scripts lowers development costs	If the agent has contextual information, there is less likelihood of the caller having to repeat information
Contextual information gathered within the visual IVR session can be popped to agents, giving an improved understanding of the customer's journey, reducing agent handle time and customer frustration	As more customers are finding the correct information without having to call the contact center, this means lower wait times for the customer base in general

Building a business case for visual IVR may involve looking at the self-service 'zero-out' rate for your specific industry compared to your own statistics, considering your call transfer rate and listening to the voice of the customer via call recording or speech analytics as they comment upon their IVR experience.

Carrying out a specific IVR customer experience survey is also a good way of gaining accurate insight into what might turn out to be a significantly negative experience for some of your customer base.

WEB SELF-SERVICE

For businesses, by far the major advantage to having customers use web self-service is the fact that the cost per support session is estimated to be between 40 and 100 times cheaper than a live call to an agent.

Research has stated that 58% of calls to the contact center result from bad website service or a failure in another channel. Quite apart from the current importance of this application, research shows that as customers become more educated and experience many different qualities of online self-service, their expectations increase across the board which puts pressure on other organizations to keep up or even exceed the current benchmark performance.

Put basically, most customers will visit a website first; if they cannot find what they're looking for immediately they will try self-service; if the self-service experience does not give them what they want immediately and accurately, they will either call the business or go elsewhere. In cases where the customer is tied into an existing business, this will result (merely) in a higher cost of service and decreased customer satisfaction. In cases where the web visitor is only a potential customer, a failure in the self-service process on a website will mean the almost-certain loss of a sale. In all cases, providing effective web self-service options - with a clear path to escalation to a live agent, along with any contextual customer specific information - is in the best interests of the business.

In terms of pure self-service, the website can provide various options for the customer, ranging from the most basic search and static FAQ functionality, to personalized virtual agents and dynamic FAQs.

SEARCH

Since corporate websites first came into being, businesses have offered search tools for customers to look through indexed information, based on keywords found in these documents, in order to answer their questions without the need to call the business. While such functionality has the advantage of at least being familiar, indices grow, documents get old and out-of-date, and customers become educated that there are more sophisticated and effective self-service solutions available, with customers' opinions of standard search functionality suffering as a result.

With only a blank text entry box to guide them, the onus to search successfully is with the customer, who has to try to 'get into the mind of the business' and phrase the question or search terms in a way that fits the business and its internal jargon. However, this is not always possible, and customers have a limit to the maximum number of times that they will attempt to search, or how many pages they will read from the numerous documents that a wide keyword search can bring back, claiming that it has answered the query. The customer then has two possibilities: to engage the business through a high cost channel such as telephony or email, or worse, to find an alternative supplier that can help them without going through this high effort process.

Search functionality does have its place: for example, if a customer wanted to find out very specific information about a product that had an unambiguous name (for example, 'SDK36479 installation'), a search on this particular term would at least bring back documents that had a high level of relevance to this product and how to set it up. However, if the customer had a query that used keywords that were very popular and widely found elsewhere (for example, "What are your delivery times?"), typical search functionality might return every document that contains the word 'delivery', relying upon the customer's patience and goodwill to find the correct answer for themselves. In the case of very large companies, this could bring back potentially hundreds or thousands of documents, many of which could be out-of-date and have been superseded. The major problem with search functionality is that it pays close attention to the answers, but very little to understanding the question or the customer's thought processes.

It is one thing to be presented with a long list of documents while sitting in front of a large screen of a PC, where scrolling up and down the page is not an issue. For the same flawed search functionality to be placed onto a mobile website, expecting the user to zoom in and out, scrolling up and down, and then to potentially scan through numerous documents whose text is too small to read properly is probably a step too far even for the most enthusiastic and loyal of your customers.

FAQS

FAQs - frequently asked questions - are one of the most popular forms of Web self-service. At its simplest, an FAQ list can simply be a group of static documents and/or text, categorized under wider thematic headings, and kept up-to-date manually. Solution providers state that perhaps 80% of questions can be answered by 20% of documents, however for most businesses, customer requirements change on an ongoing basis so it is unlikely to be the same 20% of documents that are most useful as time progresses.

More complex applications can use techniques such as text mining and fuzzy search (approximate string matching) to return documents that are not just an exact or very close match to the search terms entered by the user. Sophisticated FAQ technology will leverage natural language processing to deliver more accuracy than standard search functionality.

It is possible to minimize the use of manual updates and supervision by making the FAQ list more dynamic and self-learning through using responses taken from emails to customers who have asked specific questions, which will then dynamically enter the FAQ list at an appropriately high level. Being able to restructure the knowledge base on a regular and ongoing basis through automation is key to maintaining the usefulness and relevance of the FAQs. Unlike the virtual agent (below), FAQs by their nature provide the user with a list of alternatives, asking them to judge and choose the correct most relevant answer for themselves. While this process takes longer for the customer than the provision of a single answer, it is currently more closely aligned with the typical user experience, and thus has the advantage of familiarity. Providers of FAQ technology report that the typical reduction seen by customers in inbound live contact (such as email or telephony) is in the region of 25%.

VIRTUAL AGENTS

Virtual agents, otherwise known as virtual assistants, are software applications that engage customers in conversations in order to provide them with an answer to their queries. They may be personalized to reflect the company's branding, and often act as the first point of contact between the website visitor and the business.

Most virtual agents encourage the visitor to engage with them using natural language, rather than keywords. The virtual agent will parse, analyze and search 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), customer must be encouraged and educated to use natural language queries in order for virtual agents to be able to deliver to their potential.

The virtual agent application is different from standard search functionality, ignoring bad punctuation or grammar, and using longer phrases rather than just searching on keywords. Sophisticated 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. Solution providers and users train the system to pattern-match the right words or association of words with the correct result: the application, unlike older forms of web search techniques, does not simply guess what the customer wants, or how they will express themselves. Through 'listening' to what the customers actually say - perhaps through a mixture of large quantities of audio and text – the initial set-up configuration can achieve a good accuracy rate, which really benefits over time as a positive feedback loop is established. Solutions that gather and differentiate customer requests and results from multiple channels, noting the difference between them, have an even better success rate.

Virtual agent functionality 'understands' the context of what the customer is asking, with the result being more akin to that of an empathetic human who also has had access to what the customer has been trying to do. For example, if asked "When can I expect my delivery?", the context and the required answer will be different depending on whether the customer has placed an order and is enquiring about its status, or has only a hypothetical interest in turnaround times in case they decide to place an order.

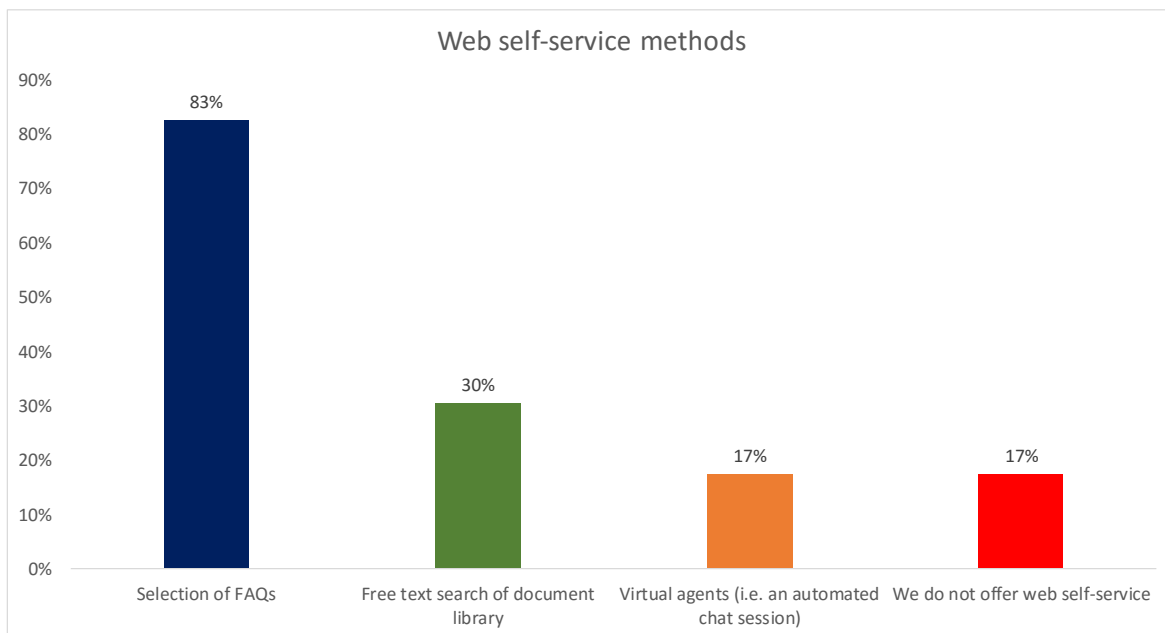
When the virtual agent application has low confidence that it has returned the correct result, it is able to escalate the customers query seamlessly to a live chat agent, who then has access to the self-service session history, enabling a greater chance of a successful resolution without repetition. (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.

Some solutions offer chat agents the opportunity to see what the customer is typing in real time, and enabling the agent to get a head start, while at the same time linking to the contact center knowledge base in order to provide a list of most likely answers, which will increase the accuracy of response and decrease the overall time to serve.

Virtual agent functionality is of interest to most sectors, however the commercial reasoning and business drivers differ greatly. Banks have an appreciation that they need to understand their customers to keep them loyal in a highly commoditized and competitive environment, and as such there is considerable interest in using virtual agent functionality within Voice of the Customer initiatives. For example, using real-time analytics, such organizations can learn that customers are talking about a specific issue, which can feed into wider commercial decisions in business areas unconnected to customer service. On the other hand, the utility sector in some countries is regulated and has a geographical area of customers which is the same, meaning the level of competition varies widely by country. As such, this sector can be heavily focused on cost reduction, and business cases will focus on contact avoidance, which is different from the online retailer, who wants to cross-sell and reduce their shopping cart abandonment rates.

Of these three methods of web self-service, by far the most prevalent is that of the FAQ, which is used by 83% of businesses that offer telephony self-service as well. The free text search of the document library is rather less well supported, at only 30%. Virtual agents are still employed by only one in six respondents, usually those within large enterprises.

Figure 129: Web self-service methods



SELF-SERVICE CHANNELS: E2E AND 'VIPA'S

Businesses' interactions with the customers of the future will be a highly-polarized mixture of the automated and the personalized. Moving a large proportion of interactions onto self-service will work for businesses, and having a VIPA (see below) or other third-party seek out the best deals on offer will appeal to many customers. This leads to the conclusion that many customer-agent interactions will be exceptional, such as a complaint, an urgent or complex issue or a technical query that an FAQ or customer community couldn't solve. It is also likely that whole segments of the customer base who don't want automation at all will be handled directly by live agents in many cases.

The VIPA is something which isn't yet widely available, but which is inexorably on its way, being driven by improvements in technology and the desire of the customer of the future to get the best deal with the least effort. Perhaps the most widely-used (albeit very basic) version of the VIPA is the iPhone's "Siri", which provides basic web search functionality based on speech recognition. It is still a very long way from being a true VIPA though.

'VIRTUAL INTELLIGENT PERSONAL ASSISTANTS'

Most self-service scenarios suggest a world in which customers speak directly to 'intelligent' systems. The world of the 'virtual intelligent personal assistant' (VIPA) - turns this idea on its head, postulating an e2e world where the customer delegates many business interactions to a pseudo-intelligent device.

Storing information on a VIPA device - such as personal preferences, financial details and individuals' physical profiles - is the first step, and one which is possible to do today. Customers of the future will then instruct the device to research the best deals for products and services, and to come back to the device's owner with the best selection. The VIPA would 'call' the relevant contact center (which would in fact be either a number of back-office company systems or possibly a live agent in some cases) and could even purchase the best deal without having to involve the owner in any way.

VIPAs may be used in association with intelligent agents which roam the web for answers to questions or situations, and could act as a third-party broker between the customer and a business. Price comparison sites act today as a type of first-generation smart assistant, but are entirely reliant on accurate and complete data inputs being provided by suppliers and the site's owners.

If VIPA technology could be relied upon to work, and standards of interoperability between VIPA and businesses were implemented, then this immediate and extensive market knowledge could create a 'perfect market' for commoditized products and services, with major impacts on existing businesses.

SOCIAL MEDIA

There are a huge number of definitions for social media, but the majority highlight certain aspects and traits in common, including, but not limited to:

- interactivity between peers supported by a collection of online tools
- dialogue rather than monologue
- ubiquity
- free-to-air
- user-generated content
- person-to-person communication.

On the face of it, social media seems more about individuals communicating with each other, leaving companies out of the loop. However, many organizations have been eager to step up to the plate, setting-up Twitter, Facebook and Google+ accounts as well as YouTube channels for marketing and customer support, with corporate blogs and customer communities also widely supported.

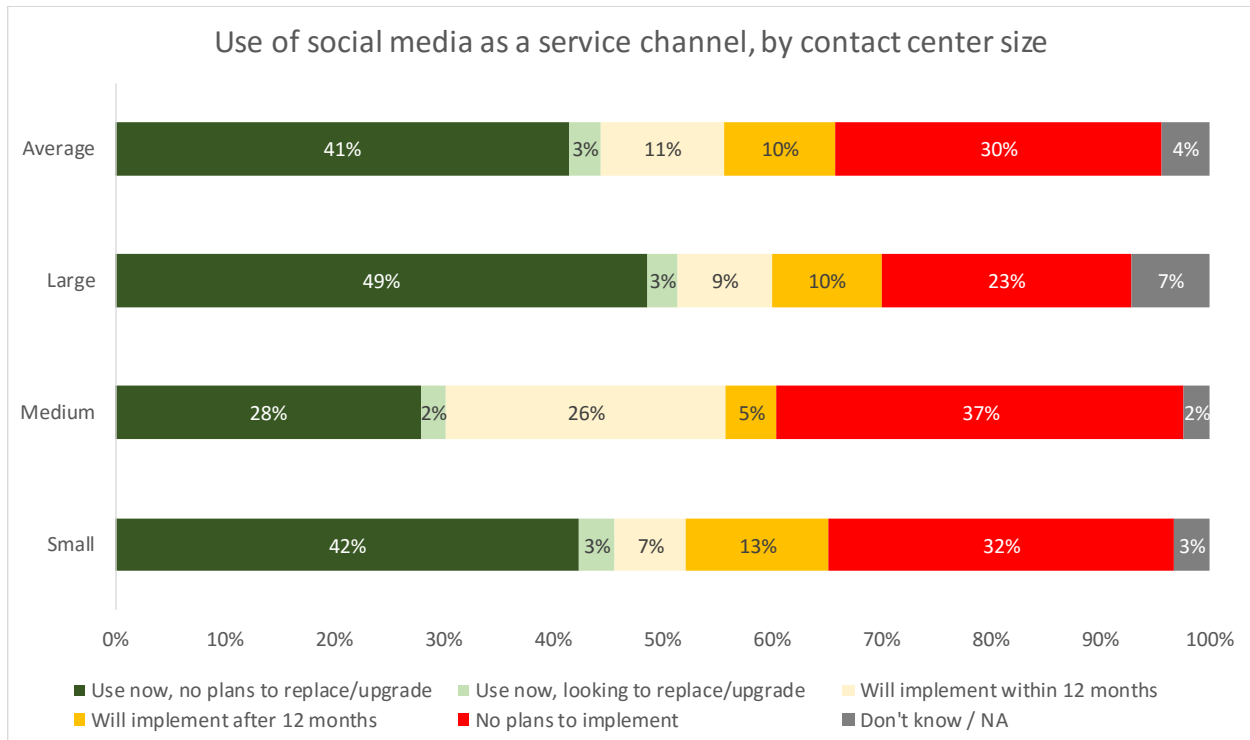
Social media started as a way to make marketing more effective, and social media analytics has focused mainly on this area as well. Now, the reality of social media is dual: it accounts for inbound customer service as well as outbound marketing, whether the business likes it or not. There is also another duality to consider: businesses can learn through direct solicitation of customer responses, and indirectly through the social media analytics process.

The rise of social media as a customer service channel has often been *de facto*, in that customers have actively sought out the company's Facebook page or Twitter account to communicate with it, even if the company originally had a social media presence only to disseminate information. ContactBabel expects social media to remain a minor channel in terms of overall number of interactions compared to telephony, but one with the potential to be strongly negative - to punch well above its weight - and many senior executives within most companies are treating the channel with a great deal of respect.

Despite the low levels of customer interactions via social media, the high-profile nature of this channel and the possible magnifying effects of negative comments means that social media is viewed as being far more important than baseline interaction statistics would suggest. Some savvy customers, knowing that their public complaint or issue will be dealt with quickly, prefer to go straight to a social media channel rather than wait in a telephone queue. Others might choose the social channel after they've had a bad experience on another channel, such as waiting on hold for a phone agent.

Social media is widely used by contact centers of all sizes. There are a considerable number of operations looking to implement it within the next 12 months, especially in medium-sized operations.

Figure 130: Use of social media as a service channel

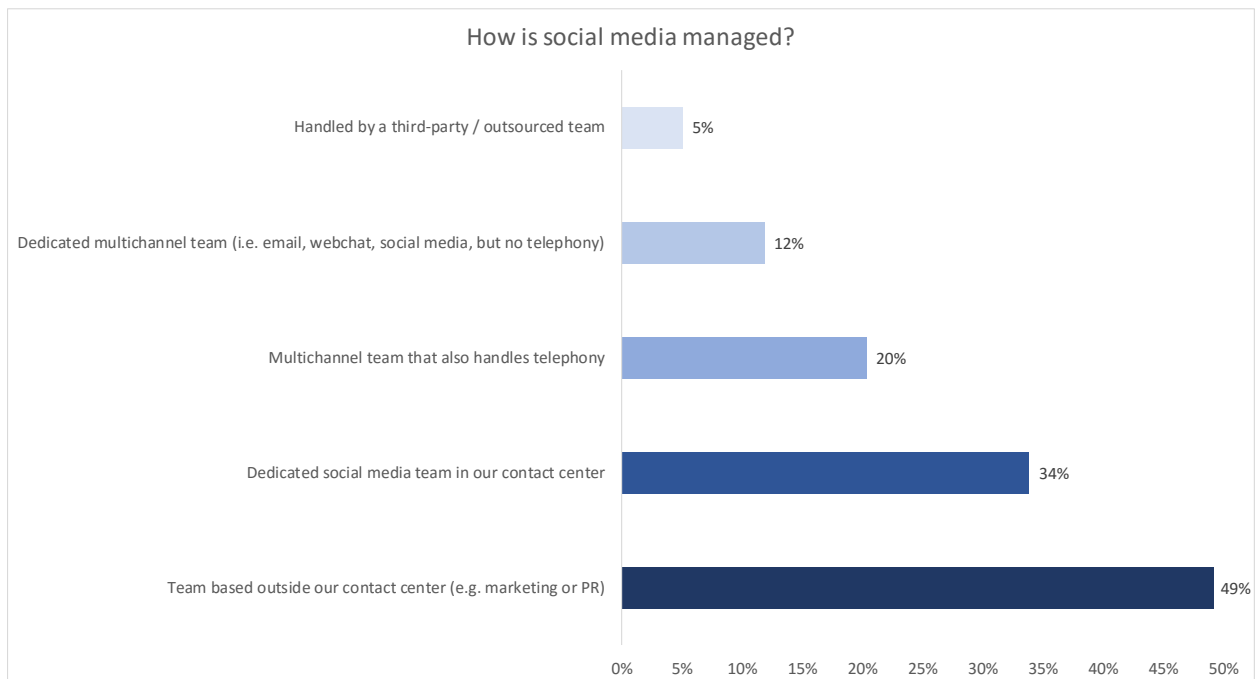


SOCIAL MEDIA MANAGEMENT AND OWNERSHIP

The evidence that the social media channel was originally set-up as a marketing route rather than as customer service support can be seen within this section. Despite the increasing numbers of customers choosing to use social media for customer support, 49% of respondents report that social media is handled by an in-house team based outside the contact center, usually marketing, PR or corporate communications, with 5% letting an outsourcer handle it.

34% of respondents reported that they have a dedicated social media team working within the contact center, and a minority have a dedicated multichannel team working within the contact center location, may or may not answer telephone calls as well (NB multiple choices were allowed, so totals may add up to more than 100%).

Figure 131: How is social media managed?



When considering the management of social media by contact center size, larger operations are far more likely to have a dedicated social media team within the contact center. Small and medium operations may well rely on a non-contact center-based corporate team to handle their social media, with over a quarter of large operations handling social media as part of the entire customer interaction mix, including telephony.

There is some debate about the best way to handle social media inquiries. While it is possible for requests via social media to be analyzed (often by keyword spotting), prioritized and then routed to the agent team most capable of dealing with these specific inquiries, it is not just the same as a phone call or web chat. An almost instantaneous response is expected, with the attendant pressure that such a service level places upon the organization, but social media does not exist within the same one-to-one paradigm as other customer service channels.

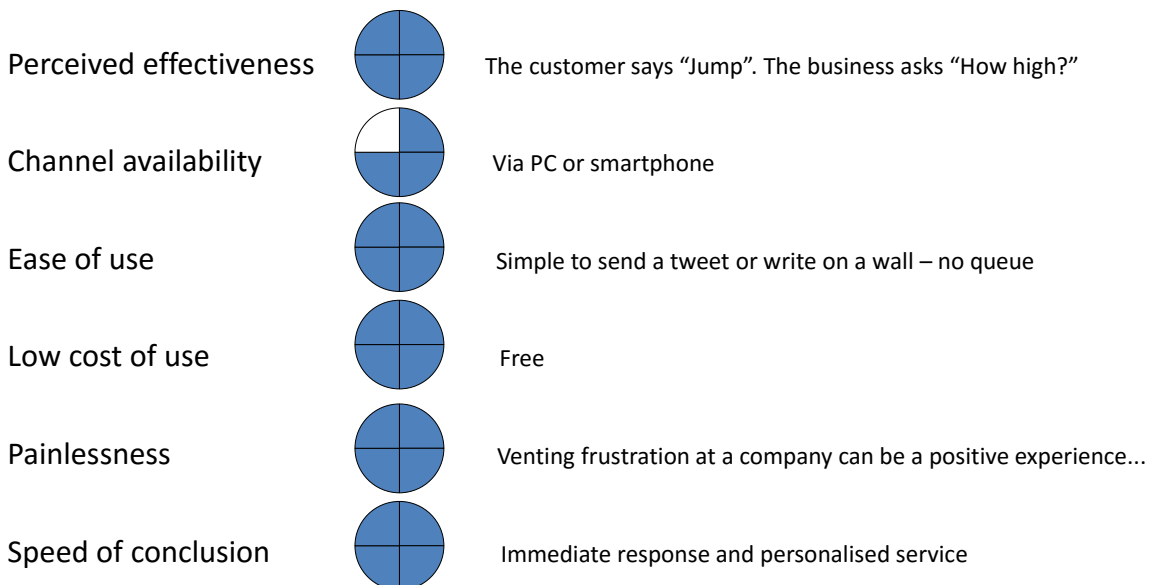
The role of social media, and how it is managed, is heavily influenced by who holds the budget. For the majority of respondents, it is the marketing department that holds the money for social media, with the customer contact department only responsible for this channel's investment and finances in a small minority of cases. Larger contact centers are somewhat more likely to hold social media budget, but such respondents are still in a minority. As social media continues its move away from being primarily a marketing channel towards being a key part of the customer contact mix, it would make sense for the contact center and customer support operation to take more responsibility for the strategy and budget of this channel, but there is little statistical evidence of this happening as yet.

