The 2022 US Contact Center Decision-Makers' Guide

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"The 2022 US Contact Center Decision-Makers' Guide (14th edition)"

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two

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three

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INTRODUCTION AND METHODOLOGY

The "US Contact Center Decision-Makers' Guide (2022 - 14th 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 203 contact center managers and directors between September and November 2021. Analysis of the results was carried out in December 2021. The result is the 14th 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 sponsors of the report. 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, this is clearly marked as such.

HOW TO USE THE REPORT

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

- Improving Quality and Performance
- Maximizing Efficiency and Agent Optimization
- Digital, Cloud and the Customer of the Future
- Outbound and Proactivity
- The Customer Experience
- 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.

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, 911 / 311
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
Transport & Travel	Transport information, booking, travel agents, airlines, hotels

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 203 contact centers interviewed in this study were broken down into discrete segments:

Vertical markets

- Finance – 22
- Insurance – 19
- Manufacturing – 14
- Medical – 22
- Outsourcing & Telemarketing – 28
- Public Sector – 17
- Retail & Distribution – 24
- Services – 15
- Technology, Media and Telecoms (TMT) – 30
- Transport & Travel – 9
- None provided / other (not included in vertical market analysis) – 3.

Size bands

- Small (10 to 50 agent positions) – 84
- Medium (51 to 200 agent positions) – 60
- Large (200+ agent positions) – 56
- No size band provided – 3.

Inbound / outbound

- Mostly inbound (75%+ inbound) – 137
- Mixed (between 26% and 74% inbound and outbound) – 40
- Mostly outbound (75%+ outbound) – 23
- No inbound / outbound activity provided – 3.

Sales / service

- Mostly service (75%+ service) – 140
- Mixed (between 26% and 74% service and sales) – 41
- Mostly sales (75%+ sales) – 19
- No sales / service activity provided – 3.

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
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IMPROVING QUALITY AND PERFORMANCE

Within this section, methods and solutions are discussed that support and improve the quality and performance of agents.

Many of the solutions operate as part of a broad set of workforce optimization technologies and practices which measure and encourage agents to align their behaviors and actions closely with the requirements of the business.

Topics include:

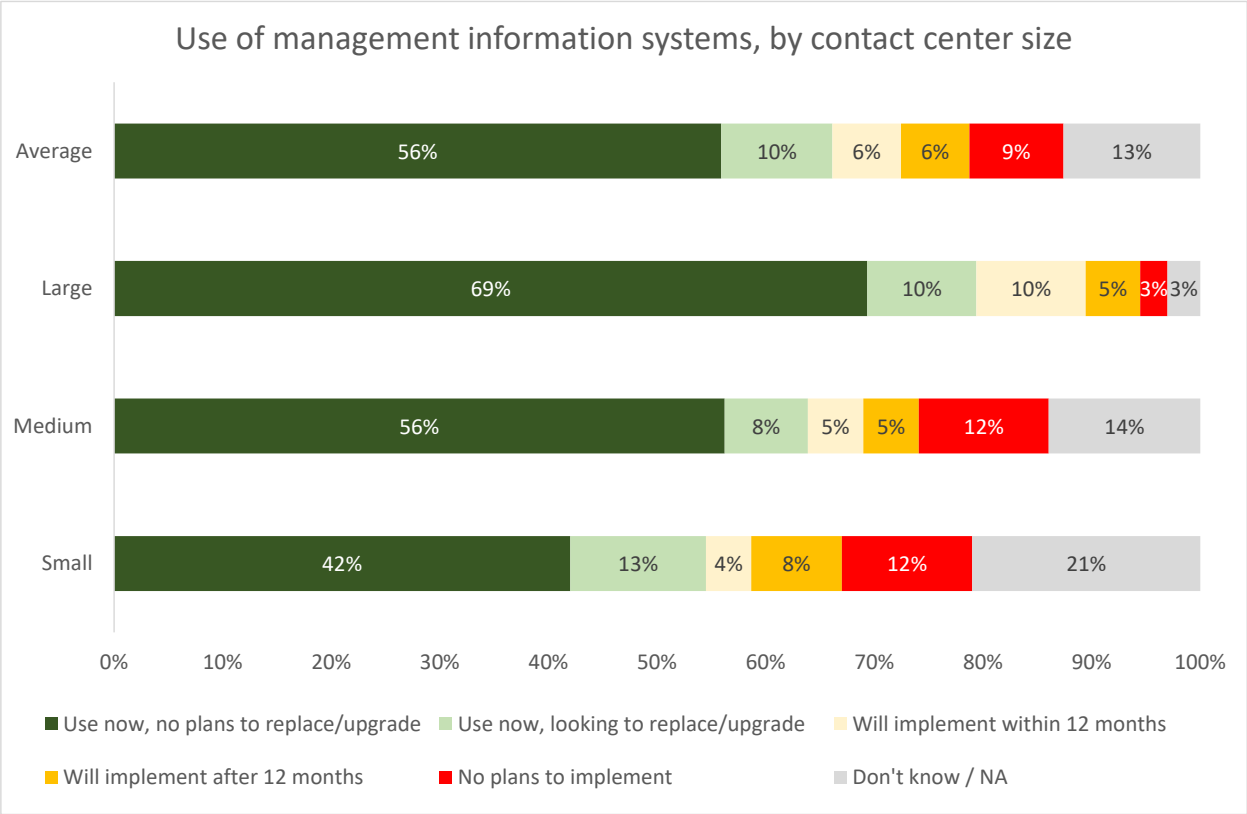
- Contact Center Performance Benchmarks
- Multichannel Workforce Management
- Headsets
- Quality Call Recording, Performance and QA
- Interaction Analytics.

MANAGEMENT INFORMATION

The success 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 still widely acknowledged and understood benchmarks, many contact centers now 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. Our previous research shows that agents are far more likely to be rewarded for meeting required operational metrics rather than customer-focused service metrics, usually because this is what's easier to measure.

Management information systems are the contact center management's eyes and ears, providing the tools and information to judge the effectiveness and efficiency of the operation. The results of may be output to wallboards, desktop displays (at management, supervisor and agent levels as appropriate), batch reporting and fed into real-time scheduling and forecasting functionality. Many contact centers are actively looking to upgrade or replace their current MIS, suggesting that it is not always giving management what they need in terms of actionable information.

Figure 2: Use of management information systems, by contact center size

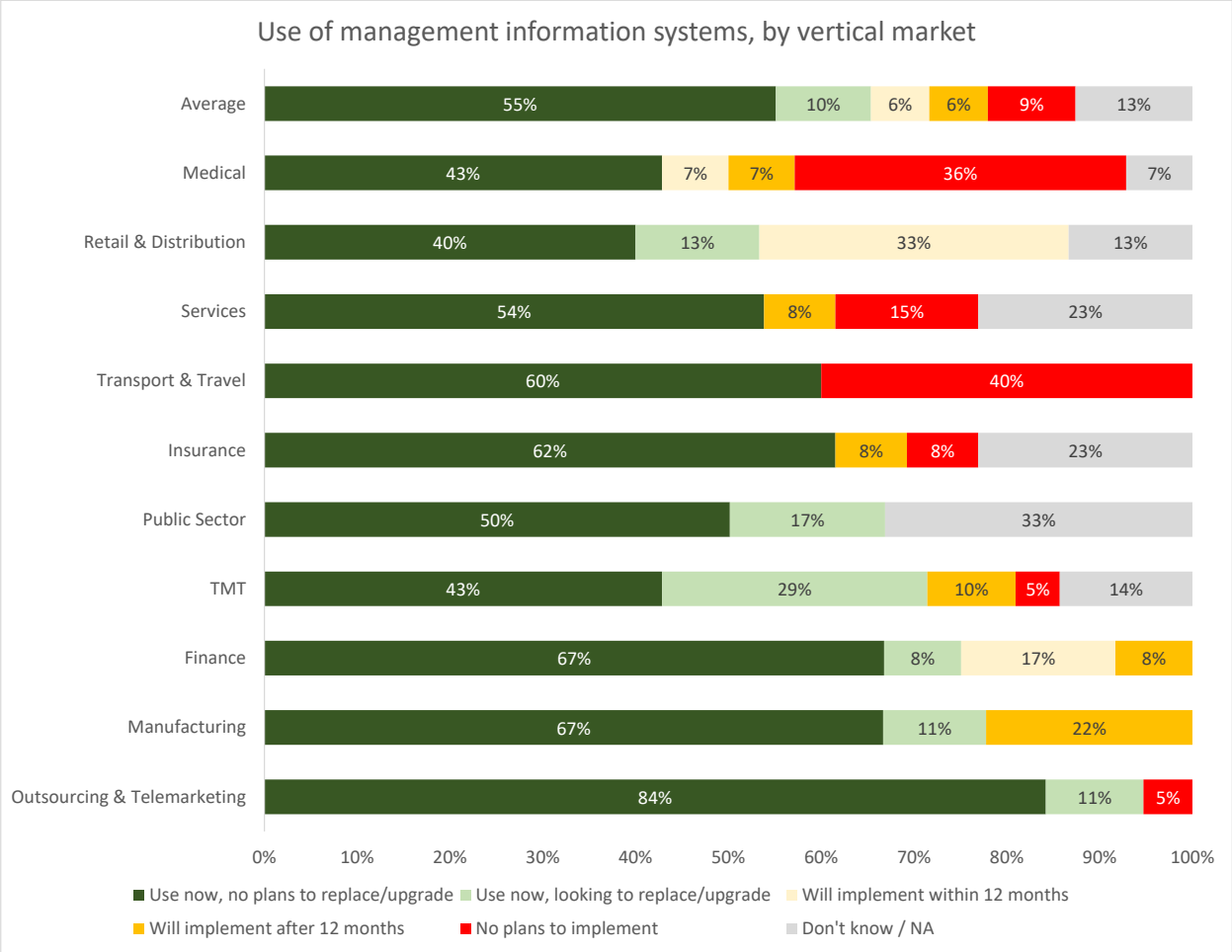


Management information systems are present in the majority of most sectors, with outsourcing, manufacturing and finance respondents reporting the greatest usage this year.

There is very significant interest in replacing or upgrading MIS being shown by several vertical markets, including TMT and the public sector.

While the majority of contact centers in most vertical markets have already implemented MIS, there is interest by retail respondents for a first implementation within 12 months.

Figure 3: Use of management information systems, by vertical market



PERFORMANCE METRICS

Depending on the type of work that they do, contact centers may consider focusing upon various measurements:

Internal metrics

Call duration / Average Handle Time: A typical 'old-fashioned' metric, which is generally going out of favor due to the acceptance that each call is different and should take as long as is needed. However, it is one of the easiest statistics to measure, and work out cost against.