THE EFFECTIVENESS OF SOCIAL MEDIA

Uniquely, social media has taken off as a customer service channel as a result of customer demand, rather than businesses' enthusiasm for promoting a cheaper service channel. The following chart shows how channels fit customers' needs, and we can see that social media for some customers can provide a very positive experience with a very low pain point, and at virtually no cost of time or money: the customer complains, loudly and in public, so the business reacts quickly and effectively. For the customer, this is great: it is the business for whom the popular methods of social media handling are not optimal: not only do they have to carry out their business in public, reacting quickly and without being able to authenticate the customer's identity, but they often cannot handle the query without resorting to another channel such as phone or email, which provide more privacy and functionality. In such cases, they are not even seen by the outside world to be reacting quickly and effectively, or to have solved the problem.

Figure 132: Possible customer experience of social media channel

Social media



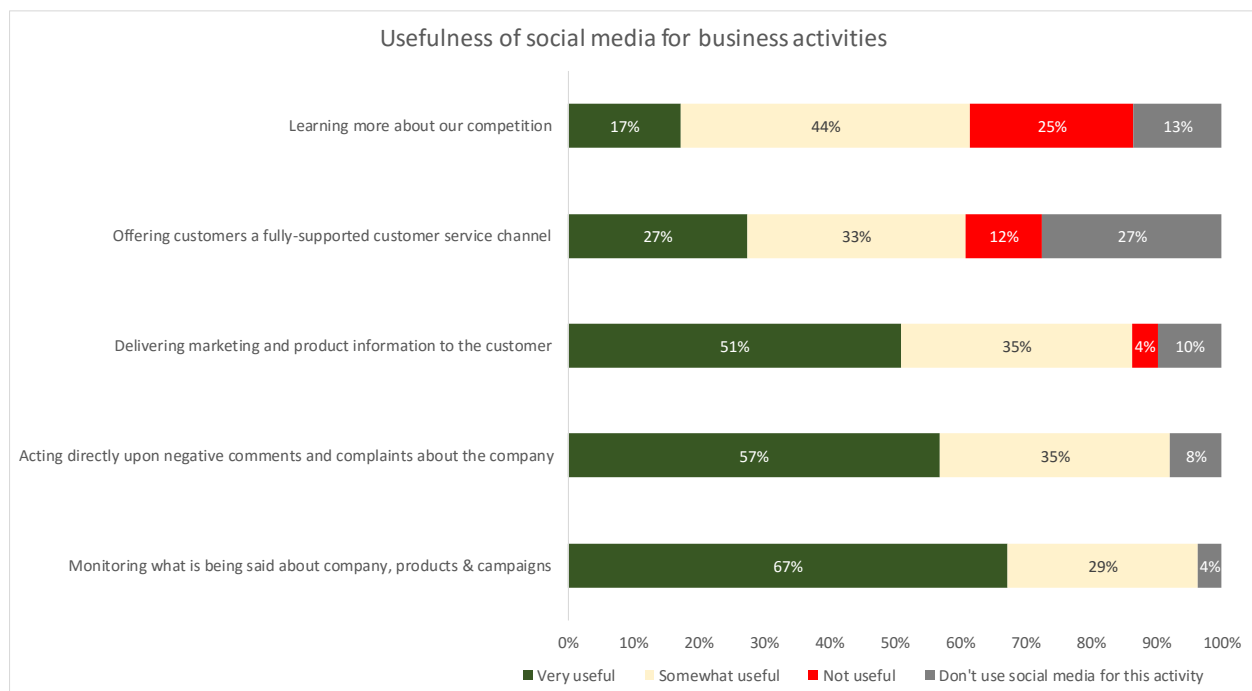
Both customers and companies are finding out what works with social media and what does not. Crucially, as with any channel, success will only come when a channel delivers a successful experience for both sides of the equation.

Despite respondents' insistence earlier in this report that social media was generally not the best channel for unhappy customers to use to make a complaint, the following table tells another story. 63% of respondents that offer social media as a customer service channel consider it to be extremely useful for acting directly on negative comments and complaints picked up from customers, a statistic that is growing rapidly. In fact, this ability to address unhappy customers immediately is second only to monitoring what is being said about the company, which has grown in importance once again this year.

Of concern for both businesses and customers, there seems to be very mixed opinions on whether social media is actually providing customers with a fully-supported customer service channel. 27% feel strongly that they are doing so, whereas 12% feel that they are not.

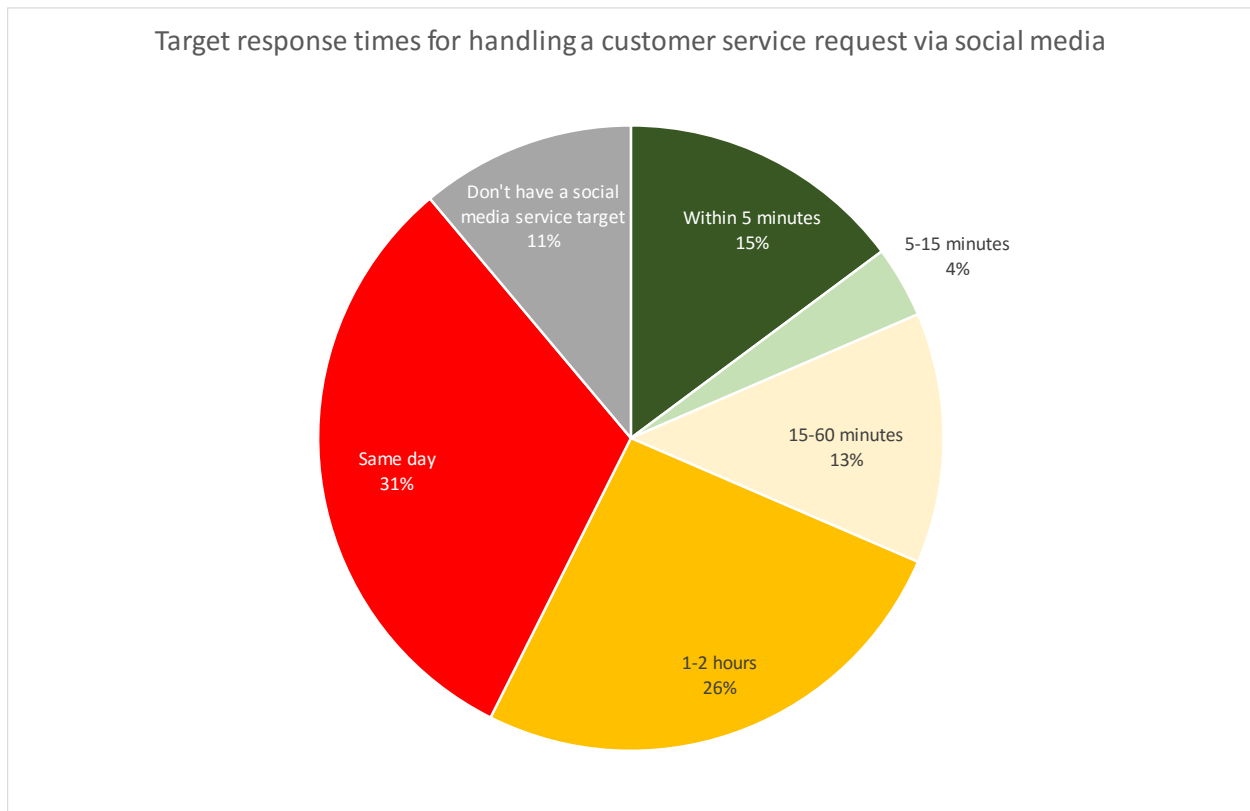
Earlier in the report, respondents stated that call recording and speech analytics were not felt to be supporting the business to learn more about its competitors, and there is little sense here that social media is providing this information either. It may be that businesses are focusing their efforts upon learning what their customers are saying about their own products and services, rather than worrying too much about the competition, but all of these solutions offer opportunities for competitive advantage.

Figure 133: Usefulness of social media for business activities



Target response times for handling a social media customer service request are somewhere between a phone call / web chat on the one hand, and an email on the other. 32% of respondents try to answer within the hour, but 57% state that they will probably take longer than an hour.

Figure 134: Target response times for handling a customer service request via social media

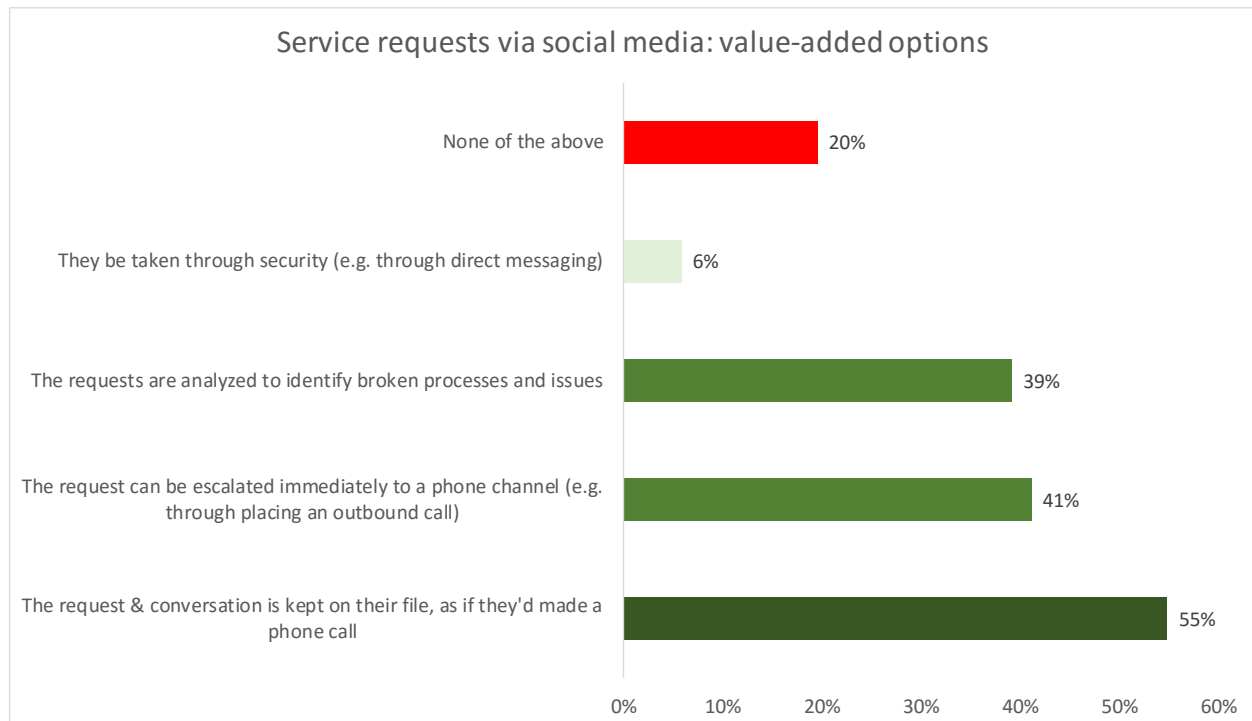


The majority of respondents offering service via social media will put the interaction into the customer's file as if they'd made a phone call, with analysis of the interaction being undertaken by around a half of respondents to ascertain whether the insight can be fed into the wider business processes.

41% of respondents state that they can escalate this to a phone call if required (note as well the high level of email escalations, suggesting that phone calls are still the 'go-to' channel). Only 6% of respondents state that they take customers through security (probably via direct messages).

This low figure for security checking should be viewed in context with the higher figures for those who say they add social media interactions to customer records: it would be imagined that before the customer record is opened and amended, security and identification processes would have been completed, so these findings are a little contradictory as they stand.

Figure 135: Service requests via social media: value-added options



Tips on providing customer service via social media

- Despite the pressure that social media puts onto a business, younger generations express a preference for communicating with businesses in this way. They are also more likely to complain about problems on social media, so supporting a social media customer care plan is vital to winning and keeping this section of your customer base.
- Social media does not have to refer only to the likes of Twitter and Facebook. Customers are growing increasingly more sophisticated at seeking out help themselves, with many preferring to attempt to find their own solution via customer communities before contacting a business, although this can be a very hit-or-miss approach.
- Be aware that age has a particularly strong role in the choice of customer communication channels. Generally speaking, older generations will choose the phone as their primary channel, whereas younger customers will look at online channels first. Men are also far more likely than women to look for a self-service solution initially.
- 80% of customers trust recommendations from other customers. The downside to this, of course, is that customers will also take a negative criticism of a product or company very seriously.
- By keeping a Twitter feed or Facebook page up-to-date, an organization can reduce inbound call traffic at a time when a particular issue is causing a spike of calls, for example, if bad weather threatens to close schools.
- Blending social media with other forms of customer communication can mean that agents get a more well-rounded view of what customers are actually thinking. Knowledge sharing between agents, especially where new information is put in a timely fashion into the knowledge base, will assist both agents and self-service customers.
- Just because the customer has initiated a social media interaction does not mean that a business has to stay on that channel to resolve it successfully. Customers may like to receive an outbound call from the agent, as this may provide the opportunity to go into further detail, and to resolve the issue entirely.

THE MOBILE CUSTOMER

Statistics that show the number of smartphone users, volume of apps downloaded and the value of mobile transactions are rising so quickly that they would be out-of-date before this report is published. It is sufficient to note that with very few exceptions, the mobile customer is relevant to every organization, in every vertical market, in every geography of the world.

The rapidly decreasing cost of mobile bandwidth, coupled with the huge improvements in mobile networks (e.g. 4G) means that businesses can be ambitious in what they are attempting within this channel, as they can have a high level of confidence that what they can imagine today will be technically possible within a couple of years, if not a matter of months.

Research from Netbiscuits⁶ shows that 91% of customers who have a poor experience with shopping on a mobile site will abandon it: some may intend to return via a PC, but many others will search elsewhere: there is no differentiation or allowances made for sub-optimal mobile web experiences. Furthermore, most businesses are currently failing in this attempt, with the mobile channel lagging way behind online websites and bricks-and-mortar shops.

Offering a mobile customer experience tends to mean offering a smartphone app and/or a mobile version of a website, and the next section of the report looks at what this means for businesses and customers.

⁶ Quoted at <http://mobilemarketingmagazine.com/34-per-cent-abandon-poor-mobile-experiences>

MOBILE WEBSITES

A mobile website differs from simply accessing a full website via a mobile browser, rather offering a mobile-optimized alternative which is easier to use and overcomes some of the constraints around using a smartphone to access the web, such as tiny fonts, excessive scrolling and difficult-to-press buttons.

Mobile websites usually do not try to offer every single item available on the full website, but focus upon the information and processes that most users will want in order to act or make a decision. Ease of use is vital: text must be fully displayed on screen, buttons must be clickable and businesses have had to consider minimizing the use of graphics to achieve quicker load times in areas with poor mobile data services, although this is becoming less of an issue as 4G and cheaper data becomes more widespread.

Bearing in mind that a mobile site generally cannot support every type of interaction that a customer may want, businesses may consider that allowing mobile users to access the main website is a good idea. Contact details should be clear, and offering a seamless route from self-service into supported service, via email, web chat or telephony is very desirable.

It is beneficial for businesses to understand why customers are using a mobile site rather than waiting until they are in front of a PC: the request may be related to what they are doing at that current time, and so waiting is not appropriate. Generally, customers will be more task-focused on a mobile device than a PC, so the emphasis should be on delivering quick, simple, high-volume interactions. For example, by looking at the current use of their full website, a bank may discover that a high proportion of users want to check their bank balance or view recent transactions rather than setting up automatic bill payments or ordering foreign currency. Consequently, the mobile version of the website may focus only on a small number of high-volume interaction types.

SMARTPHONE APPS

A good app may provide a superior user experience to a mobile website, due to the greater level of design. However, they tend to be much more expensive to build, and unlike a mobile website, a new one has to be developed for each smartphone platform. Additionally, company apps will tend to be free to download, so there is little opportunity to make money directly from them.

Smartphone platform market shares show that Android and iOS shipments account for over 90% of the market⁷, so businesses could decide to produce only two flavors of app, which would actually support the great majority of the smartphone market.

A native application developed for a mobile device can use some of the device's capabilities to enhance the customer experience. For example, a smartphone app⁸ can prompt drivers at the scene of a car accident to provide and capture the correct information, including photos. Such an app could also use GPS to give the exact location of the accident for use by the insurance company.

Industry estimates for building an app vary considerably depending on what they are trying to do, but many sources indicate that a cost of \$30,000 upwards (per platform) is very feasible. The cost of developing a mobile website is less, and only needs to be done once. Whether an app is suitable for a company depends on their budget, and their customer base. It may be that the superior branding associated with apps is seen as being well worth the expense, even before factors like increased sales conversion rates are taken into account.

⁷ <http://www.idc.com/prodserv/smartphone-os-market-share.jsp>

⁸ http://www.naic.org/Releases/2012_docs/wreckcheck_mobile_app_auto_accidents.htm

TIPS ON BUILDING SUCCESSFUL APPS

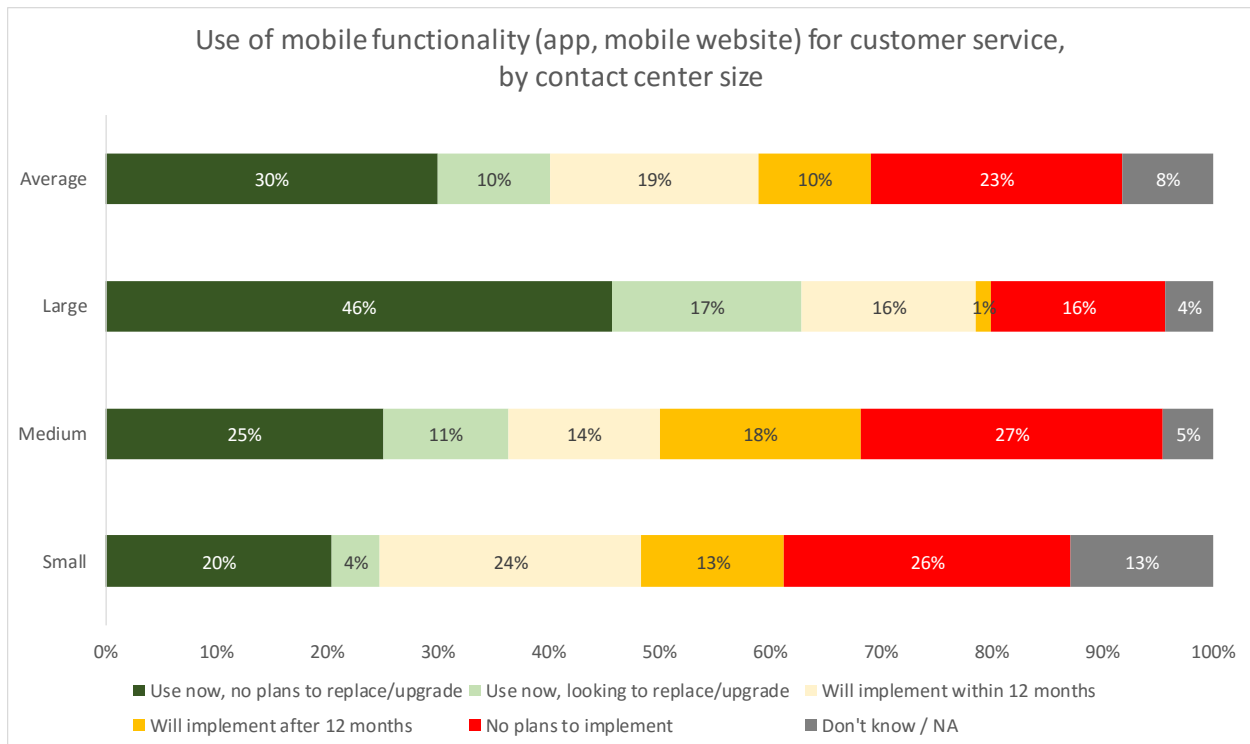
- Understand what the most popular self-service transactions are that your customers wish to do, and focus initially on providing the means to do this via a mobile app. This will give you a quick win, familiarize your customers with this channel, and encourage them to think positively about it.
- If any interactions require knowledge of a customer's location, the GPS capabilities within a smartphone may make this particularly suitable to put onto a mobile app.
- An app should be able to divert a large number of simple calls away from the contact center. Businesses may find that mobile apps replace some of the work done by telephony IVR, with the visual element allowing a greater depth of functionality and a quicker self-service experience for the customer.
- Consider the demographics of your customer base. Do your younger customers wish to carry out different transactions or interactions than your older customer base? If so, focus mobile functionality on the demographic that will use it most.
- If there is a problem with the app, or the customer cannot do what they wish to do, it is vital to offer a clear route into live customer service. This may be via a 'call me' button on the website, which can put the customer into a virtual queue, and can provide all the transaction-based information that the customer has already input, along with any of the other relevant customer details so that the agent does not have to start from scratch. A call-back option also means that the customer does not have to spend their own mobile minutes waiting in a queue.

USE OF MOBILE SERVICE FUNCTIONALITY

40% of this year's survey respondents stated that they offer mobile functionality for customer service, with a further 29% having definite plans to doing so.

Larger contact centers are approximately twice as likely as those in the small and medium sector to offer an app or mobile website for customer service.