Agent occupancy rate: 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.

Call throughput and abandonment rates: 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. With the use of callback, calls that would otherwise be abandoned can be kept alive, although at the cost of an additional outbound call.

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.

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.

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.

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.: This metric 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.

Cost per call: 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.

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.

Customer metrics

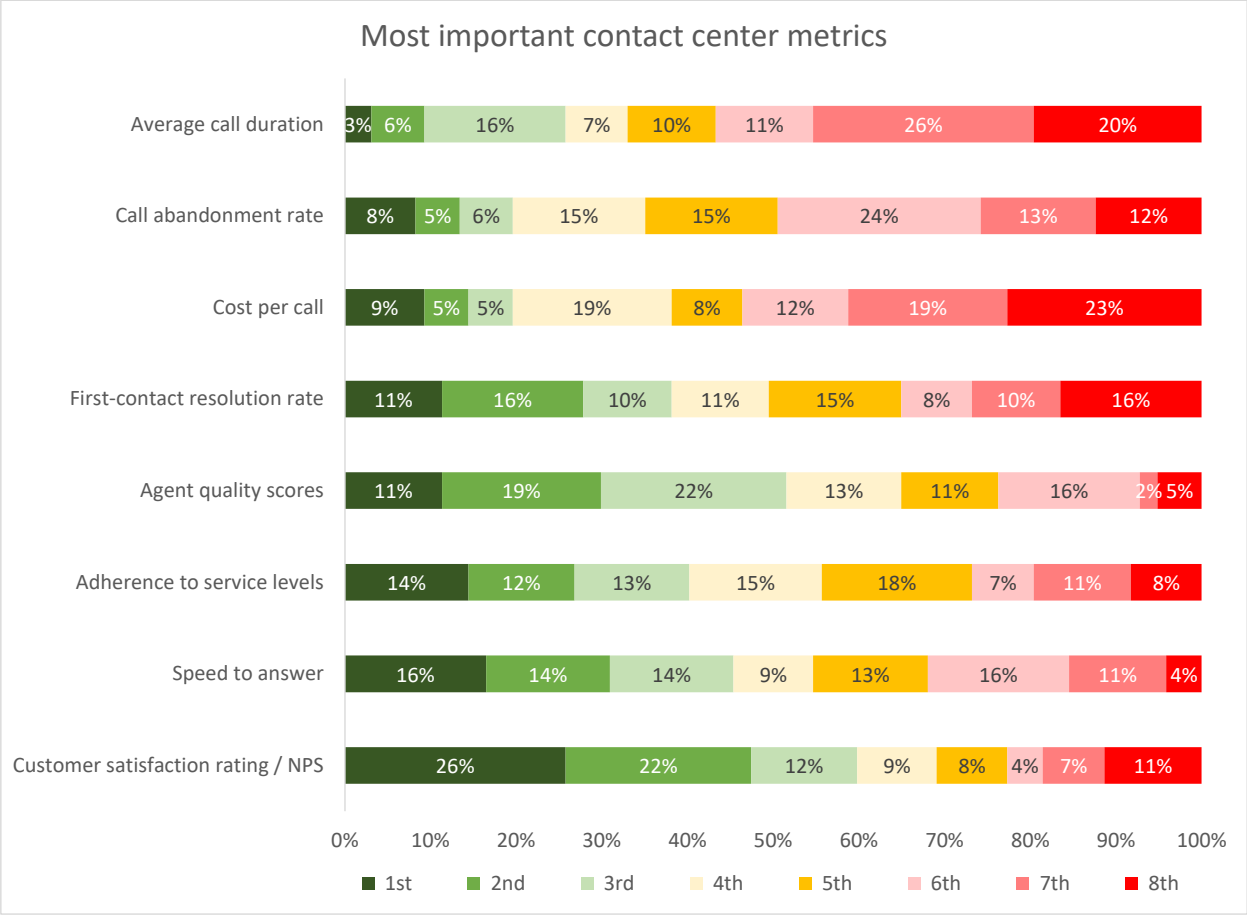
Customer satisfaction ratings: Customer satisfaction is seen to be directly linked to profitability through increased loyalty, share of wallet and customer advocacy. There is considerable debate about how satisfied (or delighted) customers have to be before it starts making a noticeable difference to 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.

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-contact resolution: Improving first-call/contact 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 hard to measure, as it is the customer, and not the contact center that should be stating whether the issue has been resolved successfully. More information on this can be found in the "Customer Effort, Engagement & First-Contact Resolution" chapter later in this report, and in the dedicated "Inner Circle Guide to First-Contact Resolution", available from www.contactbabel.com.

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 key, but respondents to recent reports consider them of lesser importance than more customer-focused measurements.

Figure 4: Most important contact center metrics



26% of respondents chose customer satisfaction rating / NPS as being the most important measurement that a contact center tracks. Customer satisfaction is in large part driven by the other metrics shown here, and can be seen as a consequence of how these other elements perform.

In past surveys, first-contact resolution has been extremely important, with speed to answer often also chosen as a top 3 metric by more than half of respondents: 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.

However, in recent surveys, the addition of two new internally focused metrics – adherence to service levels and agent quality scores – has resulted in first-contact resolution dropping from 2nd to 5th place, with both of the newly introduced metrics competing with this key customer-focused measurement. As our consumer research has consistently shown, first-contact resolution is stated to be one of the key drivers of positive customer experience, and its relegation to a minor metric is of major concern.

Agent quality scores are of course important to the customer, as the quality of interaction is a vital part of customer satisfaction. However, most agent quality scores are marked against scorecards that are created inside the organization, which are not always closely aligned with what the customer wants from an interaction.

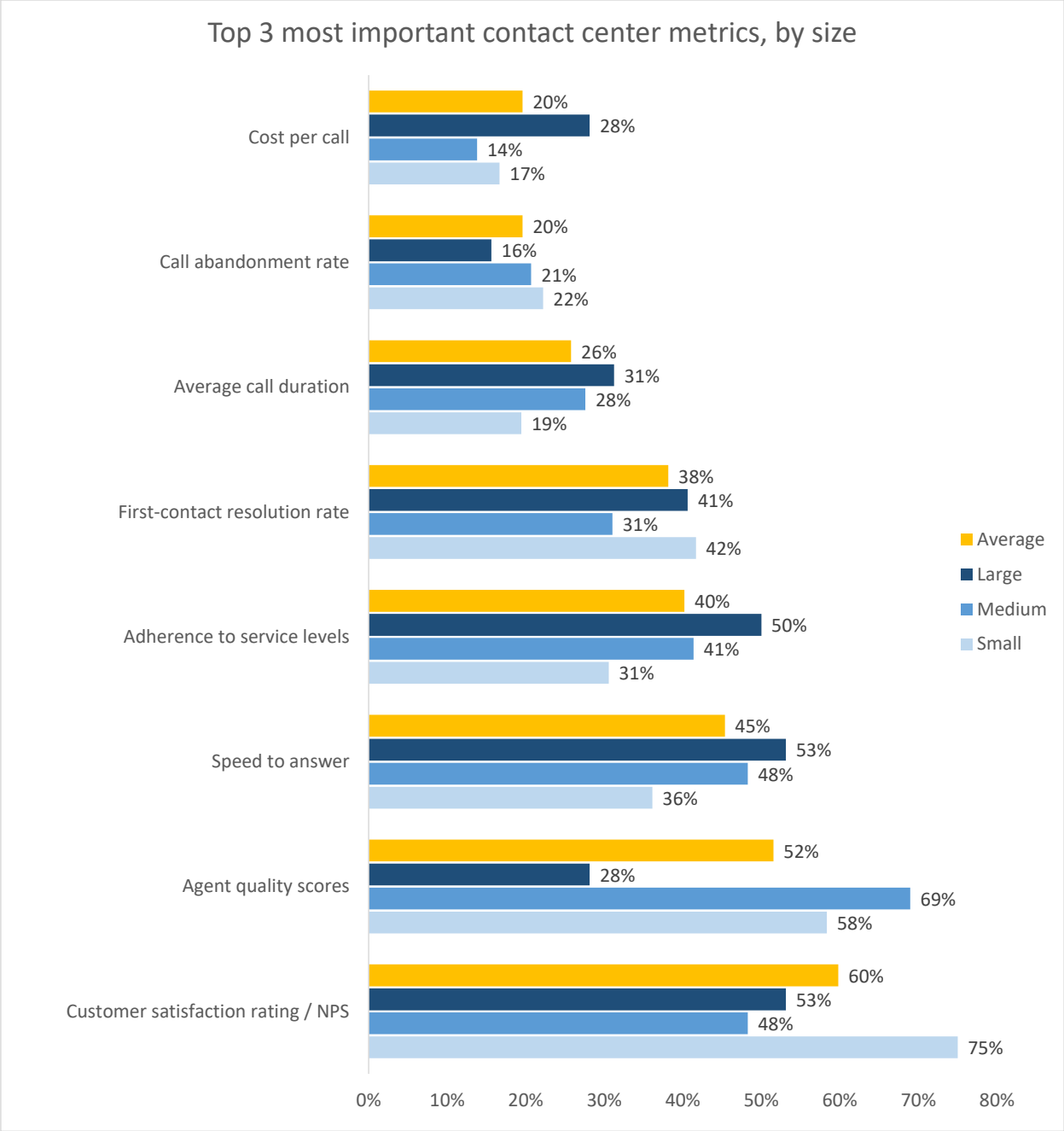
Similarly, adherence to service levels and schedule is important to the smooth running of the contact center, without which high-quality customer experience cannot exist, yet from the customer's perspective, the effectiveness of the interaction is driven by its result, rather than on whether the agent is meeting internally set metrics.

The next chart shows the importance of contact center metrics depending on contact center size, by looking which metrics are rated in the top 3 in each size band.

Customer satisfaction levels are particularly important to smaller operations, and agent quality scores and speed to answer are considered very important by small and mid-sized operations.

Respondents from larger contact centers consider adherence to service levels and speed to answer to be top metrics, and cost per call is noticeably more important for these operations.

Figure 5: Top 3 most important contact center metrics, by size



Past survey results can be analyzed to identify some of the structural changes to the industry, which may otherwise pass under the radar.

Taking the past ten annual surveys, a very clear picture emerges of increasing average speed to answer, despite its continued importance to the overall customer experience. This can be explained to some extent by the gradual rise in call duration – both for sales and service – over the same timescale, which is driven in large part by a rise in self-service taking away the easier and shorter calls. At its most basic level, calls take longer to be answered because agents are spending longer on the phone. This has been further exacerbated by the effects of the pandemic on most contact center operations.