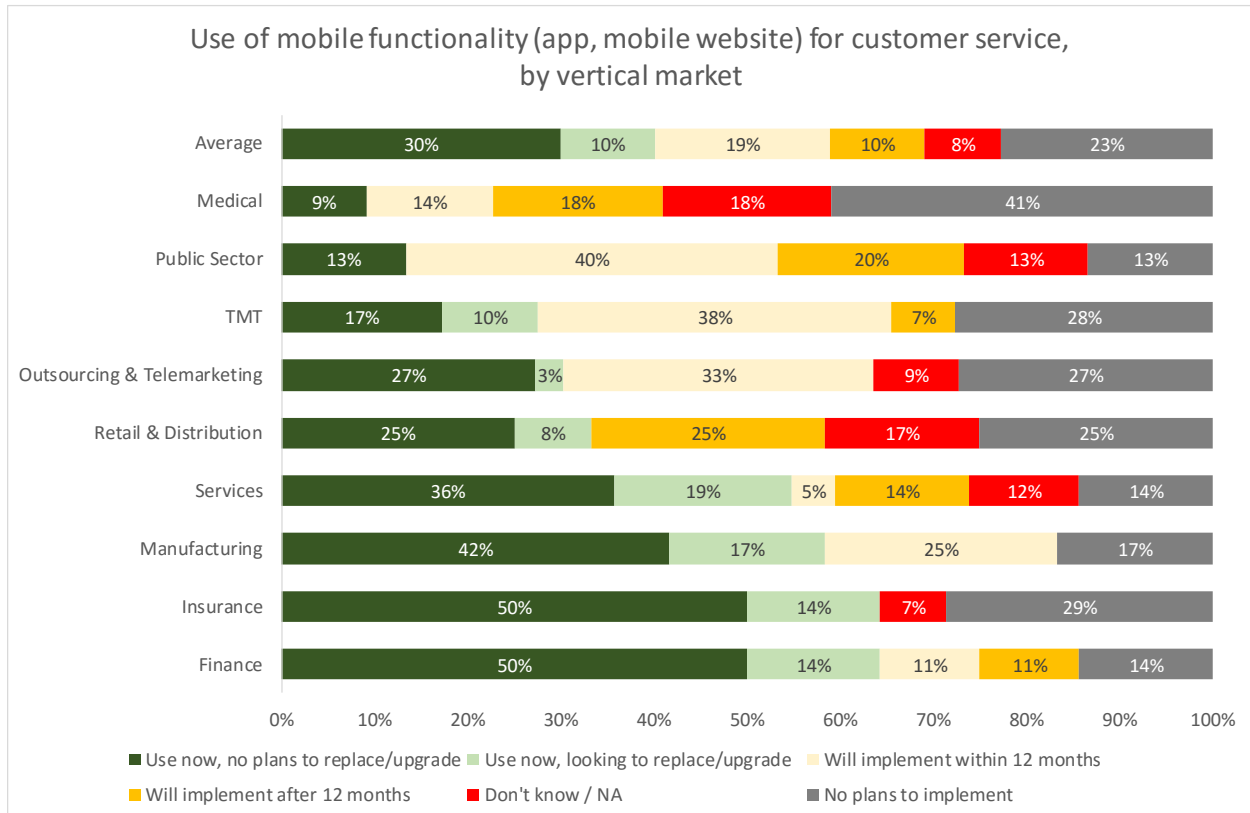
Figure 136: Use of mobile functionality (app, mobile website) for customer service, by contact center size



Those in the finance and insurance sectors are most likely to be offering customer service via mobile functionality.

Those in the medical and public sectors are least likely to be doing so.

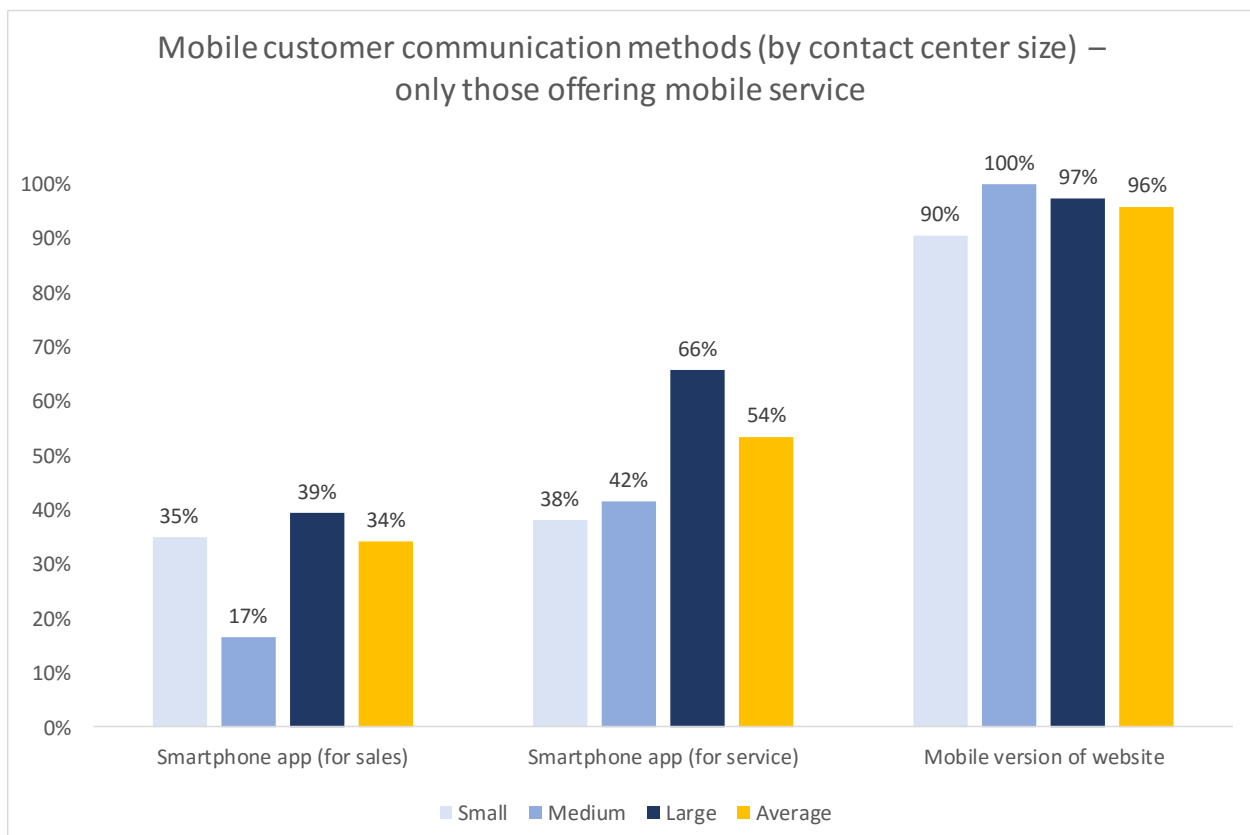
Figure 137: Use of mobile functionality (app, mobile website) for customer service, by vertical market



As the following chart shows, of the respondents which provide mobile customer service, 96% offer a mobile version of their website, for example by having the most popular elements available, speedy load times, optimized graphics, improved readability and scrolling, etc.

54% of respondents offered a smartphone app for customer service, with larger respondents more likely to be doing so. However, only 34% offer the same mobile support for sales, with smaller operations being as likely as larger organizations to try to win new business through investing in an app.

Figure 138: Mobile customer communication methods (by contact center size) – only those offering mobile service

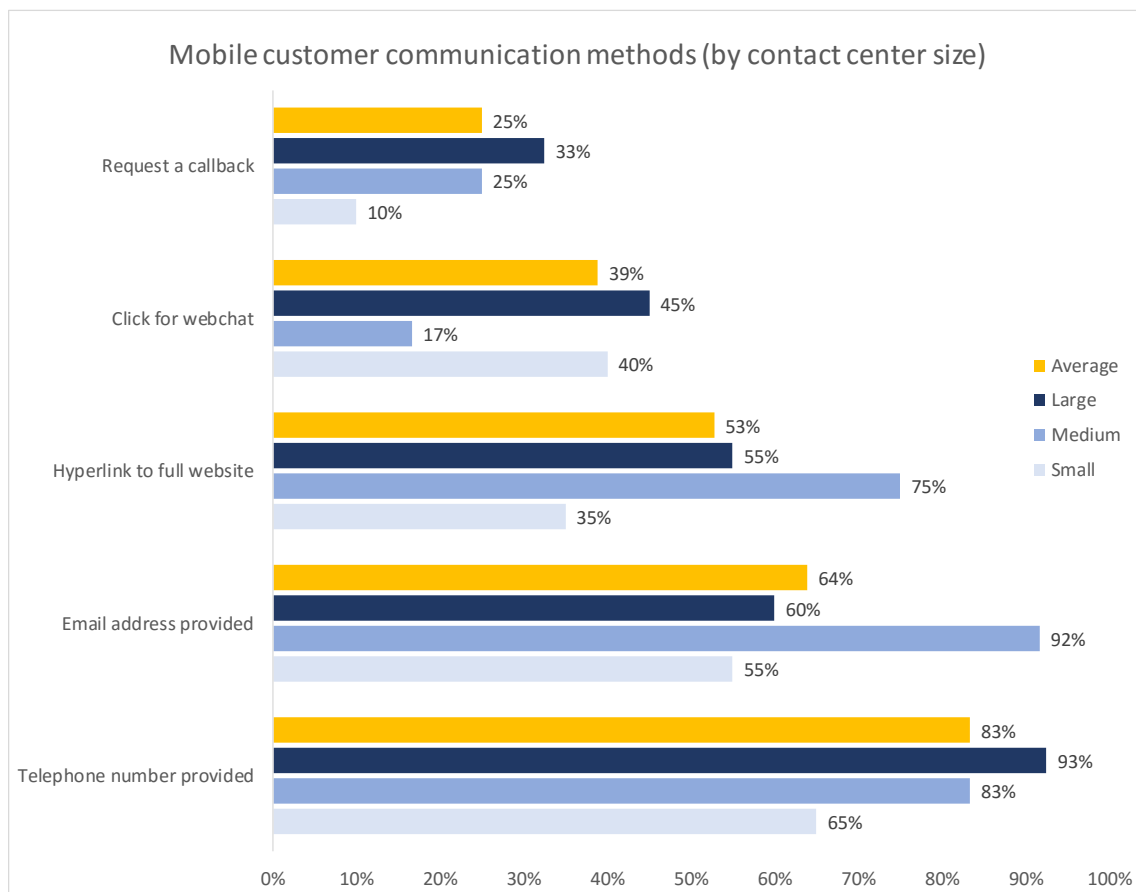


CROSS-CHANNEL ESCALATION

A considerable amount of service functionality available to the mobile consumer is unsophisticated and often divorced from the rest of the customer experience. Put simply, if the customer tries to use a mobile app or website but cannot successfully do what they want to, in many cases they will be forced to initiate a service request via another channel, such as email or phone, which will be treated by the business as a separate request without any understanding of the history, activity or effort that the customer has already undertaken.

Gathering, understanding and using the contextual data that can surround the mobile consumer will be key to pushing the uptake and functionality of this channel forward. The plethora of channels immediately available to the mobile consumer - including voice, web browsing, SMS, social media, and web chat - encourages the customer to act immediately for all their service or information requirements, rather than waiting until they are in front of a desktop computer. In cases where the user needs to pass through security - and also where other reasons mean that the customer cannot complete their interaction solely through mobile browsing or using an app - businesses should consider how they will keep the customer or prospect engaged with the business.

Figure 139: Mobile customer communication methods (by contact center size)



The easiest way to support cross-channel contact is to offer a telephone number on the mobile website or inside the app, and 83% of respondents do so. However, the user/ customer must often start their request again from the beginning, as many respondents will not credit the security and identification process that the customer has already been through, nor will the browsing history be passed onto the agent. Effectively, the customer may as well not have used the mobile channel at all, which is a negative for them and their attitude towards this channel in future.

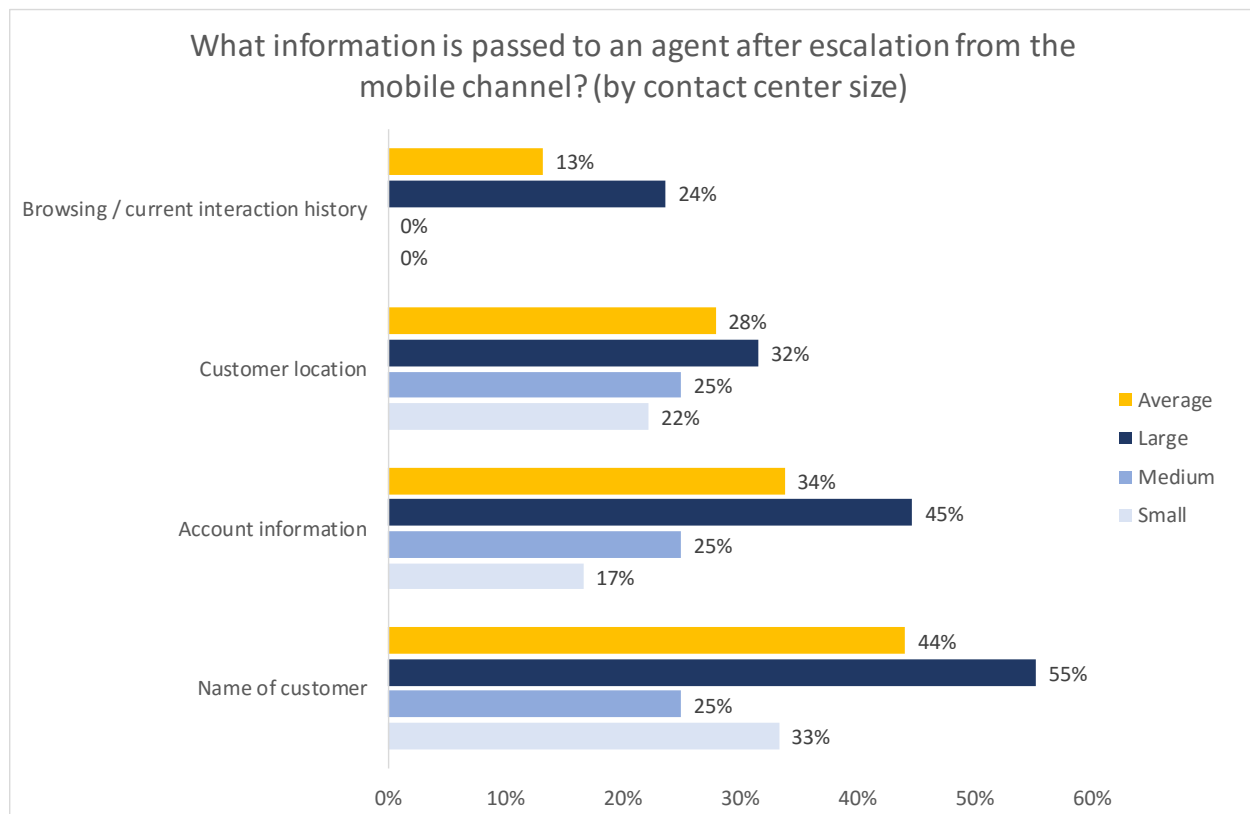
Providing an email address is the second most popular escalation method (64%), which does allow the pre-population of fields in an email form (user details, account details, type of issue etc.) although only a few respondents do this. However, email is a slow medium even when done correctly, and the user will not get an answer in real time. Sales operations prefer to encourage mobile browsers to contact them through a more immediate channel, to reduce the chance of losing a sale.

25% of respondents using the mobile channel state that they offer scheduled call-backs to customers. While this is a positive and proactive response, the user is often left in the same situation as if they had called in the first place, as the agent will often have to take them through security and establish what the problem is.

39% of respondents were offered a web chat option within the mobile site or app, this being the channel most closely resembling the activity the user is already undertaking (i.e. using the mobile device to look for information, and typing rather than speaking). Web chat is more immediate than email, and offers a chance to move between self-service and assisted service seamlessly, with the agent being able to push links and video to the user in real-time. The difficulty in typing on a smartphone screen means that this is still not a perfect solution.

Similar to previous year's findings, a significant minority of respondents state that upon escalation, an agent is provided with some information about the customer, most often the customer's name and account information, rather than anything more closely linked and relevant to what the customer was trying to do, or where they are currently located. In reality, this information will rarely be used to provide a quicker customer experience (for example, by jumping a call queue or by having details of the mobile session already undertaken screen-popped onto the agent's desktop). Some of the larger operations have begun to include the customer's browsing history, which is a positive finding.

Figure 140: What information is passed to an agent after escalation from the mobile channel? (by contact center size)



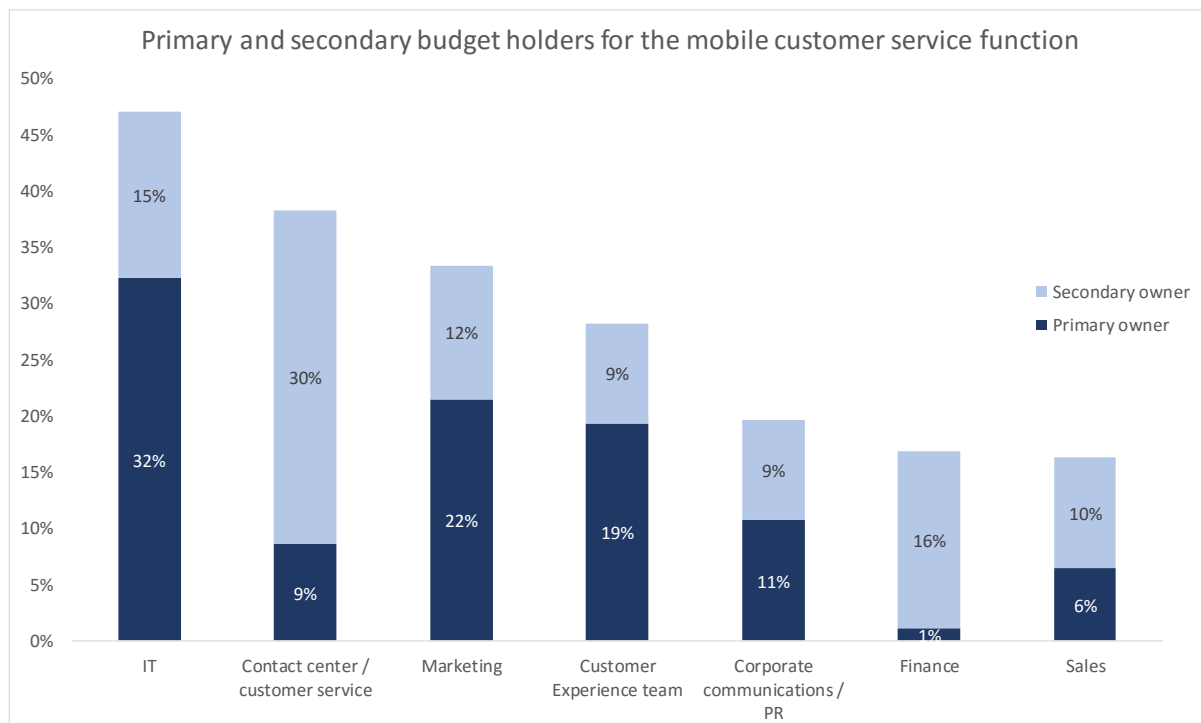
CORPORATE OWNERSHIP OF THE MOBILE FUNCTION

One of the major issues to overcome within most organizations that offer self-service across multiple channels and devices is this: who actually owns the space? Telephony is established as a contact center function, and some other non-voice customer channels also fall under its auspices, but social media is often still owned by marketing (who may also lay claim to mobile strategy), and the wider self-service functionality may be a remit of the IT function. This fragmented and inconsistent ownership of multichannel customer contact functions means that maintaining the same high and reliable standard of information and service across channels has become an even more considerable challenge.

It may not be possible or even desirable for a single unified group to take charge of all such functions. However, because the customer neither knows nor cares about the internal structure of the organization, a bridge between the channels must be created to ensure that a multichannel customer experience does not break down if the initial channel cannot handle all the customer's requirements effectively, and the growth in cross-functional customer experience teams is a response to this issue. This is explored further within the recent ContactBabel report [“The Inner Circle Guide to Omnichannel”](#).

The following chart shows that 32% of respondents named the IT function as the primary budget holder for mobile customer service, with 28% stating that it was the primary responsibility of the contact center or customer experience divisions. As an increasing number of mobile interactions start with self-service (which may be IT's purview), and then moved to a live agent (the customer service/contact center function), this may be understandable, if not optimal for the customer or the business.

Figure 141: Primary and secondary budget holders for the mobile customer service function



CONTEXTUAL DATA: THE GREAT MOBILE OPPORTUNITY

The nature of mobile devices means that businesses potentially have the opportunity to know more about their customers and their specific requirements and preferences than ever before.

This includes:

- Customer identity: once the customer has identified themselves, such as by logging on, or through the mobile phone number, this allows the agent to access their existing customer history in the same way that would be done so on a phone call into the contact center.
- Geographical information: smartphones are GPS-enabled, allowing agents to see where customers are, and to direct them to the nearest store, for example.
- Historical activity: if the customer has been browsing a mobile website or app beforehand, the information that the customer browsed previously may be useful for the contact center agent to have to hand, in order to see and understand what the customer has already tried to do.
- Stored data: the mobile device may have data stored that identifies the customer, such as account number, that can speed up the interaction and make it more effective.
- Collected information: the mobile device may also be used to capture and share information with the business such as photographs or videos. It may be possible to automate a two-way interaction: for example, a customer may use their mobile phone to scan a QR (quick response) code on a product. Using the information on the code, as well as the customer's input into the app about what they are trying to do, the customer may be directed to the correct place within business's self-service function in order to solve the issue that they have. This can take the contact center out of the equation altogether, resulting in reduced costs for the business and a quicker and more effective customer experience.

VISUAL IVR

The audio-only nature of DTMF IVR places limitations upon how user-friendly the experience can be for a customer. There has always been a trade-off required between functionality and usability, which manifests itself in the number of menu options and levels that made available within the IVR system.

The rapid growth in smartphones has meant that it is now possible to offer a visual representation of IVR menus on a device which if needed, can be used if the customer chooses to call the business. Because it is far quicker to read text than to listen to text being spoken - some studies show that a caller can navigate a visual IVR menu between four and five times quicker than a DTMF IVR menu - the customer experience is improved without sacrificing any functionality or options. Furthermore, visual IVR can be used to send video presentations while waiting for an agent, for educational or marketing purposes, or to answer the self-service requirement (for example, pushing the relevant YouTube clip in order to show the caller how to do something). Due to the nature of visual IVR, it is easy to see how this can fit into an omnichannel customer experience, as it is merely one of many channels that a customer can access through a smartphone.

Many businesses that use DTMF IVR have made long-term investments in this technology, and retiring the system entirely is not desirable. Giving existing IVR functionality a visual interface simply means that the IVR's path can be shown as a picture on a website or smartphone, with callers touching the selection that they require without having to listen to all of the options or to go up and down levels or branches. This has the dual benefit for the customer of being far quicker than listening to IVR menu options, and of being significantly more likely to get them the correct information or to be routed to the department most appropriate to their needs. Visual IVR menu systems integrate with existing DTMF structures and reuse the same VoiceXML scripts, meaning that any changes made to the existing DTMF IVR system will be automatically replicated regardless of channel or device.

Visual IVR offers companies the ability to develop value-added applications for their customers, rather than simply providing a visual representation of existing IVR menus. For example, in cases where very specific expertise is required, visual IVR can be used to help the caller self-diagnose where in the organization they need to be going, rather than having to speak to a front-line agent who will then have to ask them the same questions in order to route the call to the appropriate resource.