However, this has not had a noticeable effect on call abandonment rate, which continues to move between a range of 5-7%. First-contact resolution rates remain around the same low-to-mid 70% range, with only one outlier in 2015.

Considering the steady rise in call duration, it would seem logical to expect cost per inbound call to rise alongside it. However, until recent years, this had not been the case. As there has been a steady rise in contact center salaries, variable call costs could partially be viewed as a result of how cost per call is measured:

- While almost every survey respondent answers questions around speed to answer and duration, only a minority give answers to cost per call, suggesting that many do not measure this, or offer only an approximation
- The rise in self-service calls means that these interactions (which have a negligible variable cost) are included in the total call volumes, and lower the average cost per call considerably
- Telephony costs have dropped very significantly, with the increasing use of IP telephony lowering the cost per minute and any associated hardware costs.

Figure 6: Selected contact center performance metrics (2012-2021)

Metric	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mean average speed to answer (seconds)	31	34	43	46	53	50	60	56	75	101
Call abandonment rate	5.4%	6.3%	5.3%	7.3%	6.0%	5.9%	5.4%	5.7%	6.1%	7.1%
First-call resolution rate	73%	71%	74%	64%	72%	74%	75%	75%	74%	79%
Call duration (service) - seconds	306	347	381	367	360	384	370	372	410	447
Call duration (sales) – seconds	346	456	408	467	507	576	520	514	463	529
Call transfer rate (excl. receptionists)	8.2%	8.0%	8.5%	8.7%	9.2%	10.4%	10.3%	9.8%	9.0%	10.5%
Cost of inbound call	$7.50	$7.76	$5.84	$6.69	$5.52	$5.25	$7.18	$7.06	$7.46	$7.29
Cost of outbound call	$7.96	$6.20	$6.34	$4.37	$6.47	$5.92	$7.68	$9.23	$8.41	$8.49

MULTICHANNEL WORKFORCE MANAGEMENT

Workforce management (WFM) is core to any workforce optimization suite. The technology has evolved into a sophisticated tool for forecasting interactions across multiple channels and for scheduling, based on agent skill-sets and location. Superior WFMs tool react automatically, in near-real-time, to allocate resources where they are needed most.

Recent years have seen a resurgence in investment in workforce management solutions, often driven by the need to handle ever-growing volumes of digital interactions, as well as a rise in remote work and employees' expectations for more flexible working patterns.

Acknowledging that the customer journey is not restricted to contact centers. Vendors and organizations are extending WFM capabilities to the back office, branches and the mobile workforce.

Workforce management solutions have to deal with much more complex environments in order to cope with the nature of the work being presented to agents. All agents require good listening abilities, keyboard and IT skills and a knowledge of the business they are working in. However, more now need additional in-depth and specific skills in order to satisfy customers, 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
- An appropriate level of experience and empowerment for the customer (e.g. "gold-card" customers may demand single-call resolution, meaning senior agents should be available to 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 allows the enterprise to continually improve its efficiency and become more confident in future predictions.

The modern contact center not only requires the basics (having enough people to answer interactions in a reasonable amount of time), but also more sophisticated functionality such as the ability to forecast and schedule agents in near-real time and handle virtual contact centers, mobile resources and home-working resources.

Additionally, contact center managers need to allocate staff resources accurately across both digital and voice interactions and understand how voicebots and chatbots impact live agent interactions, including back office and other relevant scheduling activities.

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 including those across multiple channels 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.

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), or through the use of bots to handle relatively simple enquiries. As such, workforce management is often used as part of an overall workforce optimization suite, which can include quality monitoring, interaction analytics, HR management and training as well as the traditional workforce management roles of forecasting and scheduling, 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 or smartphone alert at short notice – about the correct responses and issues, as well as changing IVR prompts and messages to provide answers to the simpler questions and 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 at an intraday level to reflect reality. (Intraday is considered in more depth later in this report). As around 25% of a typical contact center's activity is now through digital channels, a demonstrable and sophisticated understanding of email, chat and social media volumes is critical in a solution.

Resource planning applications, which typically look at requirements over a longer term than the typical WFM solution, should also be considered within the forecasting functionality. Understanding how the business will change some months in advance – perhaps for seasonal reasons, or with the launch of a new product – will certainly impact on resourcing, and close communication and integration between resource planning and day-to-day WFM is desirable.

SCHEDULING

Scheduling has moved far away from the traditional approach of simply making sure that approximately the right number of agents are available based on forecasts.

While the correct resource allocation is obviously still key to successful scheduling, the enlightened enterprise takes agent preferences and skill-sets into account. 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 an omnichannel environment which usually has agents with multiple media-handling skills (e.g. voice, email, web chat etc.) and multiple business abilities (e.g. sales, service, product knowledge, languages etc.), and which may well be operating within a blended inbound/outbound environment, possibly spread across various locations.

An increasing number of contact center operations no longer work on strict shift patterns of a fixed length, as flexibility can be of benefit both to the organization and the agent: the organization can resource peak hours without risking high levels of idle time outside of this, and shorter shifts may fit in better with the work-life balance of the agent. The recent enforced rise of remote working gives an opportunity for agents to work more of the hours that suit them (for example, in the evenings, or split-shifts around childcare), flexibility which contact centers can then use to extend their opening hours without paying excessively for anti-social hours or full shifts in times of lower volumes.

Many WFM solutions now offer a self-service function to allow agents to state their preferred shift patterns, request time off, swap shifts and request overtime, leading to more engaged and empowered agents and much less manual work for the scheduler. The advent of cloud-based solutions and mobile smartphone apps means that agents can make requests wherever they are, improving employee satisfaction and keeping the WFM system more up-to-date than if they were restricted to doing this within the physical contact center within their own working hours.

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 smartphone app 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.

INTRADAY

In older versions of WFM, once the forecasts and schedules were set based on historical data and expectation, the opportunity for change was extremely limited and restricted to moving agents between queues and tasks manually: more of an art than a science. Today, many WFM solutions support rapid changes driven by actual interaction volumes. This is often known as ‘intraday’, a near-real time scheduling system based on actual demand for service and supply of agent availability, and relies upon flexibility from the agent and the enterprise, working together for the benefit of all .

For example:

- the WFM system forecasts the likely volume of interactions through each channel
- resource requirements are forecasted, based on the agent skills required
- agents submit their preferences for working hours (they have contracted to work a certain number of hours each month)
- shift patterns are scheduled and communicated to agents, who have the opportunity to arrange shift swaps with other agents. Businesses may wish agents to be contactable outside of their shift, possibly through SMS or an app, so that any requested schedule alterations or short-notice requests to login can be implemented in a timely fashion
- the WFM system alters schedules accordingly throughout the day, based on real volumes and service levels.

Intraday goes some way to resolving the underlying tension between employee and organization concerning workforce scheduling, and as such can be seen as part of the broader move towards agent-centric WEM. It is in the enterprise's interest to have strictly calculated forecasts and exact allocation of resource, regardless of how this impacts upon the employee. Unsurprisingly, this leads to resentment amongst the workforce, increasing attrition and absence rates. Intraday goes some way to empowering the employee, without putting the enterprise at a disadvantage. WFM solutions that are built with a flexible architecture capable of scheduling in small time-increments (e.g. minutes rather than hours) will support employees' needs without damaging service levels.

It is important to understand that greater empowerment of agents over their working patterns is greatly beneficial to morale: rather than have to ask a supervisor or manager, they are to a great extent choosing their own hours, with the resulting benefit that they have greater buy-in to the process and are less likely to be absent, as well as reducing the time spent by supervisors in changing schedules manually.

There are a number of workforce management solutions that use their forecasting and scheduling functionality to identify periods in the working day where agents are likely to be underutilized and experience high levels of 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, answering asynchronous communications such as email, or catching up on administration. This can go a long way towards using the agent time that businesses already pay for, but which could not previously be accessed.

Having a more flexible WFM system should also widen the available pool of labor: whereas in the past, the nature of scheduling meant that full-time employees were preferred, being able to schedule in shorter time periods in near-real-time supports part-time workers, homeworkers, employees based elsewhere in the enterprise and seasonal workers.

REMOTE WORKING

Homeworking provides companies with the opportunity to add greater flexibility into planning and scheduling, such as split-shifts (over the course of a day), 'micro-shifts' (where agents come online for an hour or less at peak times) and in the evening when children are in bed (potentially allowing longer opening hours for the contact center).

'What-if?' scenario planning can help contact centers model and predict scenarios where for example the absence rate quadruples, enabling the organization to see what would happen with service levels and scheduling, and potentially lining up business continuity solutions such as overflow to outsourcers. Workforce planners can also use this to model the likely effects of increased call lengths caused by queries that are outside the norm, a new agent's lack of familiarity with systems or other factors that may be being faced by contact centers being affected by the coronavirus crisis.

Some key WFM action points for remote workers and their managers:

- make sure that agents' contact information is up-to-date and available to management in both online and offline modes
- ensure agents understand how they clock on / clock off their shifts, as well as how management will supervise that they are doing so
- agents should check their schedule for the next day before they log off for the evening
- any WFM tools should be flexible enough to handle agent absences at very short notice without having to recreate the schedule manually.

Any workforce management system needs to be able to take full advantage of the flexibility of remote working agents, while providing the same level of real time management and support available to the centralized contact center model. Remote working necessarily encourages agents to develop independence and take control of their work, and businesses should consider implementing the tools to support this.

It can be beneficial for everyone to allow agents to change their breaks themselves, bid for shifts and choose their own vacation period through an app without having to run everything through the workforce planning team first. Of course, the service level must be protected and any changes only ratified if this is the case. Giving remote working agents access to these sorts of tool will promote trust and do away with any issues such as perceived favoritism, as well as protecting the performance of the contact center.

Contact center management is often concerned that visibility into what agents are actually doing will be decreased in remote working environment. This does not necessarily have to be the case: tools exist that can check adherence to schedule (including breaks) and which can nudge agents into adherence by giving them reminders that a break is almost ending or that they are a little late logging back on. Key to this is that any change impacting upon the performance of the contact center is immediately taken into account by the workforce management system which can then react accordingly, rather than there being delays of some hours before schedules can be changed.

The flexibility, agility and granularity of such automated tools can allow agents who work even a couple of minutes longer than their shift to group these minutes into a 'time bank' which can then be taken as flexitime: the opposite also exists for those agents who may be late logging onto their shift as they can work the time back later when it's needed by the business.