It is worth noting that despite the huge uptake in smartphones and mobile apps, it is very unlikely that customers will find it convenient to have an app for every company with which they deal. Like apps, a visual IVR option provides businesses with an opportunity to display corporate branding and deliver an improved customer interaction experience.

Figure 142: Visual IVR: benefits for businesses and customers

Business	Customer
Cost reduction through improved call avoidance and more accurate routing, improving first contact resolution and decreasing call transfer rates	Greater granularity of routing, and improved functionality means that callers are more likely to arrive at the place where they need to be. Consistent functionality shared across IVR channels and customer devices means that customer engagement and confidence in using the system will be improved
Leveraged existing IVR investments, without having to rip and replace	Significant decrease in customer effort to access self-service or call routing capabilities
Reusability of existing scripts lowers development costs	If the agent has contextual information, there is less likelihood of the caller having to repeat information
Contextual information gathered within the visual IVR session can be popped to agents, giving an improved understanding of the customer's journey, reducing agent handle time and customer frustration	As more customers are finding the correct information without having to call the contact center, this means lower wait times for the customer base in general

DEVELOPMENTS IN MOBILE

Solution providers are keen to offer technology that ties the mobile channel in more tightly with the existing voice and data customer support channels, providing a single integrated user experience regardless of initial channel choice and any cross-channel movement by the customer. One of the key ways to do this is to offer live agent support more easily (for example, through clicking an icon within an app), which provides a context-relevant, geographically-supported and personalized customer experience. The movement between self-service and live service is currently very difficult for many customers - it is certainly not seamless - and actually may involve abandoning the mobile channel entirely as a failure in order to start afresh with another channel. As the customer has chosen originally to use a mobile channel, even a successful outcome with another channel will risk leaving the customer dissatisfied with the company, and less likely to use the mobile channel in future. There is also the danger that because the organization is unaware that a failed mobile session has been the root cause of a live contact, it will underestimate the reality of cross-channel interaction failures. WebRTC will offer businesses the chance to offer easy click-to-call or click-to-video directly from the website, which could make transition from self-service to assisted service far less painful.

On moving from self-service to assisted service, mobile service applications should gather the browsing history, customer information and the context of the session in order to pass this to a live agent. Smartphones are enabled with GPS tracking, so businesses should look to leverage this capability to deliver better customer experiences where possible. In fact, the inherent capabilities of the mobile device offer businesses huge opportunities to impress their customers, including location-specific information, such as local broadband outages, or the ability to leverage photo-taking functionality on the phone to provide the agent with a clearer picture of the situation (which may be particularly useful for insurance claims, for example).

SMS and outbound calling also offer opportunities for businesses to deliver proactive customer service through the mobile channel, creating a positive attitude. Furthermore, location-specific device information also allows businesses to deliver timely service and relevant marketing messages which can be positives for the customer at that specific place and time.

It is not just the customer interaction points that will become more integrated. Brick-and-mortar stores are also becoming more integrated with their digital component, in order to provide correct inventory levels at store- and company-wide levels, thus matching the capabilities of their dot-com competitors while being able to take advantage of being able to provide in-store services to customers.

Like any technology, application or channel, mobile service has to be seen to pay its way. Quite apart from the importance of fulfilling a customer demand, there are numerous elements to consider when looking at return on investment:

- Call avoidance due to increased use of self-service, although the difference made to the number of IVR sessions should be taken into account: customers may simply be swapping one self-service method for another, rather than avoiding expensive live calls
- Increasing the accuracy of routing by leveraging mobile and customer data means that calls are more likely to go to an agent that can resolve them first-time, impacting positively upon first-contact resolution, call transfer rates, average handle time and customer satisfaction
- Decreased call handling time in cases where mobile browsing information and other contextual data is passed to an agent, enabling them to reduce effort duplication
- Improved customer satisfaction, and decreased customer effort is likely to lead to improved loyalty, revenue and customer advocacy
- Contextual information, such as geographical location, enables greater cross-selling and up-selling opportunities based on improved knowledge about the customer and their circumstances.

WEB RTC & VIDEO

While not a channel in itself, WebRTC (Web Real Time Communications) is an API definition that supports browser-to-browser applications for voice calling, video chat, and P2P file sharing without the need of either internal or external plugins⁹.

The announcement¹⁰ in April 2016 that Apple would support WebRTC within its WebKit engine that runs the Safari browser is a major step forward for next-generation customer support, enabling voice, video and collaborative communications directly from a website without the need for additional software. While mainstream use of click-to-video has been a very long time coming, WebRTC offers the opportunity to businesses to engage customers face-to-face where appropriate, offering the browsing customer a route straight into the contact center without any breaking of channel or extra effort.

WebRTC allows customers to start a video or voice call from the web browser (which may be via a desktop computer or smartphone, perhaps as an escalation from an existing web chat session), which means the organization's website can then offer video or voice contact center functionality in a seamless manner, with customers able to request live communication with the business without the need to download specific software or seek out the phone number and break off from what they are doing on the website. Two-way video communication is likely to be of more interest to mobile users, as their smartphone device already comes enabled with a camera and microphone, unlike many desktop computers which may not have this functionality or whose users have it disabled. One-way video, to protect users' privacy, is perhaps a more likely option in many instances, as is click-to-call.

Video agents are a step towards more personalized, high-quality customer contact. The customer will be able to see to whom they are talking, through a multimedia PC or mobile device, assuming the broadband requirements are met.

⁹ <https://en.wikipedia.org/wiki/WebRTC>

¹⁰ <http://www.nojitter.com/post/240171589/apple-jumps-on-the-webrtc-bandwagon>

There are a number of cultural and business issues to consider:

- Customers may prefer the impersonality of non-visual contact, and may be uncomfortable with the agent seeing them in a domestic environment, which would suggest one-way video may be more popular
- Eye contact is critical for establishing trust and 60% of the communication process is actually visual. For sensitive purchases such as financial services, being able to see the financial advisor can help to establish trust and put the customer at ease. The entire contact may be captured and distributed electronically for further reference
- Verbal abuse, a major problem for some agents, may decrease in a virtual face-to-face setting, however, agents may feel their privacy is decreased if they are on camera, especially one-way, and the incidence of disturbing crank calls may increase
- The contact center environment will need to be altered to impress the customer, and voice agents will need to be trained in visual communication.

This application has potential, especially in a sales environment, and with technical support, where the agent shows the customer what they mean. Various businesses - usually banks - are already using video kiosks to offer virtual branch banking services in areas where physical branches have closed. Currently, customers are more likely to find that video is not being used to show a company's agents in a live environment, but as part of a supported multimedia service experience, with the agent sending relevant recorded video clips either via chat or email.

FACEBOOK MESSENGER & WHATSAPP

With 900m active users of Facebook Messenger¹¹ and over 1bn WhatsApp users¹², organizations should at least have a watching brief over these tools where customer contact is concerned.

Messenger/WhatsApp have the benefit of familiarity with customers, and businesses may wish to investigate including these types of interaction within their agents' web chat screen. As many users live their lives permanently logged into these applications, there is an ease-of-use and ubiquity associated with them.

The applications allow historic records of interactions to be kept (which is not the case with all users of web chat), and there is a great advantage over social media such as Twitter and Facebook: messages are private, which not only allows customer identity verification, but also will reduce the damage to a business through public negative messages. Unlike most web chat, these applications allow the sharing of images.

The familiarity of these applications will work in favor of agents as well as customers, which will reduce training time and cost. Businesses will also need to consider what is an acceptable service level for these channels: as detailed elsewhere in the report, web chat is perhaps closest to the telephony channel's service level target, whereas social media is more akin to email. Although Messenger/WhatsApp are types of social media, they will be used as web chat from the customer's perspective, and should be resourced according to similar expectations.

WhatsApp, especially, is often used as a closed, group-based application, and there may be pushback from segments of the customer community that do not currently associate the use of these applications with business communication. The challenge to businesses will be to persuade customers that letting them into their social circle is worth the effort.

The Forrester brief on Customer Service through Facebook Messenger¹³ contains more information about these options.

Regardless of the familiarity that customers and agents have with new communication tools, channel hopping and the need for these various channels to work together (not siloed) in a unified omnichannel experience will continue to remain a large concern. Organizations must be aware of the customer's intent and journey as more channels continue to become available.

¹¹ <http://www.statista.com/statistics/417295/facebook-messenger-monthly-active-users/>

¹² <http://www.statista.com/statistics/260819/number-of-monthly-active-whatsapp-users/>

¹³ http://blogs.forrester.com/ian_jacobs/16-05-11-facebook_messenger_the_future_of_customer_service

INCREASING PROFITABILITY

Not only are contact centers under pressure to reduce their costs, but many - either directly or indirectly - are also major revenue-generators for their businesses, and the recent drive to maximize profitability has made many businesses look at whether their contact centers can add more to the bottom-line. Although much responsibility for revenue generation lies with senior management, production and sales divisions, the contact center also has an important part to play in maximizing revenues through selling the right product to the right customer at the right time (aided by a CRM system or similar), and through proactive and efficient outbound selling.

This chapter considers outbound automation, and also looks at cloud-based solutions, which offer contact centers new financial and operational options which can make a very significant difference to the bottom-line.

CLOUD-BASED CONTACT CENTER SOLUTIONS

'CLOUD': TERMS & DEFINITIONS

The modern contact center has a multitude of applications supporting it, with hardware, middleware and networking equipment around and inside it. The traditional method of deploying these resources has been on a CPE (customer premise equipment) basis, with the business's IT resource implementing and maintaining it. Now, the vast majority of this equipment, functionality and supporting resource is available in a third-party hosted environment, through one of the various types of cloud-based delivery.

Cloud-based solutions are the latest in a line of alternatives for businesses to owning and running their own technology. Here are explanations of some of the terms that readers may have encountered in researching cloud-based contact centers.

- **Cloud** is the delivery of computing and storage capacity as a service to different business, organizations and individuals over a network. It can be said to consist of Infrastructure as a Service (IaaS) - servers and storage space, Platform as a Service (PaaS) - operating systems and web servers, and Software as a Service (SaaS) - the functionality of software available on demand without the need to own or maintain it. The cloud is characterized by huge scalability and flexibility, (often, but not always) shared resources, a utilities approach to billing (pay for what you use, for example) and an abstraction of obvious on-site infrastructure.

There are various deployment models:

- **Public cloud:** applications, storage, and other resources are made available by a service provider, often offered on a pay-per-use model. Public cloud service providers own and operate the infrastructure and offer access via the Internet
- **Private cloud:** infrastructure operated solely for a single organization, whether managed internally or by a third-party and hosted internally or externally. They require management by the organization or a third-party
- **Virtual private cloud:** a deployment model that pulls in public cloud infrastructure-as-a-service (IaaS) while running the application on premise or in a private cloud, in order to improve disaster recovery, flexibility and scalability and to benefit from Opex-based costing while avoiding expensive hardware purchases

- Community cloud shares infrastructure between several organizations from a specific community with common concerns (security, compliance, jurisdiction, etc.), whether managed internally or by a third-party. The costs are spread over fewer users than a public cloud (but more than a private cloud), so do not gain as much from cost reductions. It may be an appropriate deployment model for departments within government or public sector bodies, rather than within commercial organizations (for example, a department could share Contact Center as a Service with other departments or agencies within their network)
- Hybrid cloud is a composition of two or more clouds (private, community, public or a linked cloud/CPE solution) that remain unique entities but are bound together, offering the benefits of multiple deployment models. By utilizing "hybrid cloud" architecture, companies and individuals are able to obtain degrees of fault tolerance combined with locally immediate usability without dependency on internet connectivity. Hybrid Cloud architecture requires both on-premises resources and off-site (remote) server-based cloud infrastructure.
- **SaaS (Software as a Service)** is a model of software deployment whereby a provider licenses an application to customers for use as a service on demand. SaaS software vendors may host the application on their own web servers or download the application to the consumer device, disabling it after use or after the on-demand contract expires. The on-demand function may be handled internally to share licenses within a firm or by a third-party service provider sharing licenses between firms.

On-demand licensing and use alleviates the customer's burden of equipping a device with every conceivable application. It also reduces traditional End User License Agreement (EULA) software maintenance, ongoing operation patches, and patch support complexity in an organization. On-demand licensing enables software to become an operating expense, rather than a fixed cost at the time of purchase. It also enables licensing only the amount of software needed versus traditional licenses per device. SaaS also enables the buyer to share licenses across their organization and between organizations, to reduce the cost of acquiring EULAs for every device in their firm.

Using SaaS can also conceivably reduce the upfront expense of software purchases, through less costly, on-demand pricing from cloud providers. SaaS lets software vendors control and limit use, prohibits copies and distribution, and facilitates the control of all derivative versions of their software.

- **Hosted** solutions have similarities to SaaS in that the application is hosted off the customer's premises, but may not actually be managed by the service provider. A hosted solution may be an individual instance of an application running on a single server dedicated to the customer, restricted in scalability by its finite nature. Although this may allow greater control and flexibility, it can be more expensive and there is less redundancy. It may be thought that all SaaS solutions are hosted, but not all hosted applications are SaaS.
- **Network-based solutions** are marketed as solutions with equipment physically located in multiple locations, permitting users to access the various services via a combination of the contact center's internet connection and the standard PSTN networks. This allows complete geographic independence and disaster recovery (DR) solutions.
- **Multi-tenancy** refers to where a single instance of the software runs on a server, but serves many customer organizations. Clients' data and configuration are separated virtually but the same actual hardware, software versions and databases are used. This deployment model is likely to be able to offer functionality at a lower cost due to the economies of scale possible, but is less customizable than other options
- **Multi-instance** occurs where separate software instances or versions (and possibly actual physical hardware) are provided for each individual business. This deployment option is considered most effective for complex and deep integration, but is unlikely to be offered at a similar cost to a multi-tenant option
- **Hardware virtualization** masks from users the physical characteristics of the platform, hosting multiple isolated instances of an application on one or more servers. The same image can be used on multiple sites, whether customer-owned or hosted.

For more information on cloud-based solutions, please download ContactBabel's in-depth, updated report, "[The Inner Circle Guide to Cloud-based Contact Center Solutions \(2nd edition\)](#)".

DRIVERS FOR CLOUD-BASED SOLUTIONS

The many factors influencing the uptake of cloud-based solutions can be grouped into several areas, and it is important to remember that a factor (e.g. security) can be both a driver and an inhibitor:

Financial: how does cloud affect the investment and ongoing expenditure connected with technology and the operations of the contact center? Cloud offers contact centers a way forward without relying on capital investment:

- Businesses can scale down future customer premises equipment (CPE) investment, with a resulting decrease in capital expenditure
- Services are bought using a per-concurrent-user or even per-hour pricing model, which helps to keep operating expenses manageable and controllable
- Outright purchase of equipment isn't for everyone, perhaps for reasons of budget or the ability to maintain the systems
- There is the opportunity to scale up quickly as demand dictates, without purchasing lots of redundant licenses or the hardware to support them
- Low-risk ability to start up, move, expand or trial new functionality without changing existing business plans or budgets
- Business retain the freedom to downscale, change targets and react to meet demand, rather than commit themselves to long-term arrangements needed to justify CPE investments.

Flexibility & Agility: how can cloud-based solutions help businesses with changing interaction volumes and distributed operations?

- Reduced need for IT support and implementation: having hardware and software based in the cloud means that ongoing system maintenance is significantly reduced, as it is the cloud provider's job to do this
- Larger pool of agents to choose from: cloud enables advanced features to be deployed across sites without complex and possibly unreliable call flows, while offering disaster recovery and risk minimization. For example, queueing interactions in the cloud allows for the searching and identification of relevant agents based on skill and requirements before the call is routed
- Short-term scalability: cloud offers great flexibility in adding or shedding agents and user licenses, of particular relevance to businesses which have substantial changes in call volumes over a year (such as the seasonality experienced by healthcare providers in the US, retailers and travel agents), or which have to react quickly to handle event-driven call spikes (e.g. an emergency weather situation affecting utilities companies).

Functionality: what is the effect of cloud-based solutions on the functionality available to the contact center?

- Trial new applications quickly using a low-risk pilot: using a pay-per-use model allows businesses to start a contact center or move at low risk or increase for a temporary campaign or try out new functionality without having to spend excessive amounts of time and money first
- Future-proof the contact center: a competitive, open cloud environment should mean that vendors will be motivated to innovate and provide better service, enhancing and developing their services ahead of the mainstream market.

Security: does Cloud bring a greater risk to security, or the opposite? Organizations should expect that data should be **at least** as secure in a third-party environment that is dedicated solely to providing a high-quality cloud-based service, as this is one of the factors by which the solution provider will succeed or fail.

Potential cloud clients should look for:

- multiple levels of firewall protection
- continuous intruder detection systems
- a two-person rule for changes to code or hardware
- frequent scheduled password changes
- external testing and audit trails
- data encryption used both in storage and in transit, under the control of the user
- additional layers of user authentication and privilege
- vetting of employees with access to sensitive information or hardware
- internal traffic and server monitoring.

Control: can a cloud contact center change how it operates quickly enough?

- **Control, visibility and reporting:** loss of control is of as much concern to some businesses as fears over integration. A service provider may not be as responsive as an in-house team, and it may take hours or even days to make changes to the system, so service level agreements should include agreed response times
- **Cultural considerations:** making the move to cloud is seen as a far bigger proposition than deciding whether to implement or replace a particular contact center application such as call recording or workforce management. However, many vendors offer options for customers to keep what they feel that they need on-site - for example call recordings and sensitive data - while moving offsite the elements of the contact center solution that businesses are most comfortable with outsourcing.

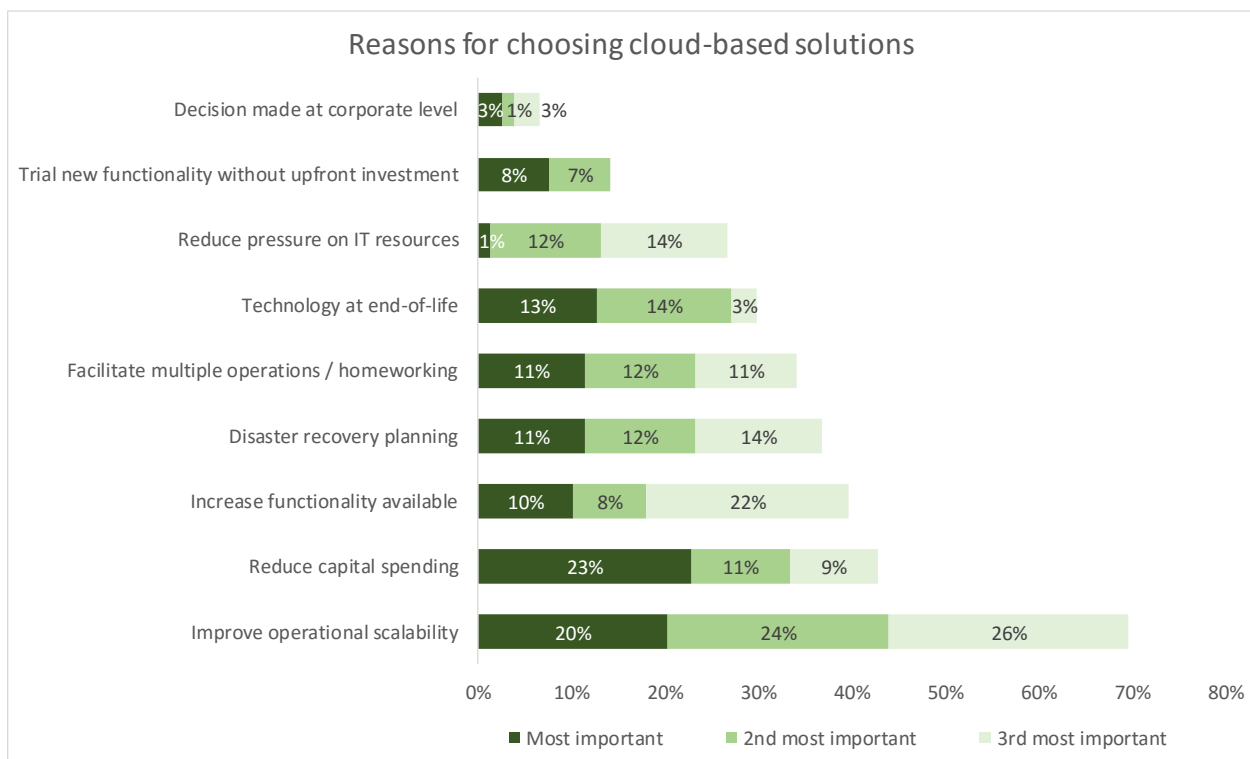
Integration & Customization: while out-of-the-box functionality can be quick and cheap enough to get things moving, what if businesses need more a personalized approach? Being able to continue using relevant existing CPE systems, and access databases and back-office systems is a minimum requirement for all businesses considering cloud-based solutions. Some solution providers note that the private cloud option is becoming more popular, where a third party is responsible for the management of dedicated infrastructure, especially in environments which require complex integration and customization.

Performance & Reliability: how does cloud affect the contact center's ability to deliver its service? Service providers will test their systems on an ongoing basis, and a few will even guarantee their availability to 99.999% (the '5 9s target of carrier-grade availability), backed by penalties if they do not achieve this. This level of reliability is the standard for very large contact centers which have paid significantly for this in a CPE environment, but is likely to be an improvement on what SMEs are used to, with their much smaller budgets.

The ability to reduce capital expenditure and upfront investment has historically been seen by respondents as the most important reasons to move to the cloud, but the recent figures show that increasing functionality and especially scalability appear as top 3 reasons along with avoiding Capex, with the optimization of user licenses being widely acknowledged as a chance to cut costs while maintaining or improving functionality. The nature of many types of cloud deployment mean that disaster recovery is part of the same project, and 37% of respondents put this as a top 3 reason.

The following figure shows that there is no single overarching reason to move to cloud, as much depends on the nature of the business and contact center environment. Obsolescence of existing technology was a top 3 mover for only 30% of businesses, although interviews with cloud solution providers reveal that vendors believe this to be one of the key factors in moving to cloud.

Figure 143: Reasons for choosing cloud-based solutions



CHECKLIST WHEN CHOOSING A CLOUD SOLUTION

Most cloud contact center solutions only require agents to have a standard telephone/USB headset and an Internet connection from their desktop. Some cloud-based solution providers require software to be downloaded upon the agent desktop, whereas others need only a standard Internet browser.

SECURITY

There are various accreditations and certifications used by providers of cloud-based solutions, some aimed at demonstrating the security of the datacenter (whether physical or virtual security) including ISAE 3402 or SSAE 16 in North America. Others focus on the process of processing payment card data (PCI DSS), whereas others are around information security controls (ISO 27001/2). Other interested parties include the [Cloud Security Alliance](#), a not-for-profit organization with a mission to promote the use of best practices for providing security assurance within cloud computing as a whole. Potential customers should look for independent third-party accreditation, proof of investment above and beyond the minimum required by regulation and regular penetration testing.

The solution providers interviewed for this report were confident that the dedicated security procedures and architecture in place within their solutions were likely to exceed those found in their clients' previous contact center operations, having full-time dedicated security resources and a vested interest in keeping client data safe. A security breach for in-house contact center is damaging and embarrassing; for a cloud provider to suffer a similar failure would impact very severely on their credibility and the very future of the company. However, as the National Institute of Standards and Technology (NIST) states in its [Guidelines on Security and Privacy in Public Cloud Computing](#), security should not be left simply to the solution provider.

Solution providers note that while security concerns are still very much to the forefront of the conversation, the questions that potential customers have are now far more sophisticated and realistically founded compared to a few years ago. There is a great desire across the entire business to ensure all security requirements are met, and much greater detail offered to the solution provider on what is actually needed.

FUNCTIONALITY

Solution providers state that moving from a premise-based deployment to the cloud should not reduce the functionality available to users. Potential cloud users are responsible for carrying out an audit of all existing and required functionality, and how it relates to defined business processes, before asking solution providers to guarantee that any move to cloud will include the required depth of functionality. It is not enough simply to accept that solution providers have 'workforce management' or 'outbound' capabilities. There is a great deal of upgrading and increased sophistication happening in the cloud world, which in some cases is from quite basic functionality, so potential users should have a list of specific processes and functionality that any solution should be able to deliver, and make sure that the chosen solution can deliver that, as well as being able to view a product roadmap that is updated on a regular basis (e.g. quarterly), which will project expected functionality a least a year in advance, preferably more.

It is also important to understand the opportunities for scalability. Adding and shedding agents when required is one of the big advantages that cloud computing has over its premise-based equivalent, but potential users should put real-life scenarios in front of bidding suppliers to make sure that the required level of scalability is possible and that no hidden costs or nasty surprises are associated with it.

RELIABILITY

Multi-location datacenters are ubiquitous amongst cloud providers, providing redundancy and disaster recovery as part of the deal. Stated levels of availability amongst cloud providers are typically 99.99% or higher, and most are backed with performance-related guarantees, with reimbursement of fees if targets are not met. While this is somewhat reassuring, it will do little to assuage the loss of revenue or customer goodwill if the cloud-based contact center solution is unavailable for any amount of time. Potential clients should investigate the exact levels of redundancy built into solutions, including the use of alternative network providers and mirrored datacenters if the problem occurs outside the software providers' purview.

Solution providers note that quality of service testing is vital to ensure that contact center network traffic and any associated data processing has sufficient guaranteed bandwidth. For operations using dynamic scripting, it is vital to ensure the fast and immediate reaction of input and response, and guaranteeing network quality of service should be high on the implementation priority list.

COST

Most cloud solution providers operate a per-agent/per-month option to pricing, with a minimum number of logged-on agents per month being the baseline minimum cost. To this, the cost per minute of calls made or delivered should be added, although many providers will offer this as part of the package, to make fees more predictable. Additional costs for customization and integration should also be investigated.

INTEGRATION AND CUSTOMIZATION

Cloud vendors will keep APIs up-to-date, with screen-popping into a home-grown CRM system, look-up of call recordings in a CRM system, and sending reporting and recordings to a third-party application being mentioned as some of the more frequent integrations requested. Some providers have very close relationships with specific CRM vendors, and as a general maxim, cloud-based contact center solutions can be seen to be following in the footsteps of cloud-based CRM.

Some customization in existing operations may have come about as an ad-hoc 'work-around' that has over time become the way in which things are done. It is important to revisit the business processes that the technology is there to facilitate, to see if there are easier ways to achieve this rather than reproducing the same method in a cloud-based environment.

SUGGESTED PROCESS FOR CHOOSING A CLOUD-BASED PROVIDER

The selection of most IT solutions is normally carried out in a similar way, but some steps you may wish to consider for cloud-based solutions include:

- A selection team should be chosen with responsibility for all of the areas affected, including contact center operations, IT, compliance, back-office, business operations and probably sales and marketing
- While bearing in mind the underlying business processes that the technology supports, select the specific technologies that are to be cloud-based, and also those bespoke applications that are to remain in-house, such as specific complex reports. Take the opportunity to consider 'ideal world' functionality as well
- Research the types of solution available in the market, and understand any actual differences between premise-based and cloud-based functionality. Provide vendors with specific instances of complex functionality and business processes required to meet your own particular requirements and challenge them to prove that they can be met. This should include all instances of existing back-office functionality that the solution needs to integrate with and where possible, a wish-list of functionality in the future
- Investigate publically-available referenceable sites from cloud-based providers that are similar to your own requirements, and submit an RFP (request for proposal) to the long-list. Request a detailed product roadmap along with timescales in order to assess whether this solution will meet your demands along the line. You may wish to invite solution providers informally to demonstrate their product before offering an RFP. Potential clients should look closely at the vendor's financial position and backing to make sure that the quality of service and level of innovation can be maintained in the future, also that they have the technological expertise in-house to keep making these improvements
- Any response to an RFP should include service level agreements over availability, call delivery, voice quality, speed to make requested changes, support hours and availability, details of security and redundancy offered, prices for customization, contract length options, implementation times, contract cancellation penalties and notice periods.

USE OF CLOUD SOLUTIONS

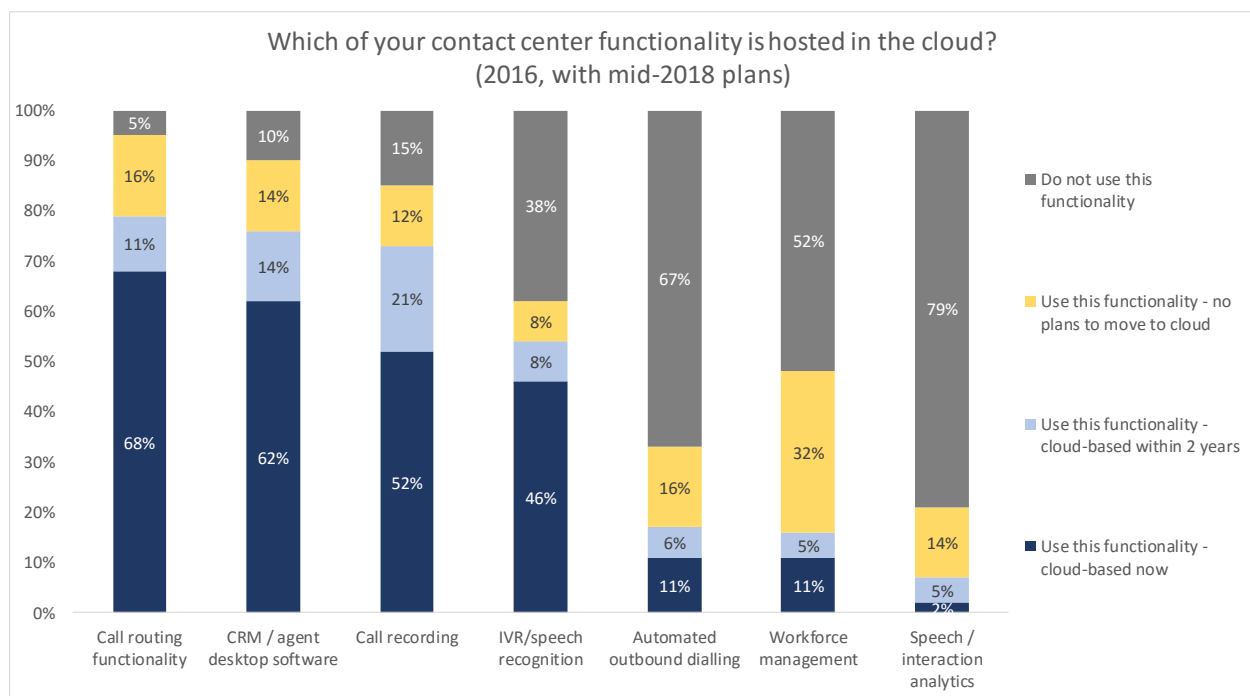
54% of this year's respondents had at least some contact center functionality in the cloud, very similar to 2015's figure of 56%.

Cloud-users were asked about the contact center functionality that they currently had within the cloud, and what their plans were for the next two years.

CRM and call routing functionality were the most likely to be deployed through cloud-based solutions, with cloud-based call recording and IVR functionality also used significantly.

Respondents expect to see significant extra amounts of their functionality being delivered in the cloud by mid-2018, with particular expectations around call recording and speech analytics. Whether this will prove to be the case is another matter, but there is certainly a belief that cloud has not yet reached its full potential.

Figure 144: Which of your contact center functionality is hosted in the cloud? (2016, with mid-2018 plans) – cloud-users only



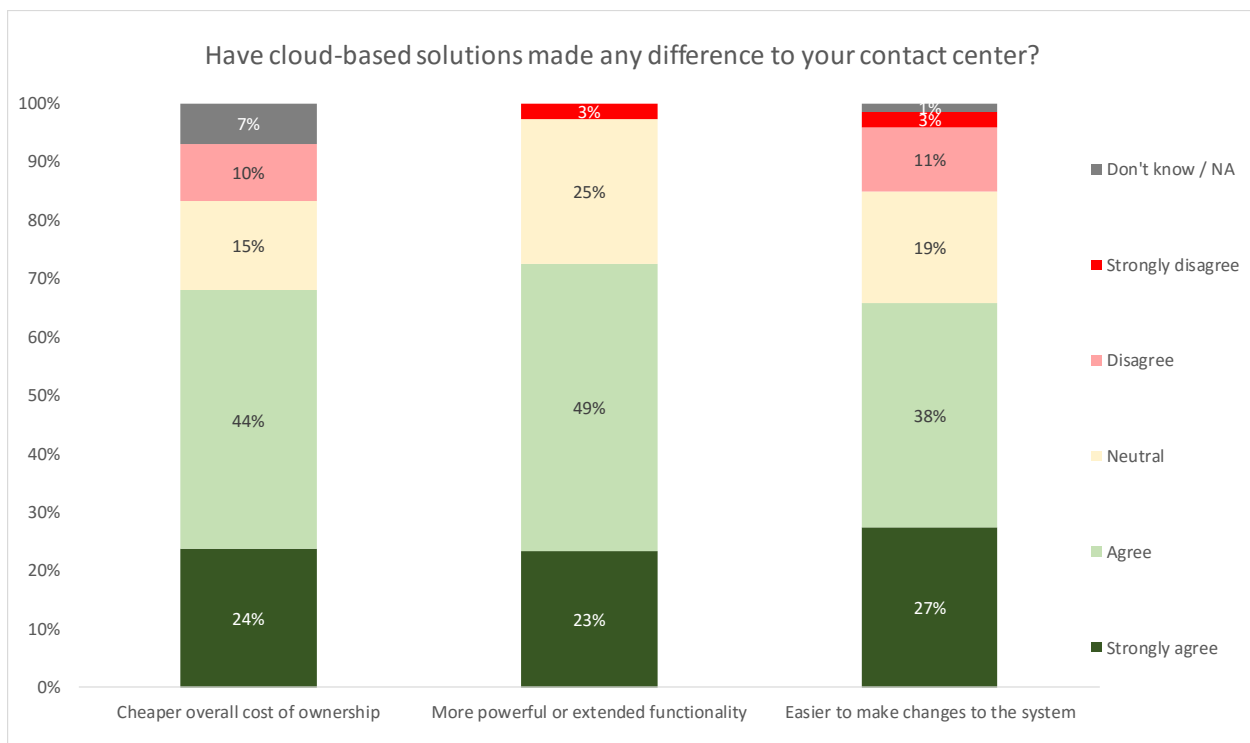
RESULTS OF USING CLOUD SOLUTIONS

Those contact center respondents who have actually implemented a cloud or hosted solution have generally found that it has delivered significant advantages in most cases.

68% of respondents stated that cloud-based solutions had given a cheaper overall cost of ownership of their contact center technology, with 10% disagreeing, although not strongly. 72% experienced more powerful extended functionality in a cloud-based environment, with 3% strongly disagreeing that this was the case. 65% of respondents stated that cloud made it easier to make changes to the system, with 14% disagreeing.

These research findings have been extremely consistent for some years despite different companies taking part each year, and readers can treat these findings with considerable confidence.

Figure 145: Have cloud-based solutions made any difference to your contact center?



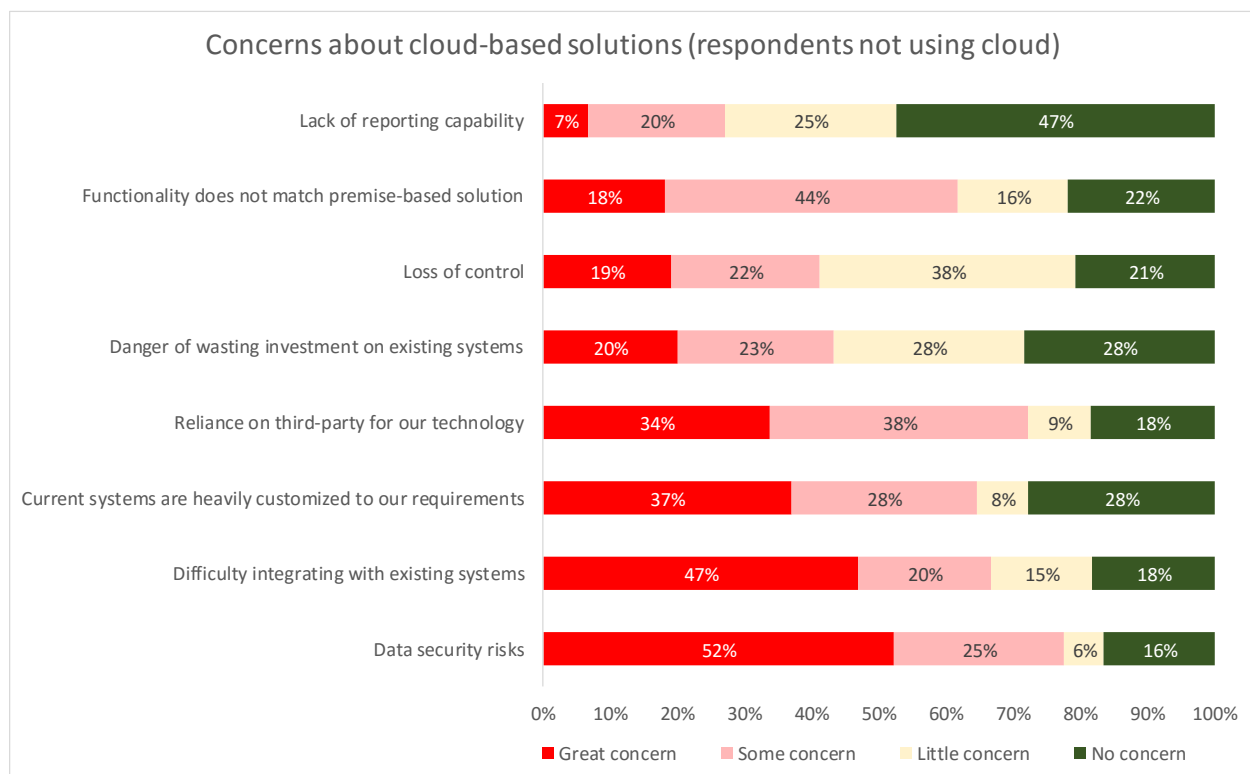
CONCERNS ABOUT CLOUD-BASED SOLUTIONS

Despite the generally positive experiences that most users of cloud solutions have reported, there are still considerable barriers to implementation that are holding back some potential users, connected with fears around data security, integration and investment.

As usual, by far the strongest of these is the concern that data security will be compromised by allowing a third-party to control customer details. 52% of non-cloud-using respondents state that data security in the cloud is of great concern to them, a figure which is much lower amongst those who actually use cloud-based solutions (only 17% of these cloud users are still greatly concerned about this). Solution providers should redouble their efforts to provide greater education and understanding about risks and the reality of this, as well as striving to improve (and prove) the security and reliability of their own systems. Some cloud-based solutions allow clients to keep call recordings and sensitive customer information on their own site, whereas most others provide externally-audited and accredited dedicated security that can usually surpass most on premise offerings.

There was also concern about integration with existing systems, and whether the levels of current system customization and functionality could be replicated in the cloud environment, with a general cultural unease also present around allowing a third-party to control the technical environment.

Figure 146: Concerns about cloud-based solutions (respondents not using cloud)

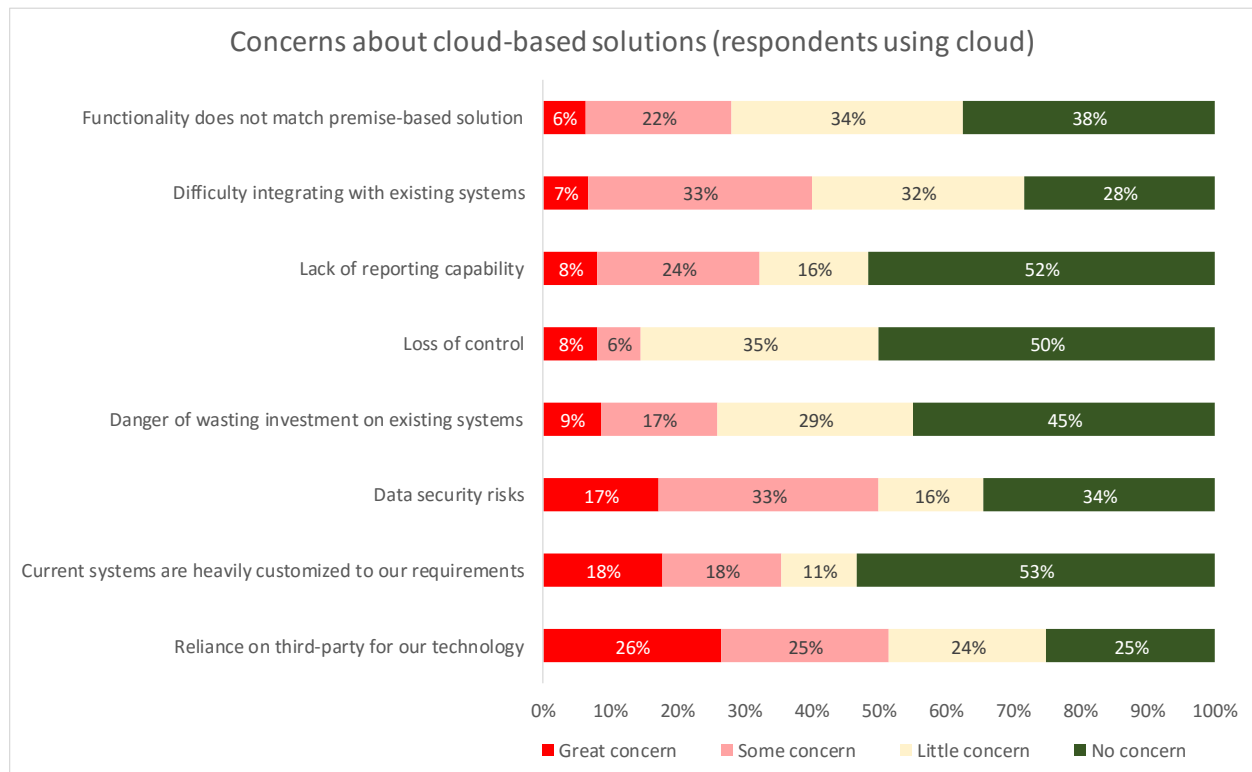


The difficulty in integrating with existing systems, and concerns over data security are still of concern to most cloud-using respondents. There are significant levels of concern around many of the cloud inhibitors presented as choices to respondents, which shows that cloud as a whole is still a work in progress for many.

Those 43% on current non-cloud users with concerns that existing investments would be wasted if they were to move to cloud should be aware that many vendors offer a solution that can work alongside existing CPE elements, and in many cases, cloud functionality closely mirrors that available at CPE level from the same solution provider.

In all, it seems that cloud-based solution providers still have a significant amount of market education, reassurance and demonstration to carry out before all of these concerns are addressed to the satisfaction of the whole market.

Figure 147: Concerns about cloud-based solutions (respondents using cloud)



OUTBOUND & CALL BLENDING

The traditional outbound call was simply about selling more products to new and existing customers. However, legislation and customer pressure impacted on cold calling, and the past years have seen an increasing proportion of outbound calling being made to existing customers, either to deliver customer care or to inform them proactively about events and circumstances which affect them.

Outbound calling is fundamentally different from inbound, and - facing significant and growing cultural and legislative issues - must be managed sensitively:

- the nature of outbound is intrusive and usually driven by the needs of the business rather than the customer (except in cases of call-back requests and for proactive outbound service)
- this means that customers are more likely to be defensive and wary of the purpose of the call. Trust needs to be built very quickly in order to overcome this negative start point: having the right information about the customer to hand will improve the experience for both agent and customer
- outbound work can be very hard on agents: few people actively welcome most outbound calls, and persistent refusal, lack of interest and rudeness can be very wearing for agents, especially if productivity-enhancing technology such as dialers are being used. Management should consider ways of alleviating agent stress, through sensible scheduling and call blending, judicious use of technology, focused training and improving working environments, amongst other ways
- especially where the technology exists to do so, it can be tempting to treat outbound calling campaigns as an exercise in maximizing call volumes and (theoretically) revenues. However, this can result in brand damage and high staff attrition rates through over-pressured and exhausted agents delivering poorer quality interactions
- there has been a tendency to use offshore contact centers for low-value outbound sales campaigns which would otherwise be unprofitable to run. However, the same high standards of training and support are needed by offshore agents to do their job properly: too many businesses simply put the agents on a dialer with an inflexible script in front of them and then wonder why their customers and prospects become negative towards their brand
- tough legislation has emerged which is reducing the amount of cold calling which businesses can do. Cold calling is illegal in Germany, and the Do-Not-Call register in the US and the Telephone Preference Scheme in the UK allow customers to opt out of receiving any sales calls at all in theory.

Call blending is an element of outbound calling which has had to fight against the conventional wisdom of the traditional contact center industry, which implies that the more one can segregate the contact center into a series of production lines, the better-run the operation will be.

Call blending gives the ability to deliver both inbound and outbound calls seamlessly to the agent, regulating outbound call volume based on inbound traffic. When inbound traffic is low, outbound calls are automatically generated for a specified campaign. When inbound traffic picks up, the dialer dynamically slows the number of outgoing calls to meet the inbound service level. Results can include increased agent productivity, streamlined staffing, and improved customer service. However, this process needs to be understood and managed carefully, as not all agents are adept at dealing with both inbound and outbound calls.

Sales to both new and existing customers are obviously still key reasons why companies carry out outbound calls, and the hybrid method - customer service leading to a cross-sell/up-sell opportunity - is seen a good way of circumventing the increasing numbers of people registering for the Do Not Call Register. However, businesses must be careful not to pester customers or abuse the relationship they have built up with frequent calls about products and services that are not tailored to the customer. Increasingly, turning an inbound service call into a cross-sell or upselling opportunity has become a widely-use tactic.