CURRENT AND FUTURE USE OF WORKFORCE MANAGEMENT SYSTEMS

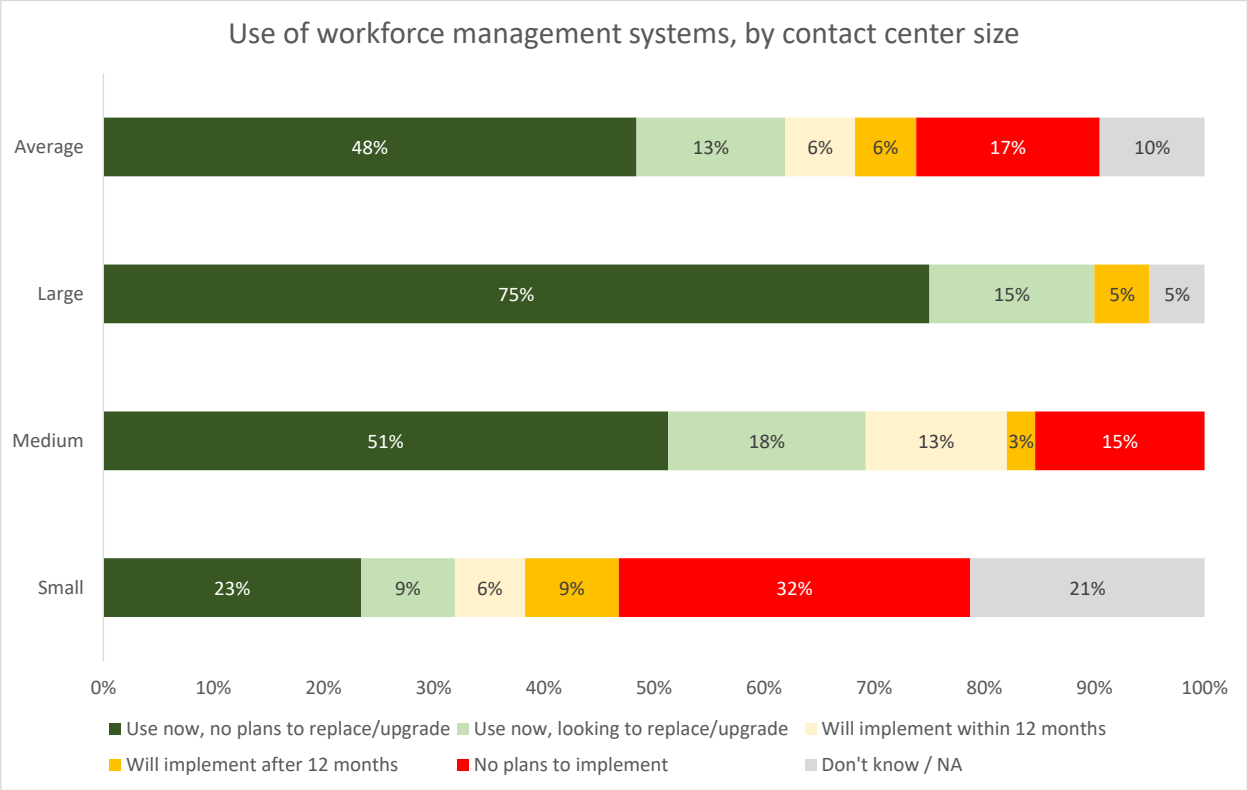
Until relatively recently, small contact centers were still very heavily involved in manual workforce management, which offers extremely limited opportunities for doing anything other than a static schedule that cannot easily be changed. In fact, forecasting and scheduling in this scenario is more of an art than a science. The low take-up of third-party workforce management tools was almost certainly down to cost, the fact that the time taken to create a manual schedule for 10 agents is far less than for 100 agents, and that the manager of a small contact center does not need the flexibility or capabilities that a large operation can benefit by, as their labor and skills pool is so much more shallow to begin with.

However, there has recently been a significant uplift in the use of workforce management solutions in small contact center sector, probably as a result of the increasing number of solutions – usually offered through a cloud-based deployment – aimed at the smaller end of the market by solution providers. These solutions offer relatively simple functionality, but will also have an easy-to-use interface for non-specialist users.

Workforce management systems are now common in contact centers, with a penetration rate of 61% amongst our survey respondents.

Of current WFM users, 21% are actively looking to replace their WFM solution. 6% of respondents indicate that they are likely to implement a system for the first time in the next 12 months.

Figure 7: Use of workforce management systems, by contact center size



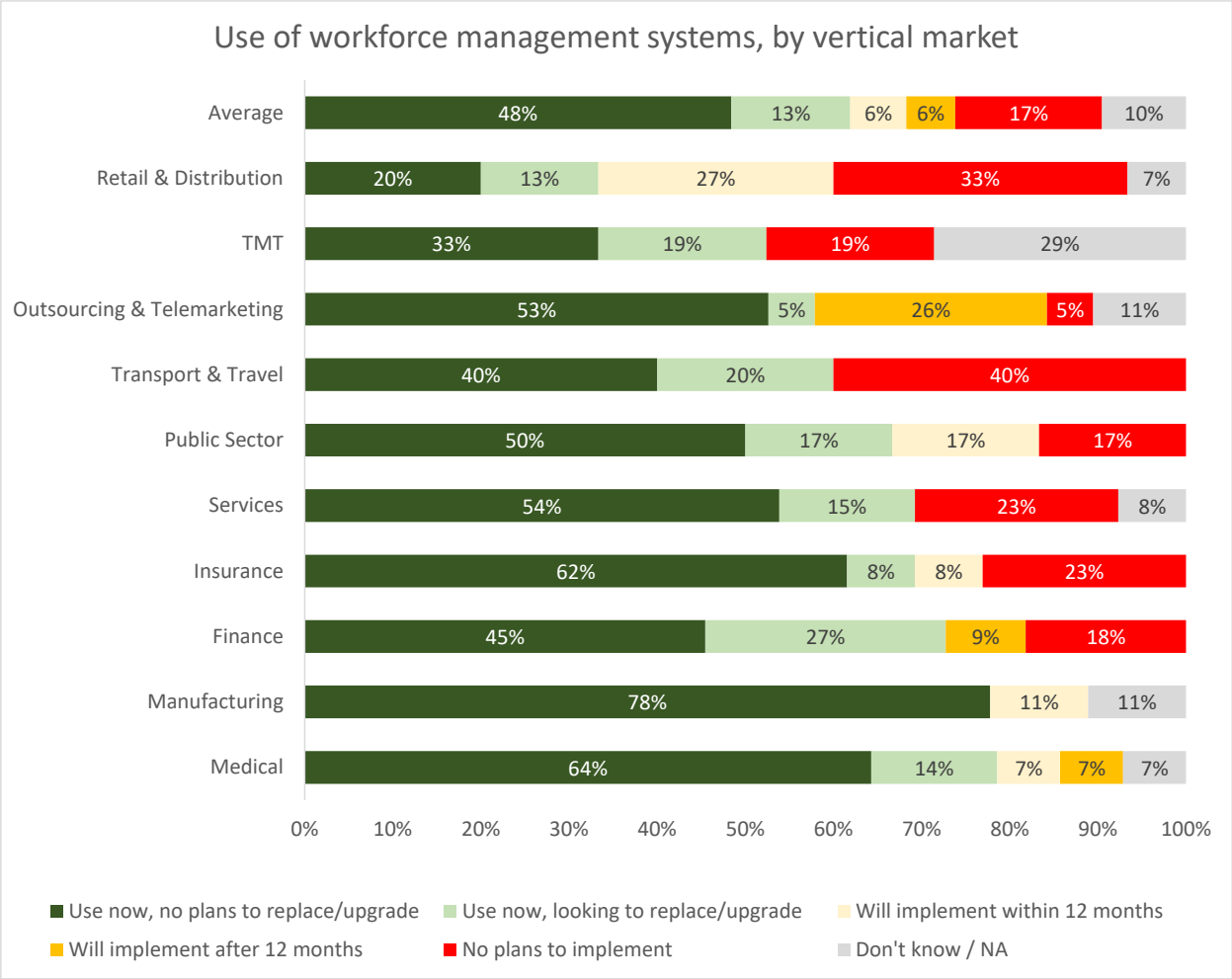
Medium and (especially) large operations are far more likely to use dedicated third-party workforce management applications into which historical data can be fed, providing a far more accurate schedule.

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 the cloud model, as well as subscription-based pricing alternatives, which enable accurate forecasting and scheduling options for smaller contact centers.

As the likelihood of workforce management system usage is far more of a factor of size and call volume, rather than the business type, care should be taken with the following chart which shows respondents' WFM penetration rates by vertical market.

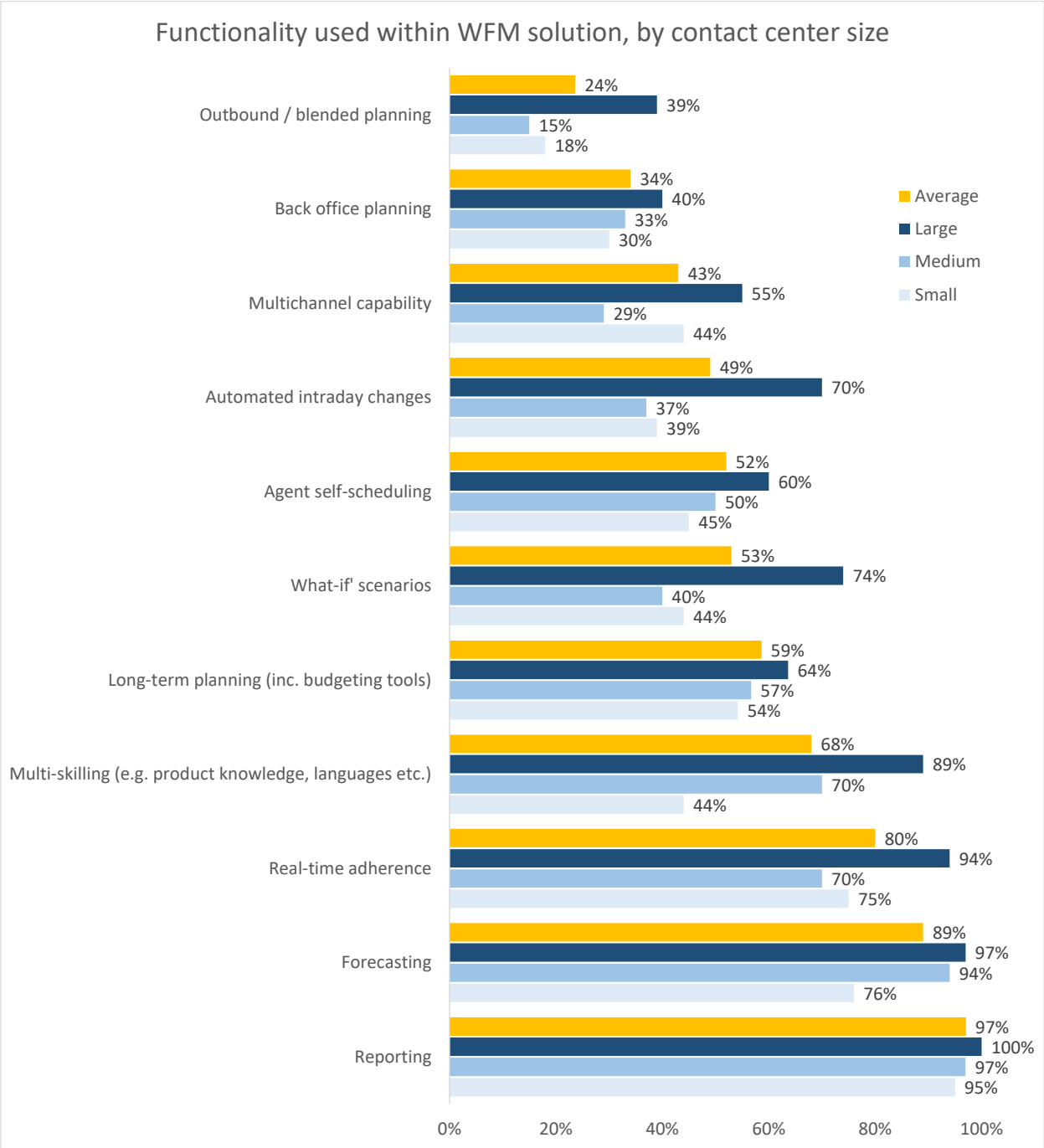
Those respondents in the transport & travel, TMT and finance sectors seem most likely to be looking to upgrade their WFM systems, with those in the public and retail sectors most likely to be implementing the solution within the next 12 months.

Figure 8: Use of workforce management systems, by vertical market



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 9: Functionality used within WFM solution, by contact center size



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, especially in larger contact centers. Over half of respondents used workforce management solutions for more strategic aims including 'what if' scenario planning and longer term forecasting, figures which have risen noticeably in recent years.

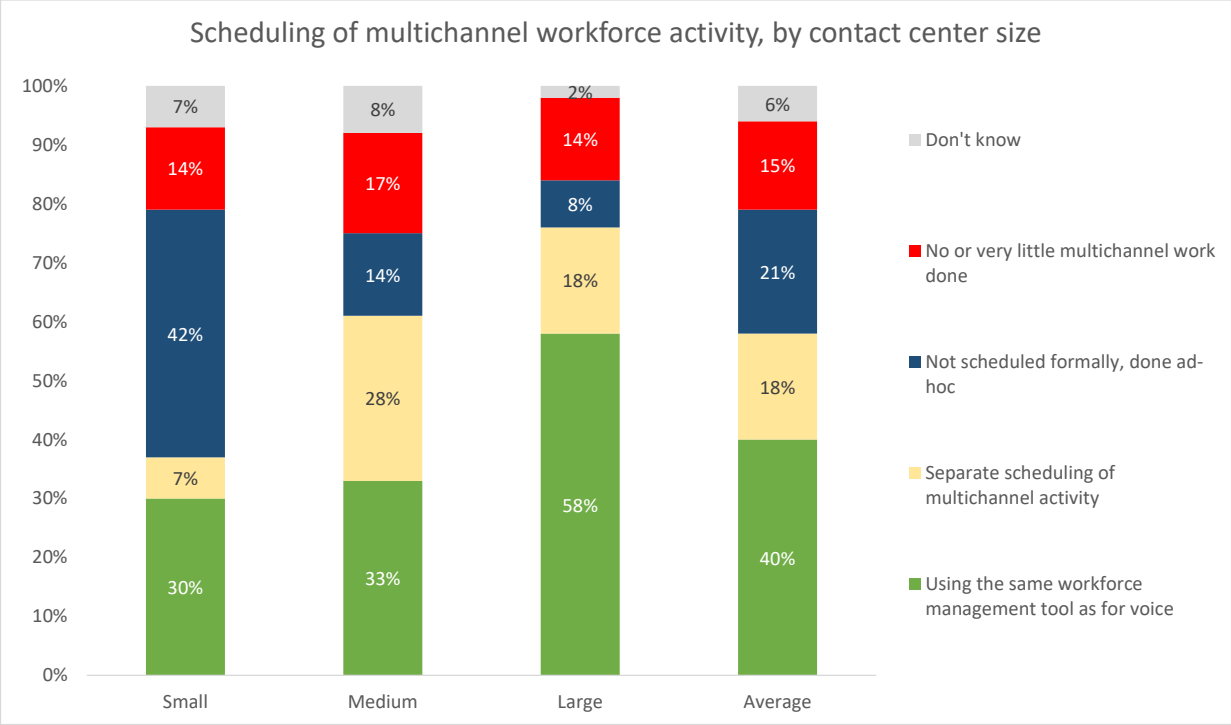
Almost half of respondents used agent self-scheduling, functionality which can be seen as a potential win-win for both agent and scheduler, in that it provides a more realistic schedule as well as giving the agent an element of control over when they wish to work. Again, this is a figure which has risen substantially.

Similar proportions used more recent forms of functionality such as multichannel scheduling and automated intraday changes. Large operations are much more likely to be using WFM for intraday. Back-office scheduling has grown greatly in recent times, functionality which supports businesses to deliver what the front office has promised. While outbound / blended planning is relatively less used, almost 1 in 4 of respondents are using WFM for this purpose.

40% of respondents – much higher in larger contact centers – use a combined voice and multimedia workforce management application, with 21% using an ad-hoc approach, which is more often found in smaller operations.

There was a noticeable lower use of separate standalone forecasting and scheduling for multichannel activity than in past years.

Figure 10: Scheduling of multichannel workforce activity, by contact center size

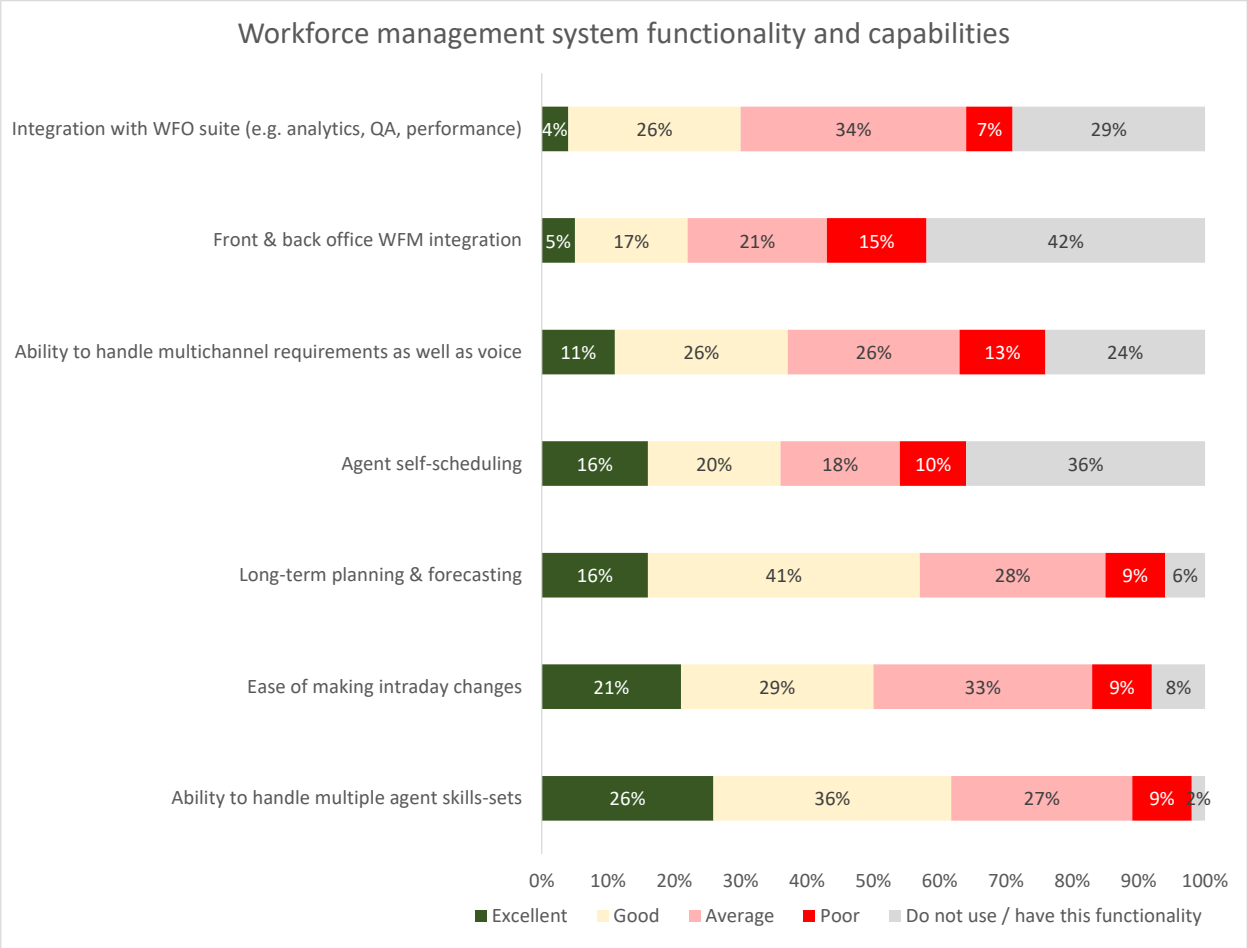


Respondents were asked to comment upon their opinion of the functionality and capabilities of their workforce management system as it stands.

Relatively few respondents commented negatively about any functionality (i.e. actively rating it as 'poor'): however, while multichannel capabilities in particular are seen as having improved greatly in recent years, around 1 in 8 respondents still rate it as poor. Front / back office integration in particular receives a lukewarm response, with three times as many survey respondents rating it as 'poor' than 'excellent'.

A case can be made that functionality graded as being 'average' could be seen in a similar context to 'poor': no organization or business would be satisfied if their products or services are merely rated as 'average' by their customers. If this hypothesis is accepted, then there is still significant room for improvement across the board.