OUTBOUND ACTIVITY

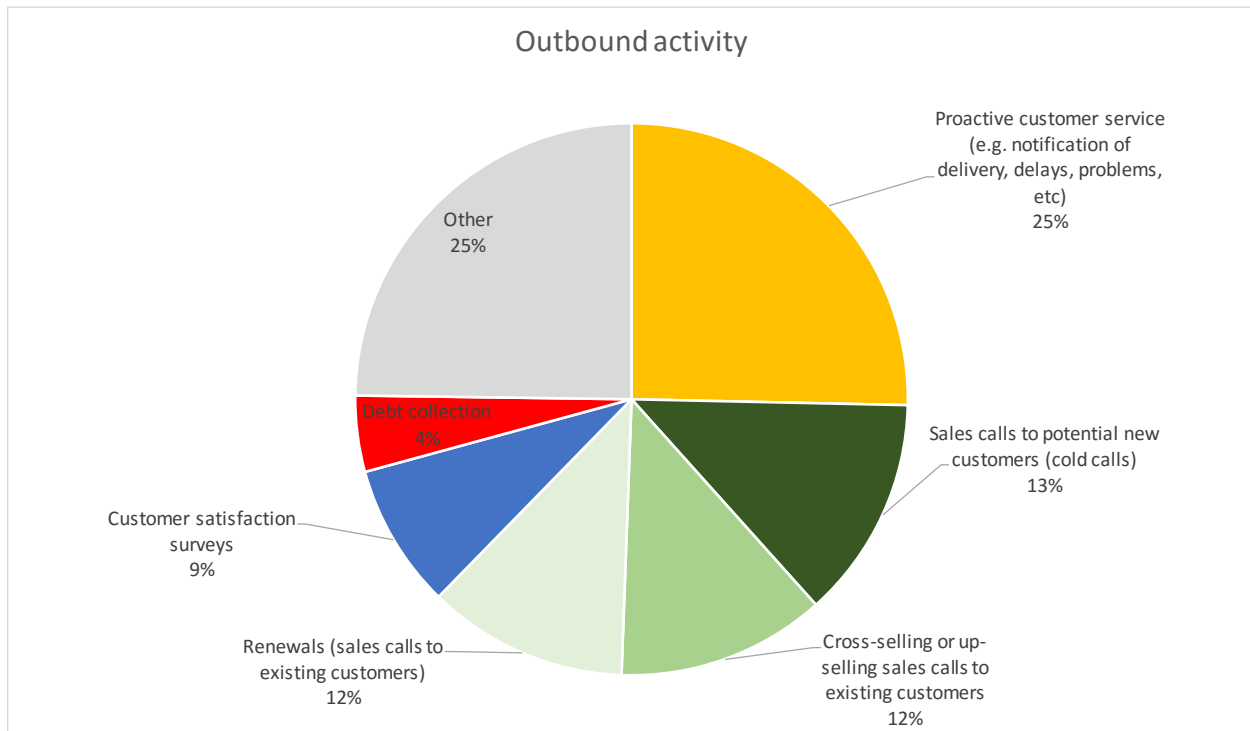
The traditional outbound activity of trying to sell to prospective customers (rather than those who have already done business with you), moves from #1 position to #2, with proactive customer service - which is a strong brand builder as well as an effective call avoidance tactic - taking top spot this year, at 25%.

In total, the three sales-related activities - to potential customers, cross-selling and upselling to existing customers, and renewals to existing customers - account for 37% of outbound activity.

'Other' types of outbound account for 25% of activity, and include:

- Automated callbacks
- Customer service follow up
- Follow up calls on outstanding issues, incorrectly submitted business, email requests and technical support issues
- Market research
- Queries about customer accounts
- Reminders and reschedules.

Figure 148: Outbound activity

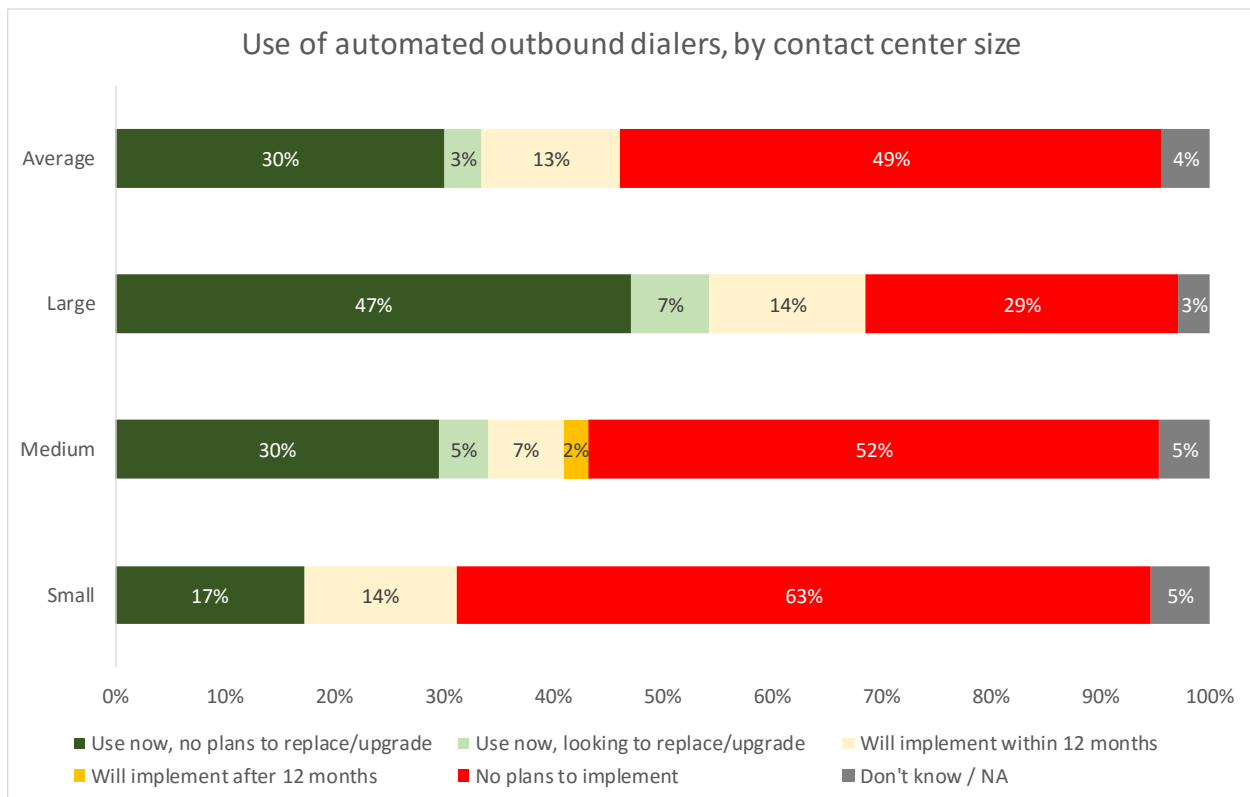


THE USE OF OUTBOUND DIALERS

Automated outbound dialers are almost ubiquitous in large operations which carry out reasonable amounts of outbound work, as the efficiencies over manual dialing are so considerable that it will often make commercial sense. Outbound automation in the cloud is very popular, and this means the barriers to usage are even less.

While smaller operations may not see the same scale of cost savings, over one-sixth of these respondents have implemented outbound automated dialing technology.

Figure 149: Use of automated outbound dialers, by contact center size



Answer Machine Detection (AMD) is a type of technology that allows dialers in predictive mode to recognize calls that are picked up by an answer machine, and stop the outbound agent taking that call, keeping them free to speak with actual customers.

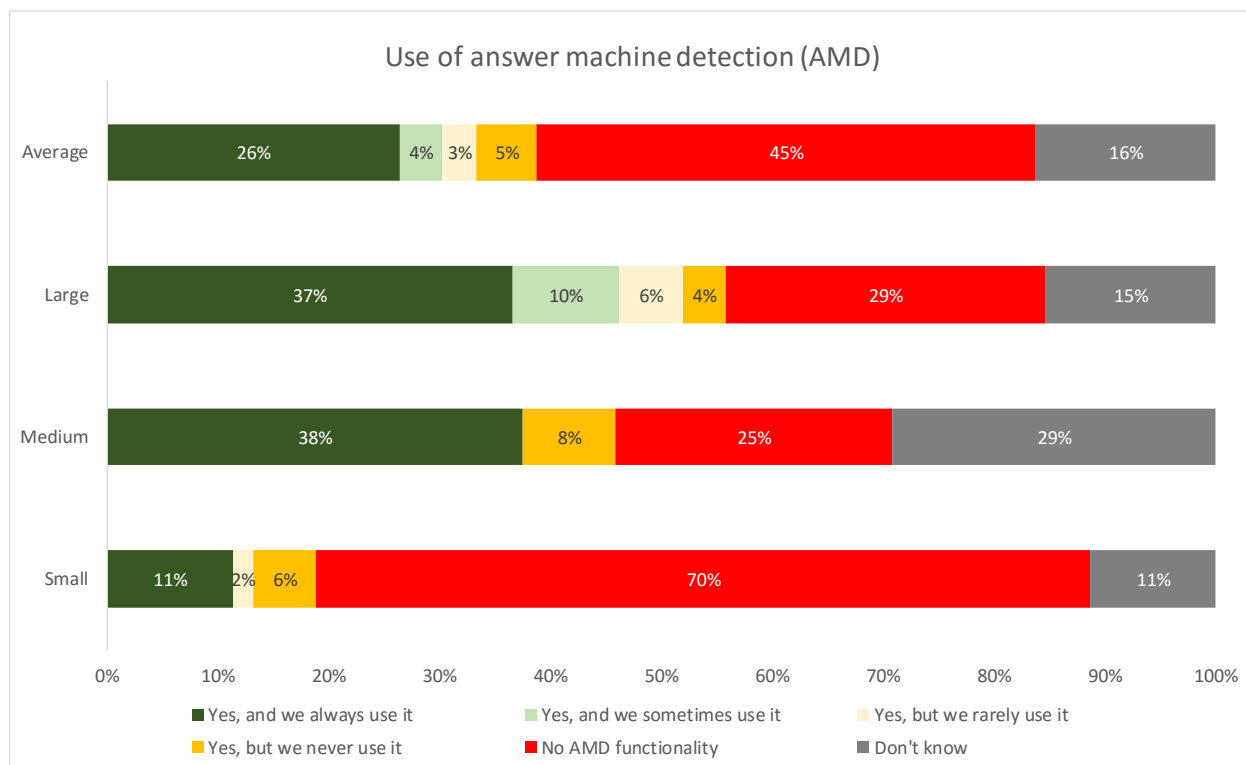
Most AMD solutions usually work by:

- Detecting a long string of words in one burst such as “Hello, we’re not available, please leave a message after the tone ...”
- Identifying a live caller who may answer by saying “Hello?” and then waiting for a reply.

However, AMD may cause problems and is not 100% accurate:

- There will be a pause or delay while the system tries to connect an agent, which may lead to the called party hanging up
- the AMD solution may incorrectly flag a live person as being an answering machine, hanging up the call. The effect of this ‘false positive’ is that the customer will effectively get a silent call which can be frustrating and worrying for the majority of the public who are unaware of how outbound technology works.

Figure 150: Use of answer machine detection (AMD) – dialer users only

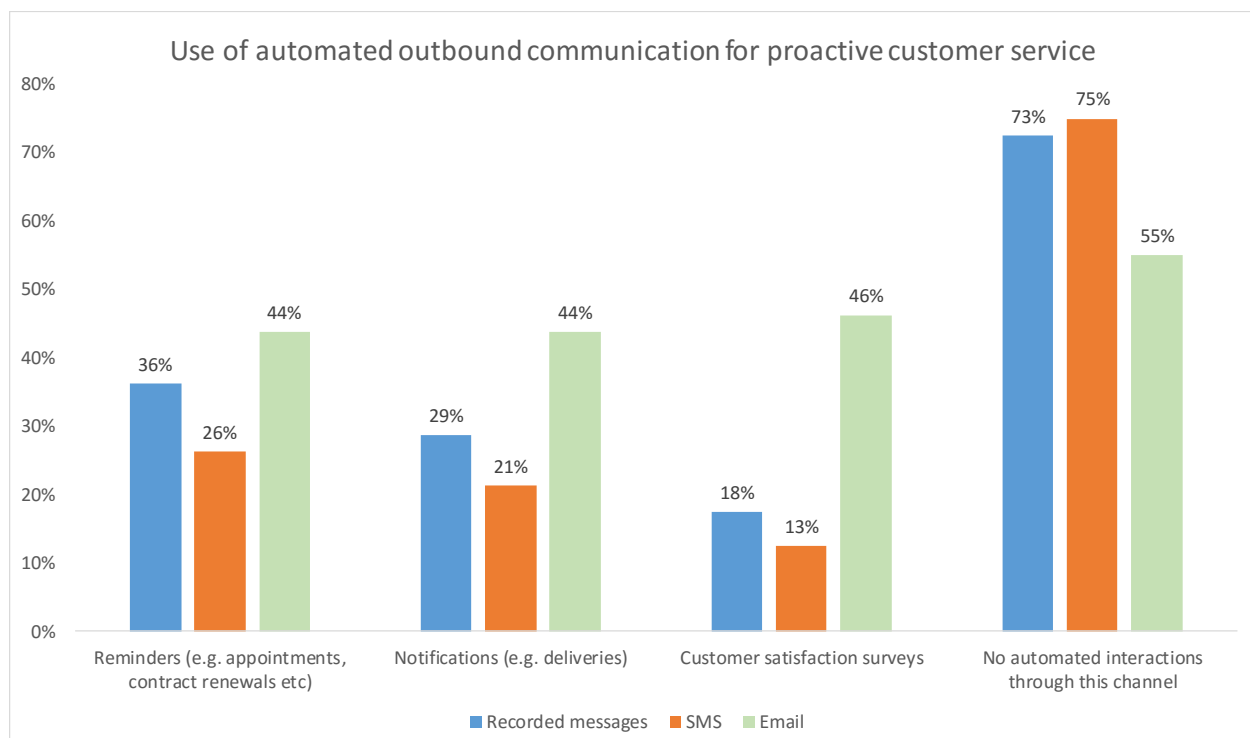


Of those respondents that use AMD, over one-third employ it all of the time, particular the case in medium and large operations. Only a small minority pick and choose the times they use it (some contact centers only employ it in peak calling times, where customers or prospects are most likely to be available, so as to maximize live contacts). A very substantial proportion of outbound users do not have AMD functionality in their solution, especially those in small operations.

The opportunity exists for automated outbound service to expand - such as sending reminders and notifications to customers through an automated process - thus significantly reducing the cost to the business while improving the overall customer experience. Many customers will choose to seek clarification or a status update at some point in the buying process through making an inbound interaction. By sending a pre-emptive outbound message, the business is proactively assisting the customer to manage their interaction.

73% of respondents do not use recorded messages for any purpose, whereas SMS messages are used by only one-quarter of respondents, mainly for notifications and reminders. 55% of respondents do not send automated emails at all.

Figure 151: Use of automated outbound communication for proactive customer service

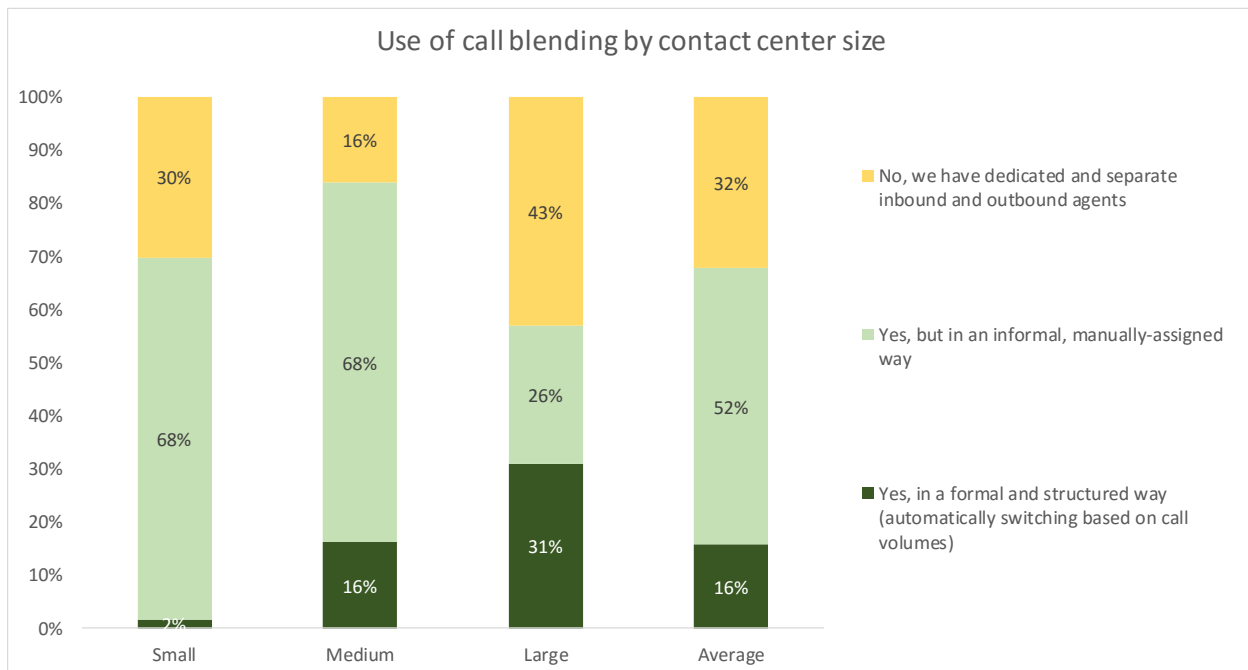


CALL BLENDING

A contact center handling different processes involving customer service, sales orders, and outbound telemarketing will have different groups of agents with specific skills for these areas. Some agents are more capable and adaptable than others, and can be used as blended agents. For example, these agents may have a primary responsibility to handle inbound calls, but when the inbound call volume drops, the dialer will send a message to these agents indicating that they have been switched to outbound mode and start offering outbound calls to them. Where relevant, a CTI-type link will prompt a script for the outbound calls to run on the agent desktop and depending on the call volume in the inbound queue, the agents will be switched automatically, improving productivity. However, if there is a constant switching from inbound to outbound and back again, the agent may lose concentration and the productivity may go down.

A structured blended environment, where agents are moved seamlessly and dynamically between inbound and outbound, is used in only 16% of this year's respondents' operations. As usual, large contact centers are far more likely than smaller operations to use this type of approach. Small and medium operations are more likely to operate blending on a manual, ad-hoc basis. A substantial proportion in both small and large operations use dedicated teams to handle only either outbound or inbound.

Figure 152: Use of call blending by contact center size



It is interesting to put the use and type of call blending against key contact center performance and operational metrics, such as average speed to answer, which is - as usual - somewhat less in formal, blended environments than in dedicated and more ad-hoc environments, as agents are moved between tasks quickly and seamlessly.

Figure 153: Average speed to answer, by call blending environment type

Call blending environment	Average speed to answer (seconds)
Blending used in a formal and structured way	34
Blending used in an informal, ad-hoc way	58
Dedicated and separate inbound and outbound agents	40
Not applicable - no outbound calls made	65

THE ROLE OF MOBILE TELEPHONY IN OUTBOUND CALLING

Around 80% of US cellphone users have access to a smartphone, with this figure growing rapidly, meaning a large proportion of customers will want to contact businesses through these devices, whether via the telephony element of the device, or via the company's website or mobile app. Taking into account the use of tablet computers and handheld games consoles to access the Internet, the 'mobile channel' may actually be the first port-of-call for many customers, especially those in the younger demographics.

The dual, mutually-supporting drivers of high-speed mobile networks and the proliferation of smartphones means that provision of services via a mobile channel offers businesses and consumers the opportunity to make a step-change in the way that they communicate with each other. This new world of communication allows businesses to consider whether functionality such as multimedia streaming and videoconferencing could give them a competitive advantage in the customer service world.

Gathering, understanding and using the contextual data that can surround the mobile consumer will be key to pushing the uptake and functionality of this channel forward. The plethora of channels immediately available to the mobile consumer - including voice, web browsing, SMS, social media, and web chat - encourages the customer to act immediately for all their service or information requirements, rather than waiting until they are in front of a desktop computer.

In the US, the majority of current call plans make the recipient pay for an incoming call (or this expense is at least included with the plan's contract), which means that the caller has to be sure that the recipient actually **wants** to receive the call.

The same double pricing structure is also applied to SMS messages, meaning that the current low usage of business-to-customer SMS is very understandable, with SMS being perhaps best suited to proactive customer service, where being sent information such as notification of travel delays or a danger of being overdrawn is actually worth a customer paying for. It is worth noting however, that respondents stated that their SMS volumes are expected to rise significantly.

See the '**New Media and the Customer of the Future**' section of this report for more about the role of SMS, as well as 'The Mobile Customer' chapter.

Further information about servicing the Mobile Customer can be found in "**The Inner Circle Guide to Omnichannel Customer Contact**", and "**The Inner Circle Guide to Self-Service**".

Both reports are available free of charge from www.contactbabel.com.

STAFFING MANAGEMENT

With staffing accounting for up to 75% of a contact center's operational cost, issues such as attrition, recruitment and training are always towards the front of any contact center manager's mind. This section looks at how time and money are spent on the human element to contact centers.

This chapter contains detailed information around contact center HR benchmarks such as attrition and absence.

["The 2016 US Contact Center HR and Operational Benchmarking Report"](#) also gives detailed analysis of salaries, bonuses, training methods and costs, segmented by vertical market, contact center size and contact center activity type where relevant. Historical trends are observed with a view to predicting what future standards will look like.

The report also contains operational benchmarks such as speed to answer, call abandonment rates, call duration, call transfer rate, cost per call, agent occupancy, target service levels and first-call resolution rates.

ATTRITION

Throughout the studies that ContactBabel has carried out over the years, whether in the US or Europe, staff attrition has consistently been quoted as one of the major worries of contact center management. Along with staff absences, a high level of unchecked attrition has a two-headed effect: first, it raises recruitment and staffing costs; second, it has a ripple effect that can cripple a contact center's ability to provide an acceptable level of service, creating a negative customer experience, and placing massive stress on those agents who are left.

While the recession reduced attrition considerably, this was only a temporary respite: with no structural change to the industry, its recruitment and training methods, management techniques or job types, the same problems have emerged as the economy recovers.

Successful and sustainable reduction of attrition has two main factors - that the successful candidates are suited to, and competent for the work which they will undertake, and that the work and conditions in which they find themselves will be conducive to a long-term stay. Organizational behavior research over the last several years suggests that the emotional makeup of work teams has a dramatic effect on critical organizational outcomes such as job performance, attrition, customer satisfaction and leadership. Identifying a job candidate's emotional makeup - or "affect" in academic speak - can have long-lasting and significant implications for how effective the overall organization can be. Using programmatic methods to measure this can also improve the overall effectiveness of the recruiting function within the company.