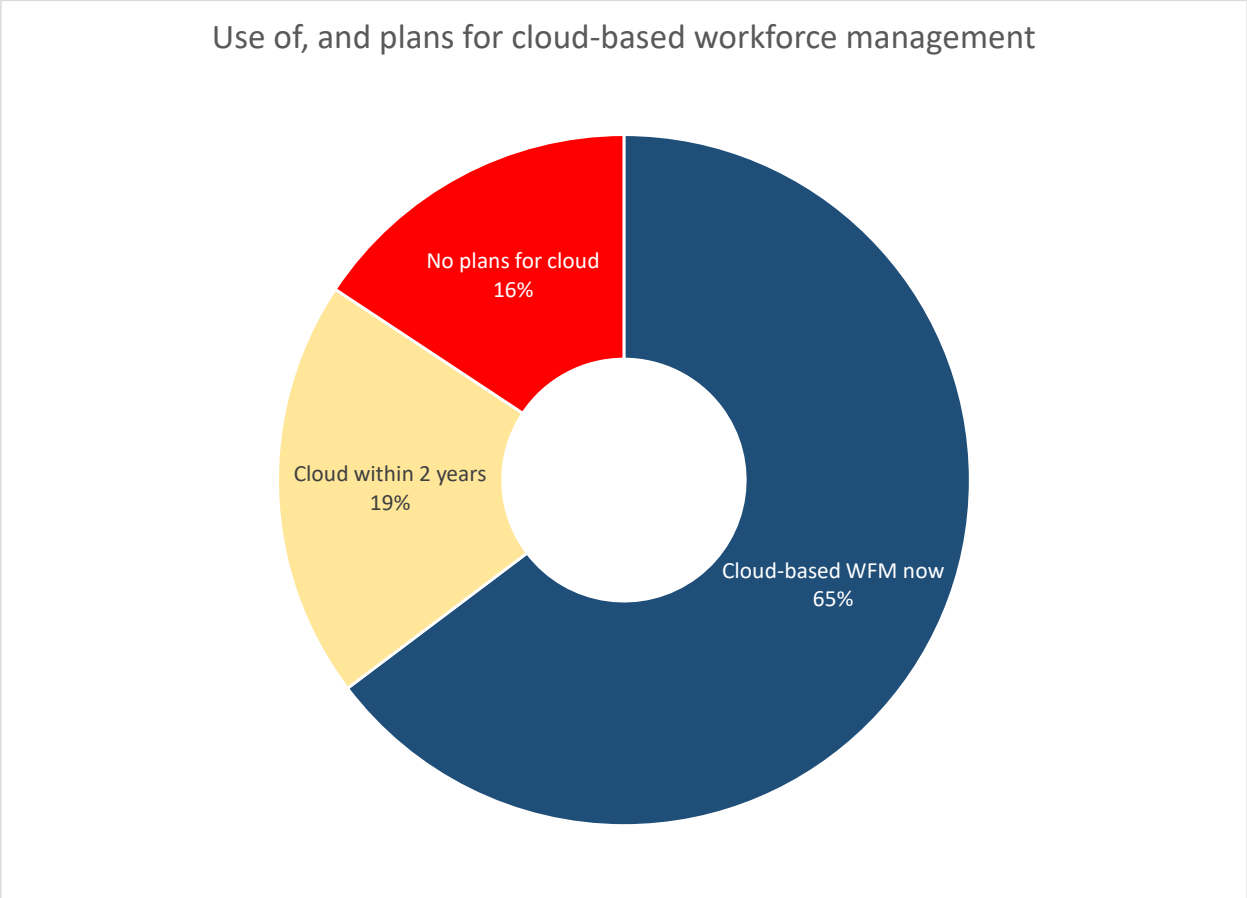
Figure 11: Workforce management system functionality and capabilities



Agents account for around 75% of contact center costs, and as effective workforce management solutions have such an impact on efficiency, productivity and expense of the operation, workforce management will continue to be the amongst the most important tools of the contact center's disposal. This is a very interesting time for those involved in WFM, as many disruptive influences – cloud, flexible working, analytics, multichannel / omnichannel and back office WFM – are coalescing simultaneously, driving vendors to expand and develop their functionality.

Cloud-based solutions don't just offer financial benefits: as the time taken to roll out new releases is so much less than the traditional CPE model, vendors can bring out new versions much more frequently, and experiment with offering cutting-edge functionality far sooner than they would in a traditional premise-based deployment environment. The continued rise in homeworking, virtualization, and mobility in general will be a major driver for the uptake of cloud-based solutions. This model also encourages smaller operations to implement WFM, or experiment with functionality that was previously out of their price range. The chart below shows the significant movement towards cloud-based WFM: the figure of 65% for cloud-based WFM was only 20% in 2015.

Figure 12: Use of, and plans for cloud-based workforce management



Workforce management solution providers are keen to expand out of the traditional contact center, with the **back offices and branches** of large organizations being seen as potential goldmines. Far more employees work in these spaces than in the contact center, although many back offices lack the same focus upon efficiency and the tools to improve it. With the increased focus on the entire customer journey – and the understanding that this is where many processes fail, making more work for the contact center in terms of call-backs – back-office processes are starting to fall within the remit of customer experience professionals, who are likely to take their knowledge of contact center workforce management and apply it in these new areas. The industry is likely to see back office and contact center workforce management systems will see ever-closer integration, or even to work as a single centralized function that can track and analyze the effect of different departments and processes on others throughout the customer journey. It is certainly noticeable that the use of back-office WFM functionality had grown greatly in the past few years, and elements such as intraday are often included within this.

This is not to say that selling back-office workforce management solutions is a simple matter of repackaging existing contact center functionality, as the back office has somewhat different requirements to the contact center – for example:

- lack of automation for tracking inbound/outbound work
- handling deferred workloads
- the assumption that forecasts built on contact center events and volumes are similar to the back office
- longer service levels
- different resource requirement calculations
- manual and complex tasks
- more likely to be based at multiple sites
- adherence to schedule without data from an ACD
- identification of bottleneck processes.

Yet the opportunity exists and contact center workforce management vendors are in a prime position to make the most of it.

Omnichannel/multichannel forecasting and scheduling will become even more important, not just as overall digital interactions grow generally across the industry, but also as those operations that have been struggling to handle a small proportion of emails recognize that the problem is not going to go away, and look to invest in new workforce management solutions. The recent issues around moving contact centers to a remote working scenario meant that some businesses decided on a digital-first strategy, and the huge increase in voice calls seen by some businesses meant that call queues were intolerable for many customers who then tried digital channels instead: digital channels have seen a major increase in volumes as a result, and this is unlikely to sink back to pre-pandemic levels, so businesses will certainly need to factor this into any forecasts and schedules. Additionally, the rise of chatbots and voicebots means that the interactions that AI carries out instead of agents should be considered in longer-term planning at the least.

While a considerable proportion of organizations still have dedicated digital teams, many small and mid-size operations have a much more flexible approach to omnichannel, and the ability to move agents between channels in the near-real-time capacity will be highly prized. It is noticeable in previous charts in the chapter that the majority of operations are less than happy with current omnichannel WFM functionality, so we can expect to see further efforts from solution providers into improving this.

It's important to understand that the number of channels will continue to increase: even traditional media such as letters and faxes still have their place in many contact center operations, and next-generation social media such as WhatsApp and Messenger are positioning themselves in the customer contact space, and the recent wave of new video users (e.g. through Zoom) means that customers will be familiar with this channel if businesses decide to use it. Next-generation WFM solutions need to be flexible enough to handle any number of new channels, taking into account their nature and customers' expectations of service level when using them. It is also likely that more sophisticated workforce management systems will be able to predict with a reasonable level of accuracy those interaction types which are likely to require more than one channel in order to handle them successfully, and forecast and schedule appropriately.

It is not only the changing mix of channels that should be considered, but also the type of interactions coming through each. It is fair to say that easier work will continue to move to self-service and AI-enabled digital channels, and it should also be noted that in the pandemic crisis, call lengths went up considerably: queries were more difficult; agents had less familiarity with these issues; remote agents often did not have the same access to their usual knowledge bases or support systems; customers who had waited a long time in a queue may want to ask more questions or receive greater reassurance so that they won't have to call back. When the dust has settled, WFM planners should consider what interactions look like in pandemic or other emergency situations, and use this to model future resourcing.

There has been significant investment made in recent years to improve the **WFM user interface** without sacrificing the sophistication of the solution, in order to offer the benefits and capabilities to a wider audience than dedicated technical WFM professionals. This will accelerate, as it is in the interests of both the vendor and the business to be able to use more advanced functionality: on the one hand to justify the extra expense of the solution compared to basic workforce management; on the other to gain competitive advantage without having to employ more WFM specialists.

Contact centers as a whole are now certainly less centralized than in the past: **virtualization and homeworking** have recently become well-entrenched in many organizations, with knowledge workers also being used more frequently. Users of WFM may also need to consider how any crowdsourced customer support resources will affect the demand for agents' services. The power and ubiquity of smartphones and tablets have led to an increase in mobile working – no longer do supervisors or managers have to be at their desks in order to monitor performance and react accordingly – and the new generation of workers have an expectation, both culturally and supported through regulation, that their employment will be treated as flexible by the business as well as themselves. This attitude towards work, and the increased empowerment of individuals will mean WFM functionality that allows shift-swapping, vacation bidding and short-notice shift changes are now required, with smartphone apps supporting this. The term 'intraday' – referring to dynamic scheduling and resourcing in response to rapidly changing conditions – is so useful and necessary that intraday capability has become standard functionality in many WFM solutions.

It is also likely that increased agent self-responsibility will lead to a situation where they are more empowered and aware of their own performance and skills gaps, allowing them to take control of their education and training rather than waiting for a team leader or trainer to tell them what to do.

The technological strides being made in **analytics** are leading to advances in data modelling and analysis that are finding their way into current and future workforce management offerings, including the use of artificial intelligence to improve forecasting and scheduling in difficult-to-optimize areas such as call blending. Customer journey analytics, which includes looking at workload necessary in back office operations to fulfil the overall transaction, will be supported through the use of artificial intelligence which will be able to use data from multiple sources throughout the enterprise in near-real-time to predict demand, forecasting and scheduling resource based upon far deeper data than simply historical ACD statistics.

WFM will continue to **integrate** more deeply with other elements of the WFO suite: analytics is an obvious area where business intelligence and contact center performance meet closely, but also the performance management and QA modules, identifying best practices and singling-out agents skilled in particular types of interaction or channel. This will enable contact centers not just to have enough agents at the right place at the right time, but enough of the **right** agents. This insight will also feed into coaching and eLearning functionality, sharing best practice and identifying training opportunities. This focus on putting the right agents in the right place at the right time can go a step further by looking at agent personas, which are based on past performance and biodata, as well as their personalities, behavior and motivations in order to match agents with the predicted type of work and customers that they would be best at handling.

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 employees, 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 employees 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 employees 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 employees wandering around, but that the supervisor needs to be able to be mobile. Employees 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 Connected Enterprise

The newest headsets support the 'enterprise as contact center' model by allowing the employee to involve knowledge workers in a three-way conversation with the employee via Skype for Business (formerly Microsoft Lync), Slack, 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.

With more than a third of US contact centers using employees based outside the physical contact center to take calls, it makes sense to support these knowledge workers with the tools they need. For more information, please read the "Remote Working & the Connected Enterprise" chapter of this report.

In large operations particularly, headset management, updates and roll-out of firmware may require significant effort, including the physical presence of the IT staff to make the changes. Cloud-based headset management solutions can configure settings and schedule and carry out remote firmware updates, as well as showing which headsets are being used in near real-time, remote troubleshooting and assistance with inventory status. This assists the agent with their job, and also helps reduce the workload for the IT helpdesk and maintenance team. Such solutions do not exclude the agents' ability to carry out some permitted configuration and customization of their headsets.

The great majority of contact centers have implemented Internet protocol (IP) telephony as part of their technology environment. Employees 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 employees can feel isolated if they cannot hear the world around them.

In addition, noise-cancelling microphones filter out the unwanted background noise which can otherwise 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, but many large open-plan contact centers may have even higher levels of ambient noise. Voice tubes can also allow more flexible positioning of the microphone, with attendant improvements in sound quality. Wideband audio (HD voice), which gives a clearer sound, should be considered.

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 headsets with digital audio processors to employees, while others 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 employee 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, employees handled an average of 10% more calls per day than did the control group.

In many 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. 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 it[1].

[1] Source: CCF magazine

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.

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.

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 employees:

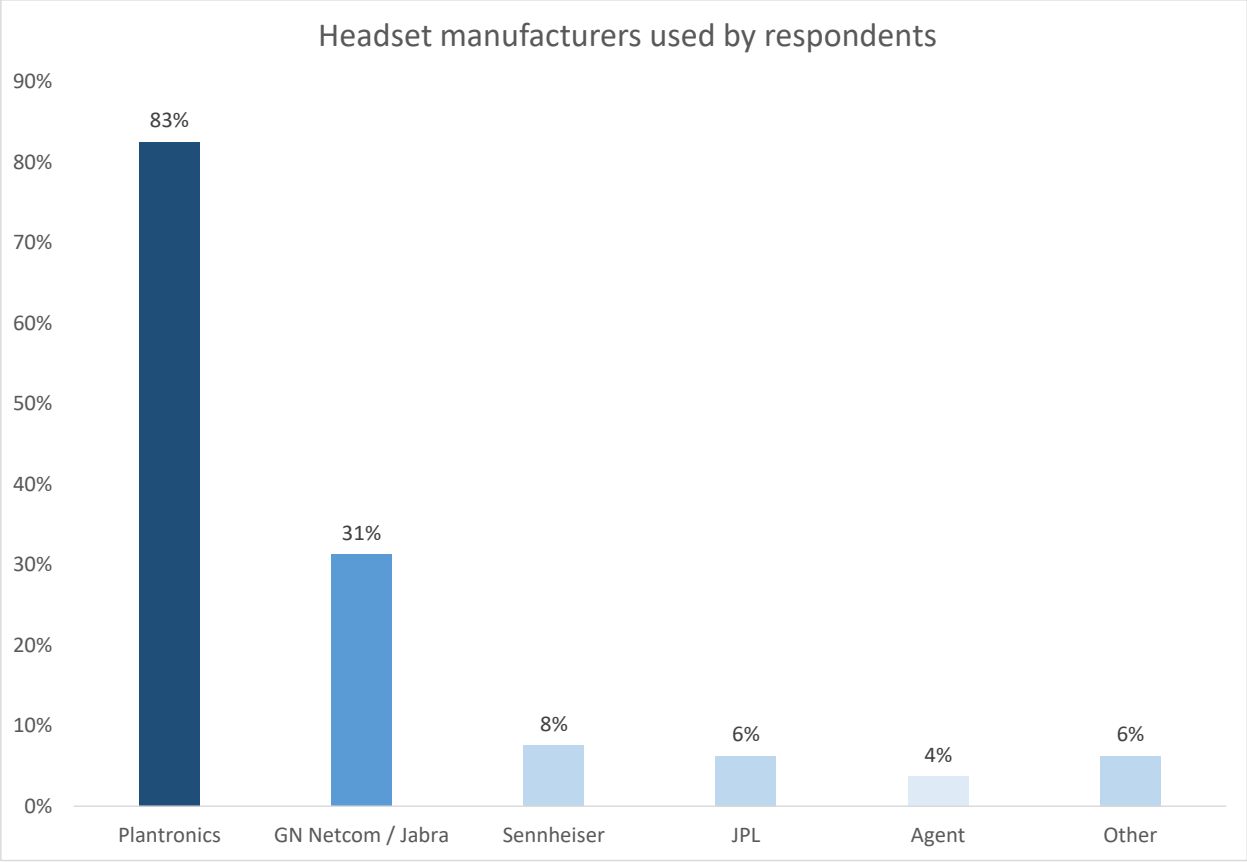
- Measure contact center noise regularly and record it
- Fully understand legislation and create a formal policy so that staff at all levels of a business are aware of it
- Make sure that the headsets used are compliant with current legislation, and test them throughout their life
- Provide employees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

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.

Historically, headsets were replaced every 3-4 years, so the decrease in recent years in the rate of headset replacement may be due to the improvement in the overall quality and durability of headsets.

Figure 13: Headset manufacturers used by respondents (NB: total is greater than 100% as multiple headset manufacturers may be used)



WIRELESS AND IP HEADSETS

WIRELESS HEADSETS

77% of contact center respondents used some wireless headsets within the contact center, with an average of 58% 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.

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 14: 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	83%	68%	56%
Medium	60%	52%	31%
Large	87%	50%	43%
Average	**77%**	**58%**	**44%**

Wireless density is a possible issue: the general rule is that the number of devices you can operate without interference in a 10,000 sq. foot area using a given protocol is twice the number of available channels. The three protocols, DECT 6.0-1.9ghz, 900mhz & Bluetooth (2.4ghz) use diverse working frequencies without causing interference to one another. These protocols can operate alongside each other without conflict for maximum density, so it is worth seeking vendors that offer the same headset style for each protocol, and which use adaptive power to reduce transmission energy based on proximity of the headset to its base.

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, 91% of respondents have some headsets that are able to cope in an IP environment. Of these respondents, 72% of their headsets can handle IP. Industry-wide, respondents report that 65% of their headsets are IP-capable.

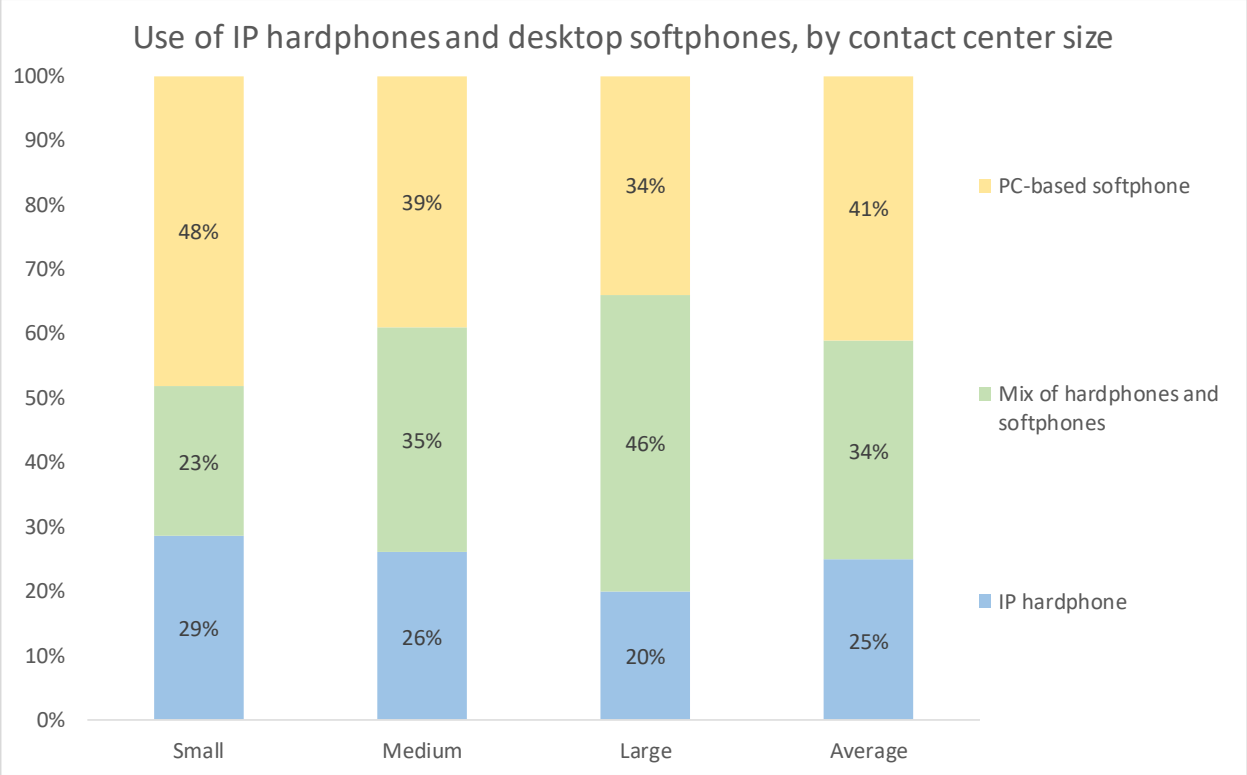
Figure 15: Use of IP headsets, by contact center size

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	89%	71%	63%
Medium	87%	77%	67%
Large	100%	66%	66%
Average	**91%**	**72%**	**65%**