Understanding the 0-to-90 day attrition data is critical to being able to reduce attrition, as a substantial amount of annualized attrition occurs in the first 90 days after recruitment, and high 90-day attrition rates are indicative of people who should never have been employed in the first place, and who are all but doomed to failure by their unsuitability for the task. Businesses should collect information on the sorts of behavior and characteristics of people likely to do well in each role - preferably analyzing the people who are successful in the roles already - and pre-screen applicants against those criteria.

Getting a high proportion of the right sort of people through the doors and onto the induction course can greatly reduce early attrition, as this is a problem that can be alleviated at the recruitment stage, rather than leaving it until the candidates are already in the business before noticing the issues.

Staff attrition in small doses can be good for a contact center, bringing in fresh blood and enthusiasm. However, high levels of staff attrition have some serious side-effects:

- Increases recruitment and training costs
- Decreases the average agent competency as there are so many ‘learners’
- Affects the quality of the customer experience, as the agent may not know how to answer the query correctly first-time
- Adverse effect on contact center performance indicators, including first-time resolution, call transfer rates, queue time and call length
- Bad for the morale of the remaining staff
- Inexperienced staff are more likely to miss cross-selling and up-selling opportunities
- Increased pressure put on team leaders and experienced agents to support new staff
- Difficult to bring on-board new systems and ideas, as the agents are struggling with what is already in place.

Attrition rate: the total number of agents leaving the contact center in a 12-month period, divided by the average number of occupants during the same 12-month period, expressed as a percentage.

Respondents were asked to include all external attrition - whether voluntary (i.e. the agent choosing to leave) or involuntary (e.g. end of contract, employment termination, redundancy, etc.) - but **not** internal transfers elsewhere within the organization.

Figure 154: Historical attrition rates

Year-end	Mean annual agent attrition rate	Median annual agent attrition rate
2008	42%	
2009	34%	24%
2010	32%	20%
2011	27%	16%
2012	27%	21%
2013	27%	19%
Mid-2015	29%	18%
Mid-2016	29%	20%

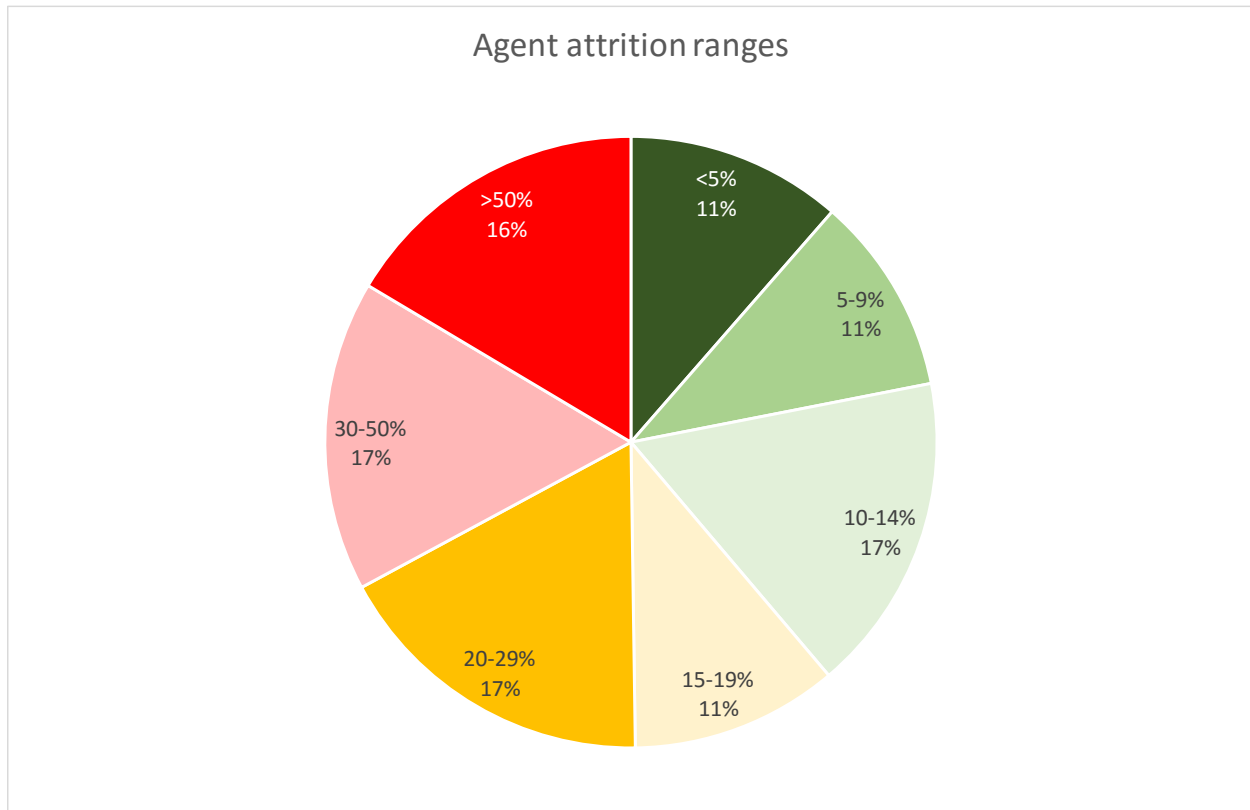
After 2008's very high mean attrition rate of 42%, rates declined significantly in 2009, down to a mean of 34% and median of 24%, showing that the economic downturn has taken some of the HR pressures off. Data at the end of 2010 showed that the economic downturn had continued to impact on staff movement, with attrition levels dropping further to a mean average of 32% and median of 20%. In end-2011, attrition continued to fall, to a mean of 27% and a median of only 16%.

Year-end 2012 saw a small rise in attrition, suggesting that the industry (and possibly economy) were getting back on their feet to some extent, and looking to grow. While the mean stayed the same at 27%, the median grew to 21%. Year-end 2013 results were very similar to the year before: the mean was once again 27%, although the median has dropped very slightly to 19%.

Although the research cycle changed in 2015 (providing mid-year figures rather than end-year), the picture is very similar once again, with a mean of 29% and median of 18%. 2016's figures were very similar.

Once again, there is a very wide spread of attrition rates across the industry, with almost one-third having to manage attrition in excess of 30% pa.

Figure 155: Agent attrition ranges



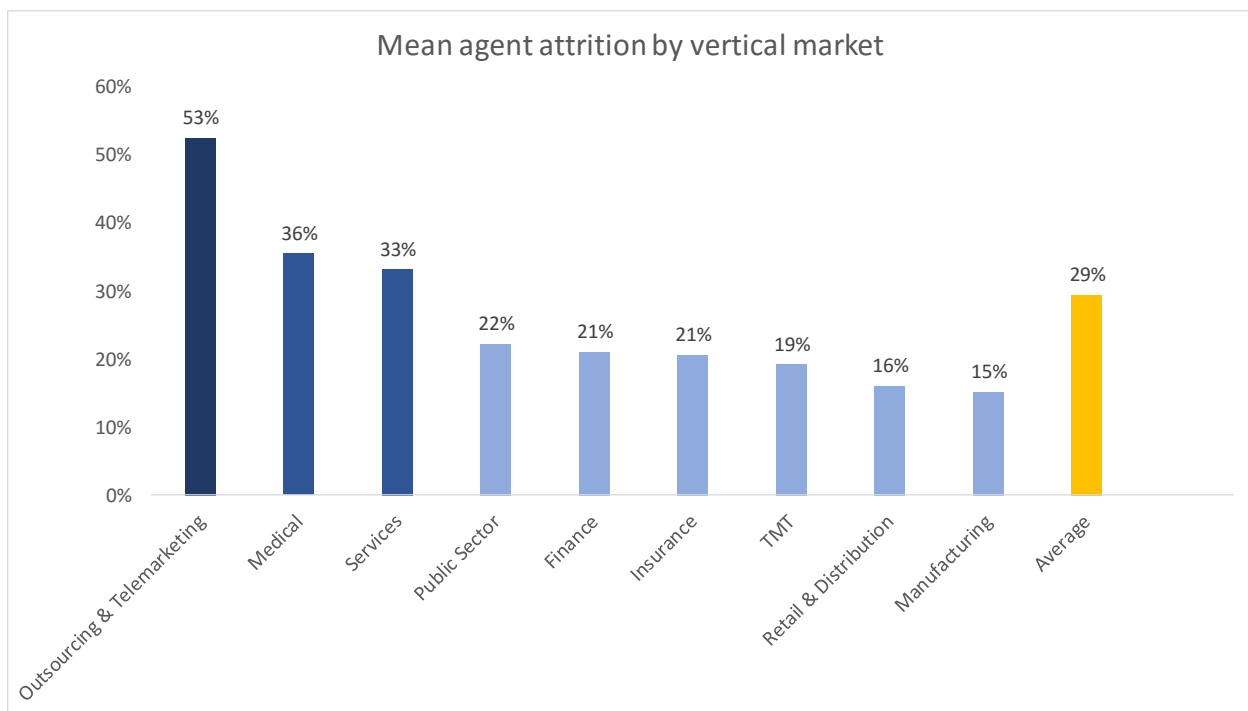
There are numerous factors that impact upon a contact center's agent attrition rate, including vertical market (or the type of business that agents are involved in); contact center size; and whether the work is inbound or outbound, which are analyzed next.

AGENT ATTRITION BY VERTICAL MARKET

The outsourcing sector has a consistently high attrition rate - driven mainly by low salaries and lots of outbound telemarketing work - and this year, it has a mean average of 73%, far higher than most other sectors and an increase on last year's figure of 56%. The median is somewhat lower than the mean at 50% (from 38% in 2014), although this is still by far the highest of any vertical market, reflecting that this is generally a sector-wide phenomenon. For outsourcers - which tend to pay lower salaries - there is an acceptance that large volumes of outbound calling will often come at the cost of high staff attrition, and that this is something which just has to be managed, and such respondents will tend to be more geared-up to cope with high staff turnover.

The medical sectors once again reports a median attrition rate in single-figure percentages. Readers should place more emphasis on median rates, rather than mean, as these take out the impact of a few respondents' extremely high attrition rates, which skews results, particularly in highly-fragmented and small sample sizes such as vertical market.

Figure 156: Mean agent attrition by vertical market

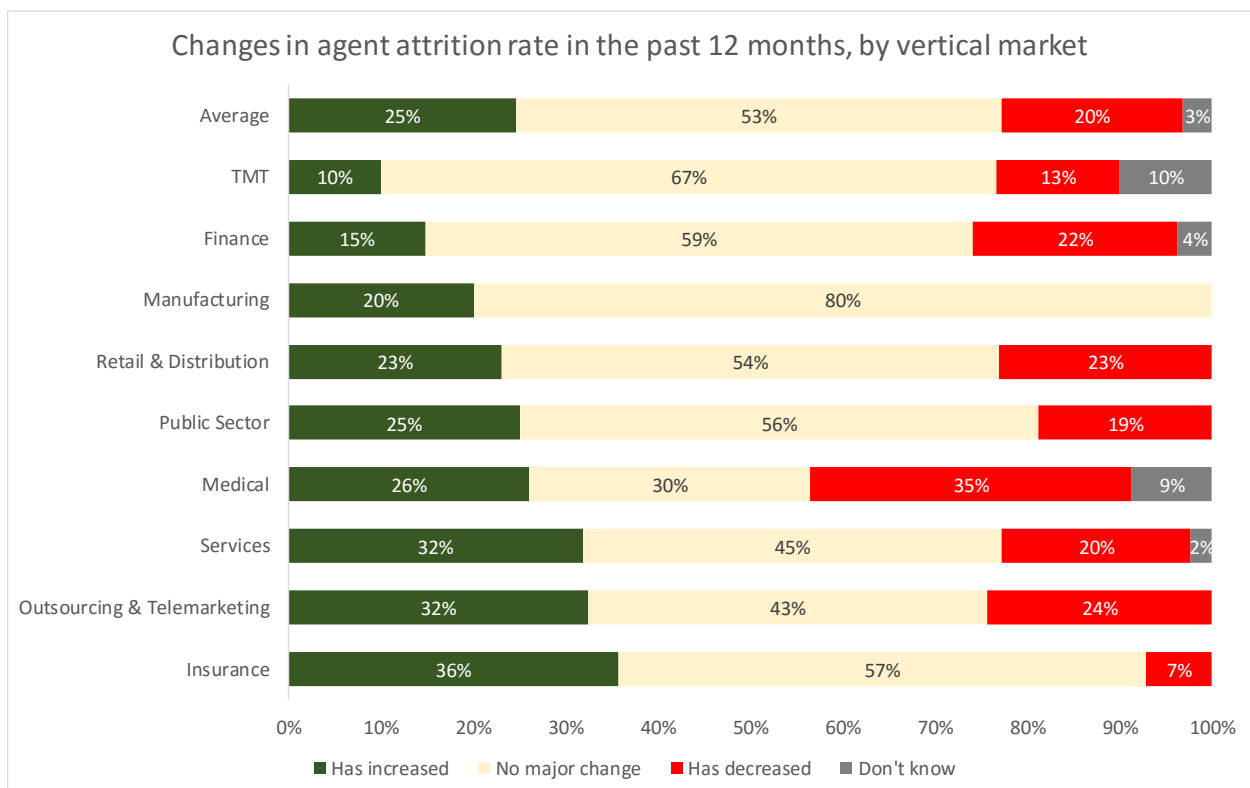


As survey respondents change from year to year, we include another question to highlight whether any year-on-year changes are a factor of the industry as a whole, or simply due to a blip caused by specific respondents.

The proportion of respondents reporting an increase in their attrition over the past 12 months is 13%, compared to 23% who report a decrease. This is not a major difference, and tends to support the headline finding that attrition levels have altered very little at an industry-wide level.

At a vertical market level, it is worth noting that although the outsourcing sector attrition rate has gone up to a mean of 73% and median of 50%, these specific respondents are more likely to report experiencing a drop in attrition than an increase.

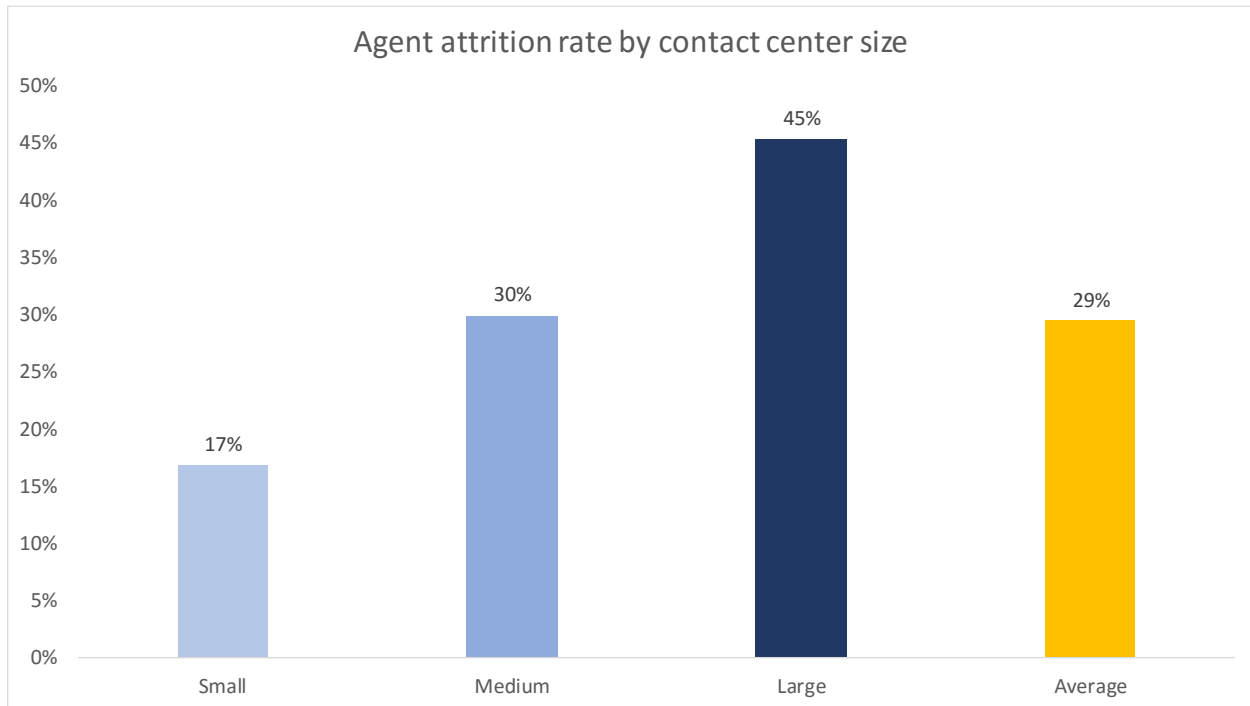
Figure 157: Changes in agent attrition rate in the past 12 months, by vertical market



AGENT ATTRITION BY CONTACT CENTER SIZE

Previous ContactBabel studies carried out in the US and UK have shown that larger contact centers are much more likely to have high attrition rates, and this is very much the case this year as well, with respondents in large operations experiencing mean staff attrition rates of 49% on average, compared with 17% for the sub-50 seat operations.

Figure 158: Agent attrition rate by contact center size



CAUSES OF STAFF ATTRITION

In the mid-2000s, the stress of the work and the repetitive nature of some contact center activity were cited as key by a significant proportion of respondents for agent attrition, and they remain important, ranked at second and fourth. However, contact centers seem to be giving a collective shrug by putting 'just the wrong type of person for the job' into no.1 position, as if there's nothing they can do about it.

Psychometric testing and the assessment of behavior and character as well as competency will go a long way to stopping the wrong type of person for the job at source.

Figure 159: Reasons for agent attrition (ranked in order)

Rank	Reason for staff attrition
1st	Just the wrong type of person for the job
2nd	Excessive pressure or stress
3rd	Lack of promotion or development opportunity
4th	Low pay
5th	Repetitive work
6th	Competition from other contact centers
7th	High numbers of temporary / seasonal staff
8th	Abusive or unpleasant calls
9th	Poor working environment and conditions

Interestingly, in an industry which outsiders often deem as a dead-end job, the lack of opportunity to move up the career ladder is marked on average as being the third-greatest cause of staff attrition.

As for other causes, much of the repetitive work is being alleviated by using self-service (whether voice-driven or web-based), and the blending of tasks (especially email and voice) has been proven many times to counteract boredom.

ABSENCE

In a tightly-run operation like a contact center where costs and performance are closely managed, significant levels of staff absence can cause major problems with contact center performance and the customer experience. Even just a slight increase in absence rates can mean a major difference to how well the contact center performs on that day. Staff end up over-worked and stressed, and more likely to take time off as a result. Morale suffers, which increases staff attrition, overwork and thus, further absence.

There are many causes of absenteeism, including:

- The absence of a recruitment process that allows operations to identify unreliable or unsuitable applicants
- Poor front-line leadership - many team leaders are just not able to manage their teams and help prevent absenteeism, a fault of incorrect training and/or recruitment at this level
- Low morale in the contact center, meaning the workforce think that missing work is acceptable.

There are also other factors that influence absence, including:

- Mandatory overtime
- Antisocial hours
- Lack of schedule flexibility and choice
- Insufficient mentoring or supervisor support, especially during the transition period after training
- Large team sizes (20+ per team).

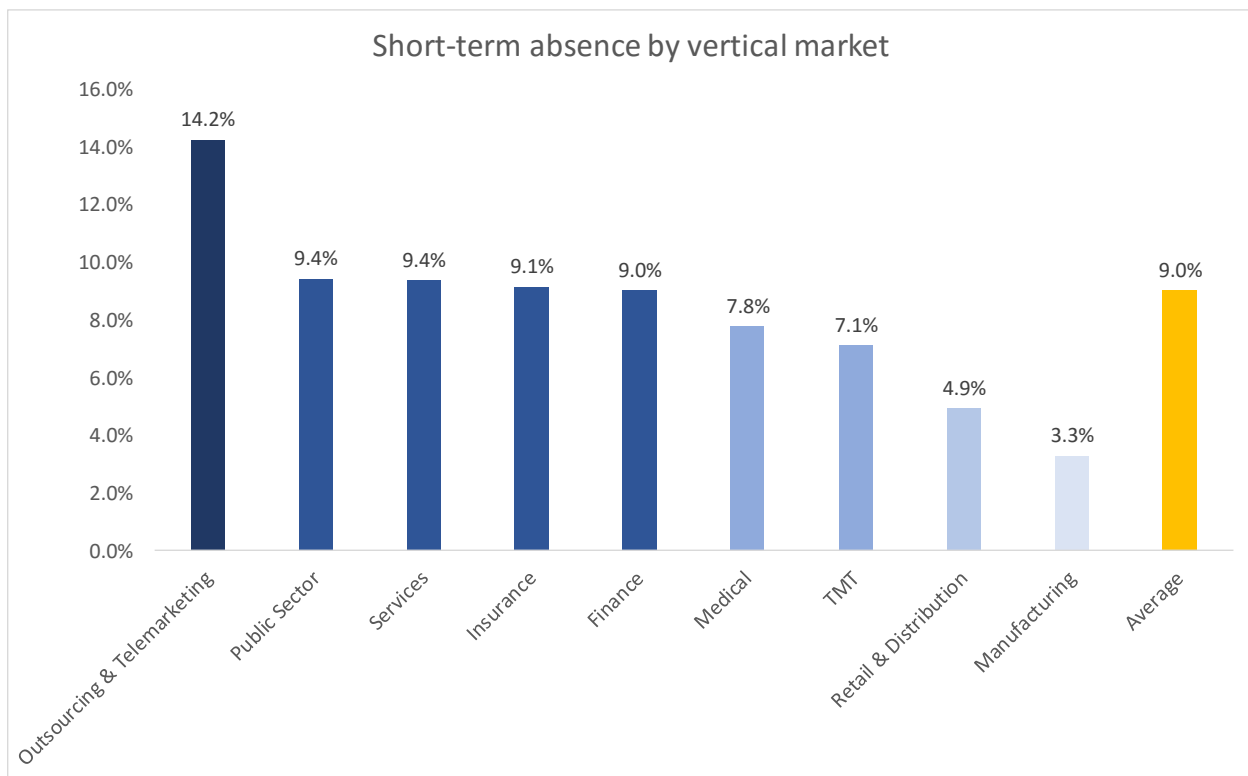
Short-term (no-show) absence - this is the average number of agent days lost through short-term sickness and unauthorized absence as a percentage of contracted days annually. This is included in this year's report.

Long-term absence - this includes long-term sickness, maternity leave, sabbaticals and other long-term absences where the business is able to plan for the absence. This is **not** included in this year's report.

This year's mean absence rate has dropped from 10.4% to 8.9%, with the median - the typical midpoint average – dropping to 5.5% from 2014's figure of 7%.

Those respondents in the TMT (B2C) medical, insurance and outsourcing sectors are experiencing higher-than-average rates of absence again this year, with those in the B2B sectors (TMT, services & manufacturing) once more having absence rates significantly below the industry-wide median average.

Figure 160: Short-term absence by vertical market



As has been the case in many previous years, smaller contact centers seem to experience far lower rates of staff absence.

Figure 161: Short-term absence by contact center size

Contact center size	Agent absence rate (mean)	Agent absence rate (median)
Small	6.2%	5.1%
Medium	12.5%	10.5%
Large	10.3%	9.1%
Average	9.0%	6.4%

RECRUITMENT

There is a definite pattern to the effectiveness of recruitment methods: the closer you get to the candidate, the more likely you are to make the right decision. The average contact center role is slowly changing into something requiring higher skills - a high level of IT, business and communication abilities are needed in many contact centers now and this trend will certainly continue.

While most contact centers do not admit to having problems with staff recruitment, many of the same operations have problems with staff attrition. The case could be made that high-attrition operations **do** have a problem with recruitment, but they just don't realize it. Having filled their job roles, the recruitment process is deemed to have been a success, but how many of these new recruits turn out to be no-shows, or leave either before the induction course is complete or shortly into the job? These recruits are gauged to be part of the **attrition** problem, when in fact, they are indicative of a **recruitment** problem. As such, businesses should try harder to understand what skills and attributes successful agents are already demonstrating in this role - empathy, resilience, reliability, sales technique, technical capability, etc. - and seek to recruit more people with this specific factors and behaviors.

Recruitment has traditionally been about asking the question "Can the applicant do the job?". Having the skills to carry out the task is obviously important, but most skills can be learned, and in an environment such as a contact center - where both tasks and environment are not suited to everyone - other factors are perhaps more important. This is borne out by the findings earlier in this chapter, which indicated that the main reason for staff attrition was that they were just the wrong type of person for the job.

Firstly, the business must understand the competencies, characteristics and behaviors that are most suitable for the contact center positions that they are trying to fill, for example:

- dependability
- customer focus
- empathy
- problem-solving
- the ability to understand and follow instructions
- a focus on a goal.

Successful agents will also require some hard skills, although many of these are more easily-learned. Through judging competencies objectively, and using a combination of processes (for example, telephone and face-to-face interviews, with upfront psychometric analysis to determine the likelihood of the prospect being a long-term success in the contact center), the business reduces the risk of high attrition and growing costs, and can focus upon its strategic goals.

RECRUITMENT COST

In previous years, a raw average cost per recruited agent was quoted in this report, which was usually between \$2,500 and \$3,000. Closer inspection of these data suggest that it is misleading to provide a single figure for contact center recruitment cost, as there is an extremely wide spread of costs across the industry, so both mean and median figures are provided this year.

38% of respondents from large operations report that they spend \$500 per head or less recruiting a new agent: yet 31% state that they spend more than \$4,000. These data make interpretation and analysis of recruitment costs a very complicated matter, with little certainty or pattern emerging.

Figure 162: Cost of recruiting a new agent, by contact center size

Contact center size	Mean	Median	1 st quartile	3 rd quartile
Small	\$2,423	\$2,100	\$3,625	\$1,000
Medium	\$2,263	\$2,250	\$3,625	\$1,050
Large	\$2,123	\$2,000	\$2,800	\$1,050
Overall	\$2,282	\$1,900	\$3,250	\$1,025

When looking at contact center activity type - inbound, mixed, or outbound - a more definite pattern begins to emerge, with outbound operations tending to spend far less on recruitment, than inbound or mixed respondents.

SALARIES

Figure 163: Contact center salaries and changes

Role	2016 mean average salary
New agent	\$29,841
Experienced agent	\$35,101
Team leader / supervisor	\$44,435
Contact center manager	\$68,578

More detailed analysis of salaries and bonuses, including historical patterns and segmentation by vertical market, contact center size and activity type is included in ["The US Contact Center HR and Operational Benchmarking Report \(2016\)"](#).

STRATEGIC DIRECTIONS

Much of this report is about how contact centers are performing today, but this final chapter looks at the strategic decisions and issues that contact centers face.

Traditionally, HR issues such as attrition have been what make contact center managers most concerned, but the past years have seen a growing feeling that the technology in place is letting the operation down, or at least, preventing it moving forward to the extent that it needs. Contact centers are also aware that they have to modernize their processes as well as the technology, but as ever, cost, time and the need to keep the operation running smoothly make this sort of strategic thinking very difficult, especially in a situation where many contact centers still do not have much in the way of a champion at the higher levels of the business. Cloud-based solutions offer a scalable and powerful alternative to large-scale, high cost, premise-based implementations, offering sophisticated functionality to organizations which may have otherwise struggled to keep up.

The need to measure and improve customer satisfaction, and its impact upon profitability, has become an obsession throughout the industry, which is positive for customers and businesses. A recent phenomenon has been the explosive growth in multichannel communications, and the rapid realization that customer contact must not exist in a siloed environment, but as part of an omnichannel strategy.

The industry is still growing in terms of increased volumes of interactions and even headcount, and more needs to be done to increase the effectiveness of agents, particularly as the move from live voice to digital service means learning new ways of operating. Voice self-service levels have been low across much of the industry for some years, although have picked up significantly in the past two years. More is also being done via the web and mobile channels (as well as through new technologies such as visual IVR) to take low-value work away from agents, freeing them up to do more profitable and difficult work.

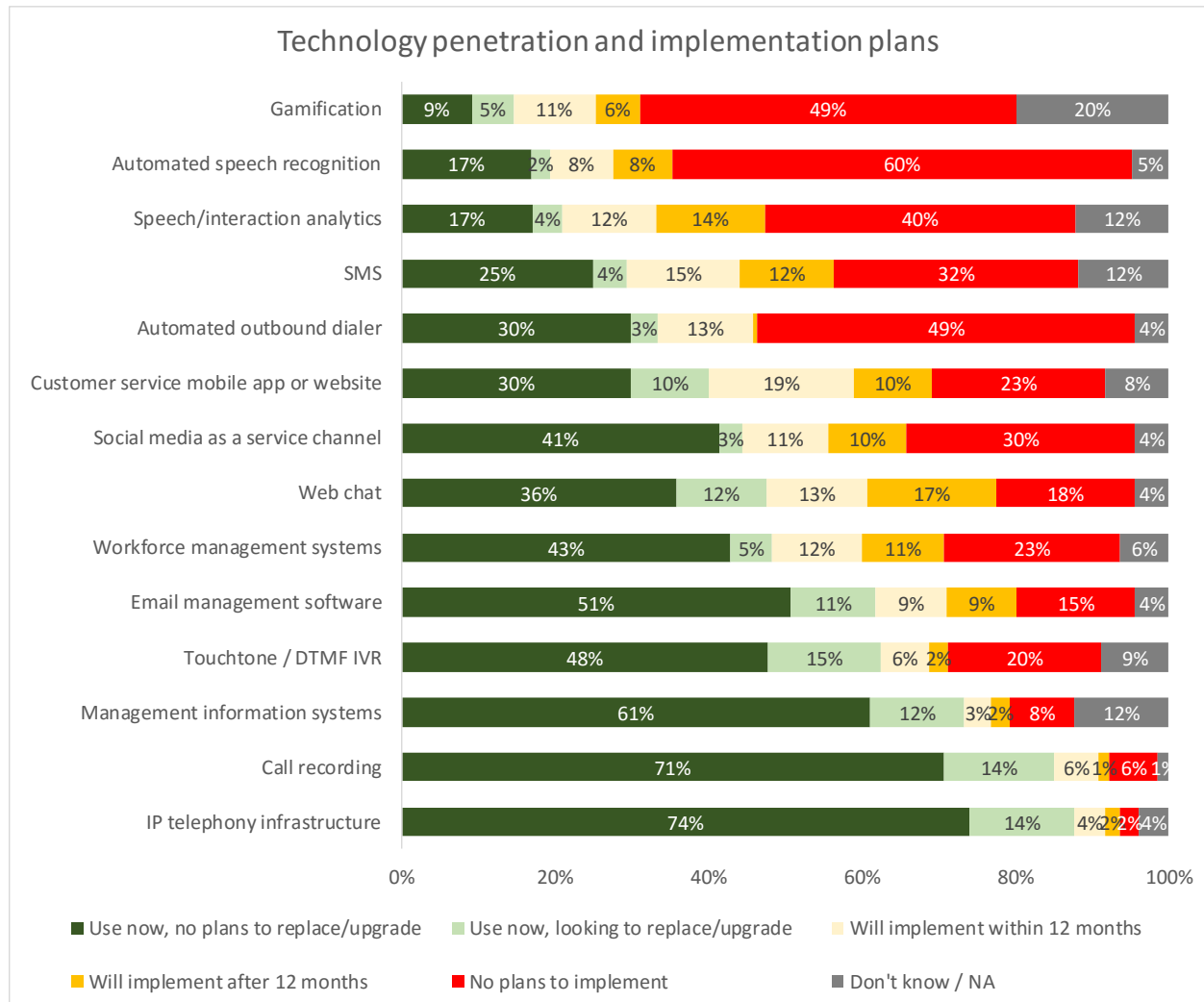
For businesses where self-service is not seen as a viable option, great opportunities still exist to trim unnecessary elements of the calls, from identity verification through system navigation to post-call wrap-up: consistently high levels of wrap-up time and non-call time is worrying: often 40% or more of an agent's time is spent doing something other than communicating with customers. Agent desktop optimization - putting the right things on the desktop at the right time in the conversation, without disrupting the underlying system functionality - is gaining in popularity, especially in very large contact centers with multiple, complex processes and legacy systems. Interaction analytics offers businesses a major opportunity to understand why customers are calling, and to gain real business insight that will impact at the heart of the business.

Yet the background against which the technologies and HR issues that contact center management now talks about is that of customer satisfaction and improved customer experience. This is the common ground where senior executives and contact center operations can now meet and discuss how to head in the right direction together. Much of what respondents to this survey have talked about is colored by improving customer experience, the almost-certain driver of where the contact center industry is headed long-term.

TECHNOLOGY USAGE AND PLANS

The following chart shows respondents' current and future use of specific contact center solutions.

Figure 164: Technology penetration and implementation plans



As with previous years, core systems such as telephony infrastructure, IVR and call recording systems are amongst the most likely to be upgraded or replaced in the next year, with a significant proportion of respondents using newer functionality such as email, web chat and mobile apps also looking to improve or upgrade their solution.

In terms of new implementations, mobile customer service along with SMS, social media and web chat are singled-out as short term additions, with gamification also receiving attention. In the longer-term too, web chat and speech analytics are seen as likely investments for other organizations.

Recognizing that the reality of contact center investment does not always match the intention shown in the previous chart, the following table gives closer analysis of IT investment priorities. Respondents were asked to consider 25 technology solutions, and to choose the top five most important areas of IT expenditure in their contact center within the next two years. Viewed together, these data are likely to give an accurate picture of likely investment.

Figure 165: Top 5 most important areas of contact center IT expenditure in the next two years (ranked by overall number of top 5 places)

Technology solution	1 st	2 nd	3 rd	4 th	5 th
Omnichannel	10%	15%	6%	5%	11%
CRM / Agent Desktop Software	16%	13%	4%	10%	0%
Workforce Management	6%	10%	8%	8%	5%
Performance & Quality Management	4%	15%	2%	8%	8%
Call Recording	6%	4%	8%	3%	11%
Web Chat	4%	0%	8%	5%	11%
Desktop Automation & Analytics	4%	8%	4%	5%	5%
Homeworking	4%	2%	4%	3%	11%
Email Management	2%	6%	4%	5%	5%
Back-Office Integration	10%	2%	6%	0%	3%
Speech Analytics	2%	0%	6%	10%	3%
Self-Service (includes DTMF/visual IVR & speech recognition)	0%	0%	6%	5%	8%
Virtual Contact Centers	4%	0%	2%	10%	3%
Management Information Systems	4%	4%	4%	3%	3%
Cloud	8%	2%	4%	3%	0%
Social Media	2%	0%	6%	3%	5%
Telephony Infrastructure (including IP)	6%	0%	2%	0%	5%
Mobile Service	0%	4%	2%	3%	3%
Outbound Automation	0%	2%	2%	5%	0%
Interaction Routing (including ACD/CTI-like functionality)	2%	2%	2%	3%	0%
Gamification	2%	2%	4%	0%	0%
Hardware (including PCs & servers)	0%	4%	0%	3%	0%
Headsets	2%	2%	0%	3%	0%
Video/Web RTC	0%	0%	2%	0%	3%
Voice Biometrics	0%	2%	0%	3%	0%

For many years, CRM (including improvement to the contact center agent desktop and contact management system, as well as company-wide CRM) has been the most popular no.1 priority, and this is the case once again this year. However, in past years, CRM gained the highest number of top 5 votes by far, but has been overtaken this year by omnichannel (defined in the survey as “the process of getting all of the channels to work together”). The various supporting applications, such as web chat, email management systems and social media have significant proportions of respondents placing them within the top five, especially the former two solutions.

Moving contact center functionality to the cloud is of prime importance for only 8% of respondents, with 17% in total placing it within their top five priorities. This is a drop on previous years’ figures, and is likely to be as a result of the quick uptake of cloud – now the focus is on improving specific solutions, often within an existing cloud environment.

Improving workforce management, and performance and quality management features in third and fourth places, and with respectively 38% and 36% of respondents placing them in the top five, this can be seen as a widespread and compelling requirement for many operations.

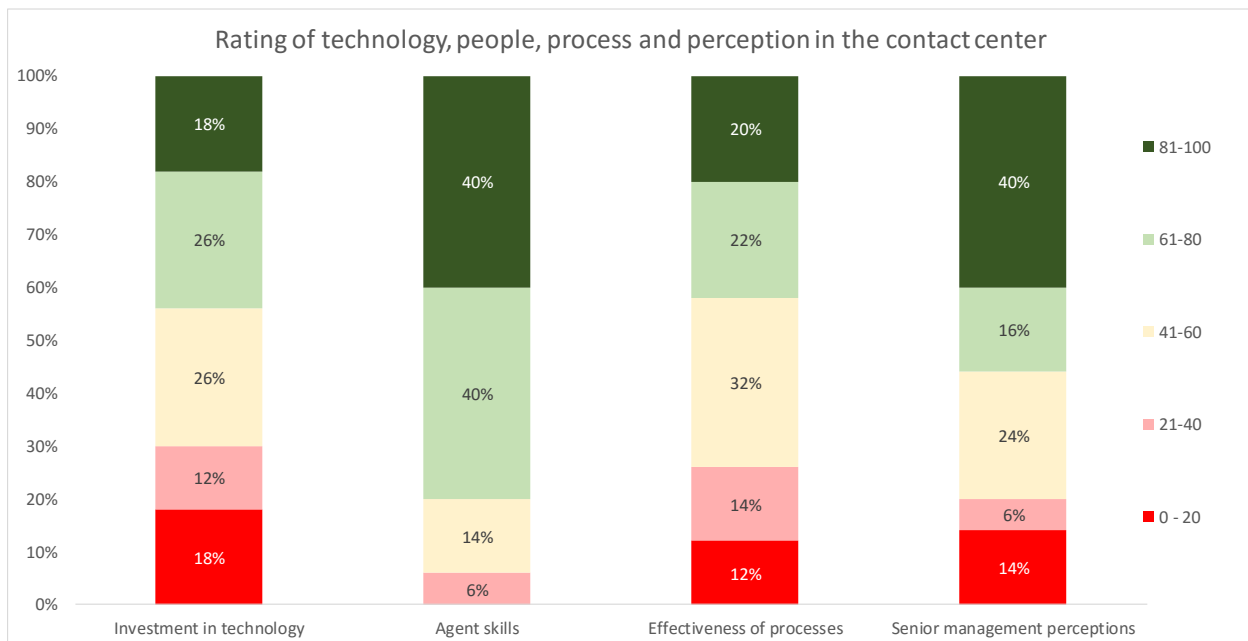
One interesting point to note is that telephony infrastructure upgrades (usually involving IP) is no longer one of the main planned expenditures on contact center technology. 44% of respondents placed moving to an IP environment as being one of their top three priorities as recently as 2013 – now the figure is only 13%.

It is interesting to note that respondents place back-office integration and desktop automation & analytics as significant investment priorities over the next two years, with 21% and 26% of respondents respectively putting them in their top five (10% put back office integration as their no.1 priority). This suggests that respondents are very aware of the need to underpin the entire customer contact infrastructure-both front and back office-with a robust and stable infrastructure that allows a single view of the customer in an omnichannel environment. While back-office integration may not be the most glamorous technology solution available, this significant level of interest and planned investment shows the contact center’s remit is widening to cover the entire customer journey, not just the voice element.

TECHNOLOGY, PEOPLE, PROCESS & PERCEPTION

Respondents were asked a series of four questions around how well or poorly they felt their contact center was doing around four key areas: technology, people, process and perception. They were asked to score their operation on a scale of 1 to 100, where a low score represented a very poor outcome, and a high score a very positive one. The scores for each question were grouped into five categories in order to draw out a pattern.

Figure 166: Rating of technology, people, process and perception in the contact center



Technology: respondents were the most negative in their views of the investments they saw being put into systems and technology within the contact center, with 18% scoring this below 20/100 and a further 12% between 21 and 40.

Agent skills: the majority of respondents were very positive about the skills and characteristics that their agents had. 80% scored this at 61/100 or above with only a very few believing that the agents did not quite have the skills and characteristics required.

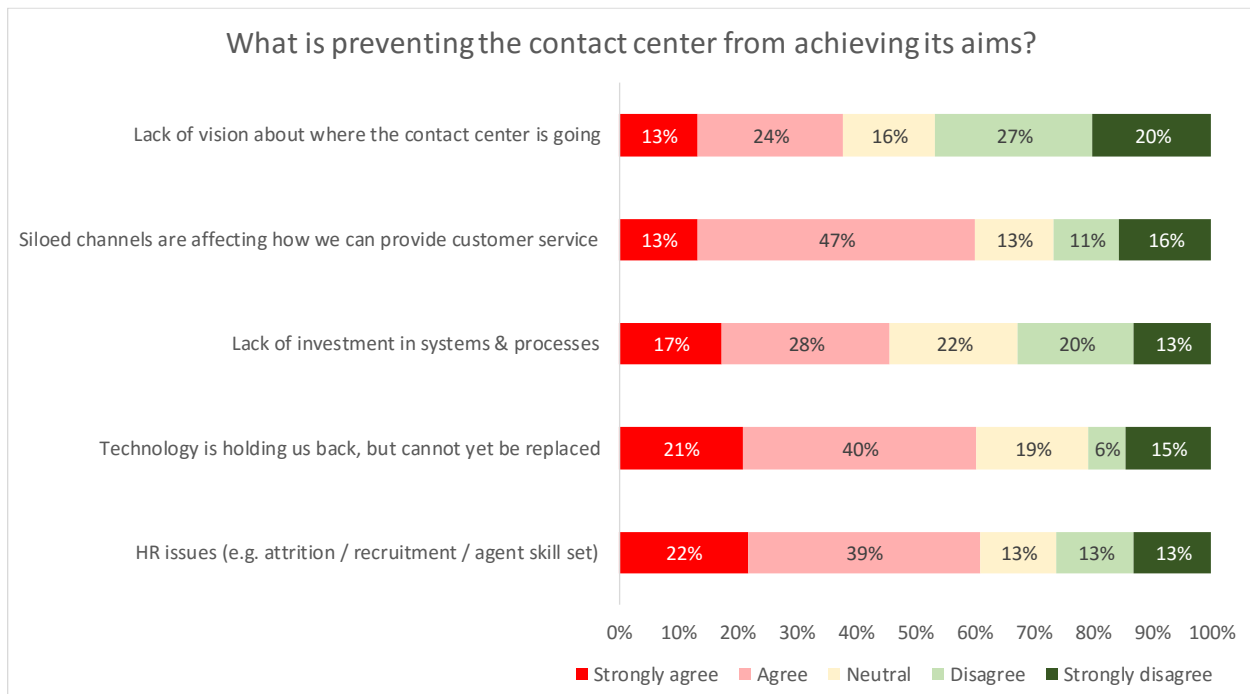
Processes: the pattern here is similar to that seen in technology investment, although the proportion of respondents feeling very negative about this is somewhat less. While 42% of respondents feel that their contact center processes don't need much improvement, 26% feel that they require significant change.

Management view: respondents were asked whether the business's management views them as an operational cost center (low score), or as a strategic asset (high score). 56% said that their management viewed them more as a strategic asset, with 20% stating that they were seen as an operational cost center. The move towards being viewed strategically continues this year, as 10 years ago, most operations were seen as cost centers.

HELPING THE CONTACT CENTER ACHIEVE ITS AIMS

Respondents were asked to give their views on what was preventing the contact center from achieving its aims, assuming that there was a gap between what was being achieved and what would be ideal. There was little agreement once again this year.

Figure 167: What is preventing the contact center from achieving its aims?



Although only 13% felt very strongly about it, concerns over siloed channels were viewed as an issue by 60% of respondents, a result of many organizations hitting problems as they move to an omnichannel environment. Most of the non-telephony channels were added and integrated in a piecemeal fashion, and may require changes to underlying infrastructure and business processes in order to provide an omnichannel experience.

61% of respondents felt to some extent that their existing irreplaceable systems were holding them back, which was viewed as being more of a problem than simply not having the investment available, but more to do with the highly customized and bespoke legacy environment that the business feels it requires to operate.

Despite the vast majority of respondents to the previous question feeling that their agents were skilled enough to handle the work being given, 61% of respondents were concerned that HR issues were holding them back – these are more likely to be connected to attrition and recruitment rather than the caliber of the agents.

When considering the attitudes of respondents from various size bands, there is general agreement, with a few key areas of differentiation:

- larger contact centers are far more likely to believe that a siloed approach to channel management is holding them back, with 80% of this size band expressing this opinion
- respondents from larger operations are also more likely to see that the lack of investment in technology is restricting their plans. They are also likely to be having more problems with HR issues, particularly around attrition
- small contact centers are more likely than average to believe that a lack of vision about how their operation could work is holding them back
- medium-sized contact centers are more likely than average to say that lack of technology investment is holding them back.

APPENDIX: 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.

The coverage provided by our massive and ongoing primary research projects is matched by our experience analyzing the contact center industry. We understand how technology, people and process best fit together, and how they will work collectively in the future.

We help the biggest and most successful vendors develop their contact center strategies and talk to the right prospects. We have shown the UK government how the global contact center industry will develop and change. We help contact centers compare themselves to their closest competitors so they can understand what they are doing well and what needs to improve.

If you have a question about your company's place in the contact center industry, perhaps we can help you.

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