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

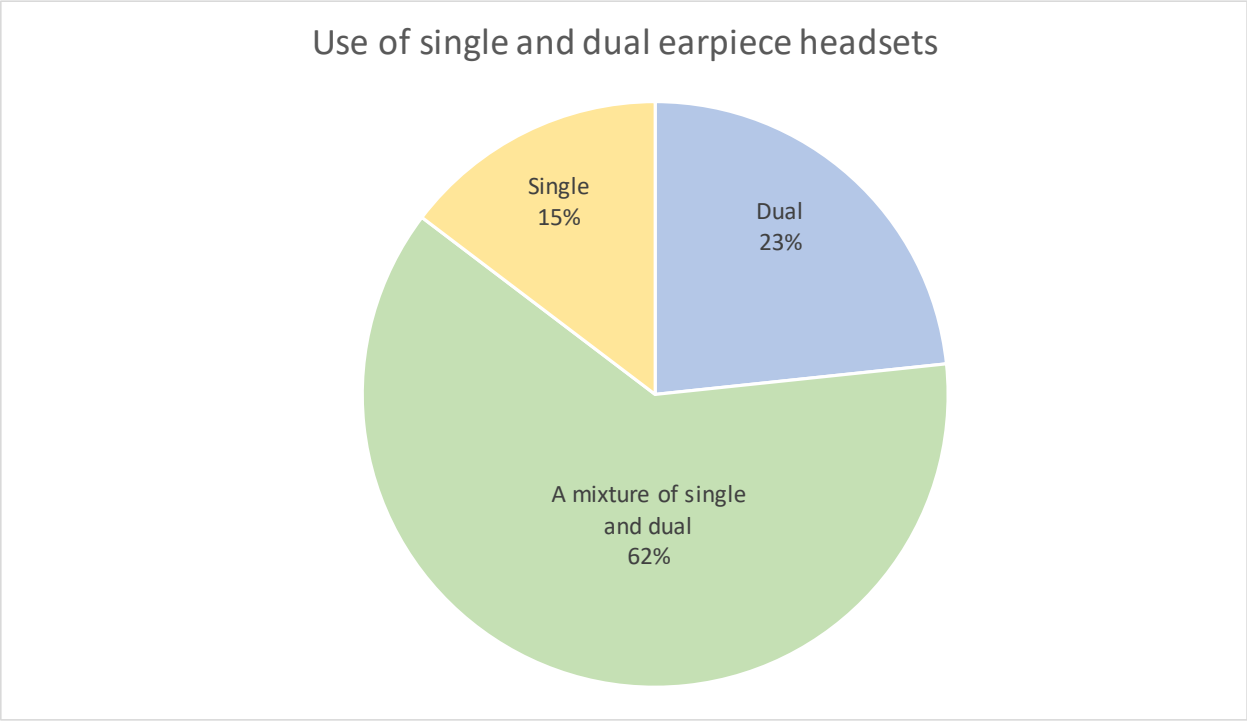


Unlike a headset attached to a desk phone, which only receives and transmits analog voice, certain headsets when attached to a PC by the USB port can send data which, with appropriate software provides rich information on an enterprise-wide scale, ranging from logging acoustic events, time spent on mute, when caller and CSR were talking over each other excessively, and whether headset firmware is up-to-date, when it was last used, and by whom.

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 17: Use of single and dual earpiece headsets

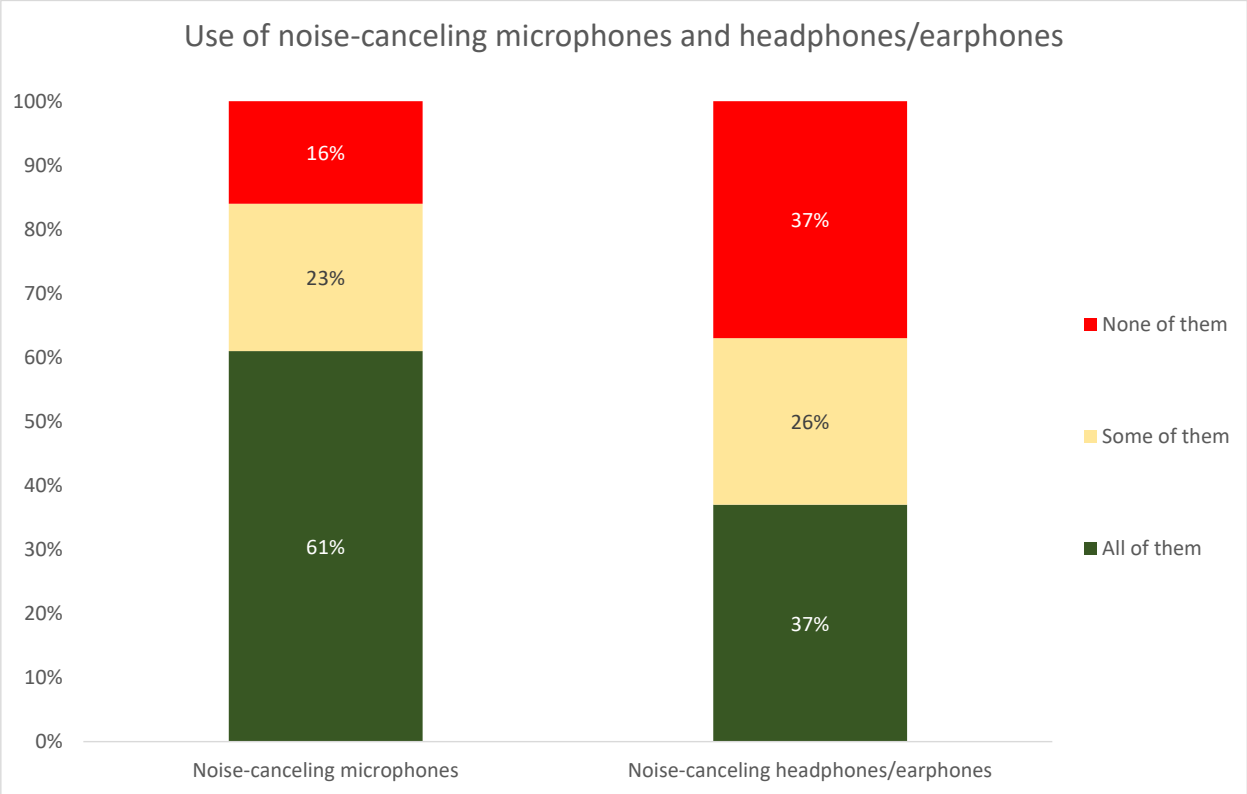


NOISE-CANCELLING HEADSETS

61% of respondents report that all of their headsets have noise-cancelling microphones, which cut out the background noise that can be distracting and frustrating for the caller, and risk them missing important information or making the agent repeat themselves, adding unnecessary time to the call. 23% 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, detracting from the agent's experience and lengthening call times. 26% of respondents partially use this type of headset.

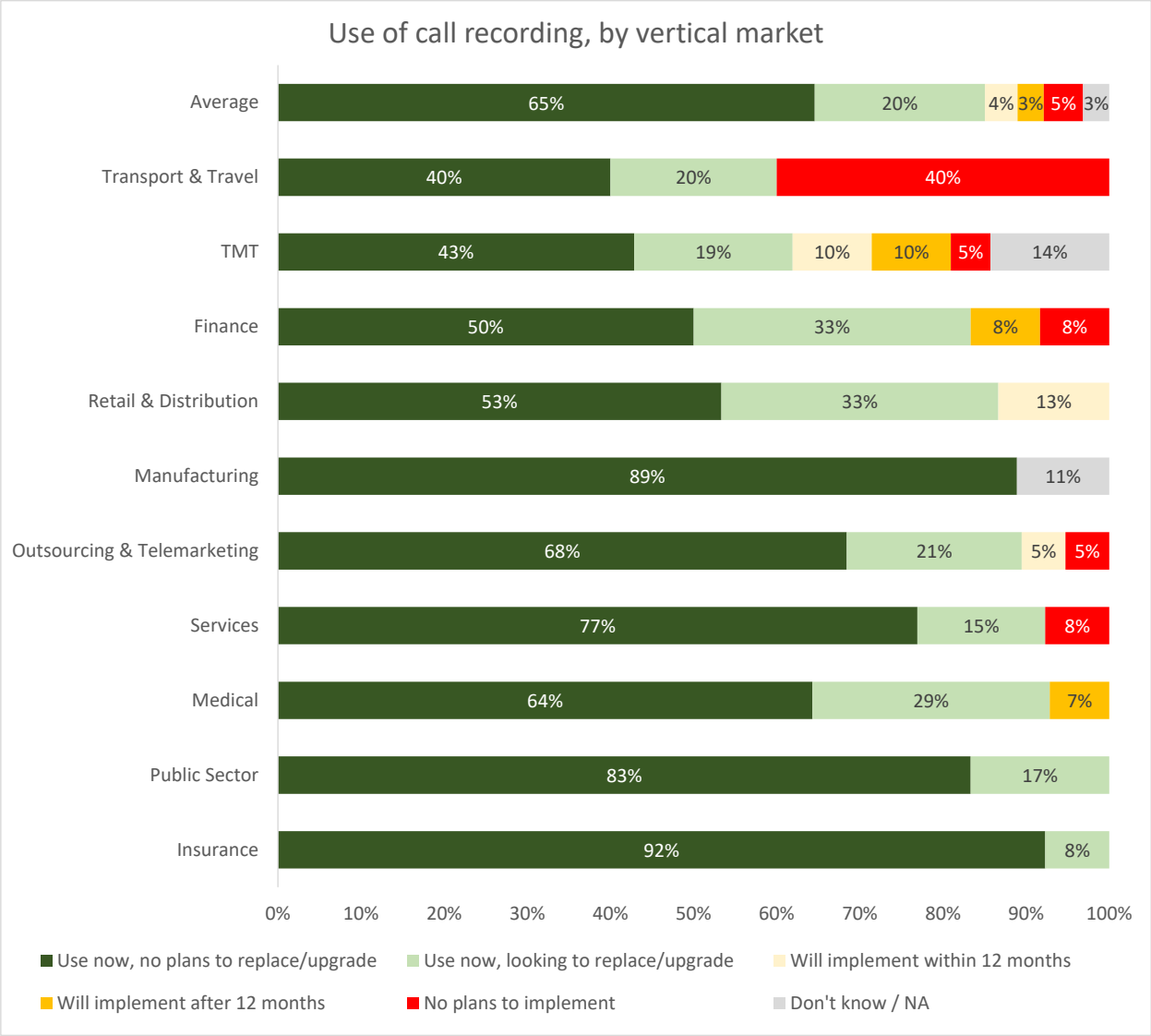
Figure 18: Use of noise-canceling microphones and headphones/earphones



CURRENT & FUTURE USE OF CALL RECORDING

Consistently one of the most widely-used contact center technologies, call recording is used by 85% of this year's respondents, 24% of whom state that they wish to replace or upgrade their current system. Only 5% of respondents have no intention of using call recording, most of which are in the transport & travel sector.

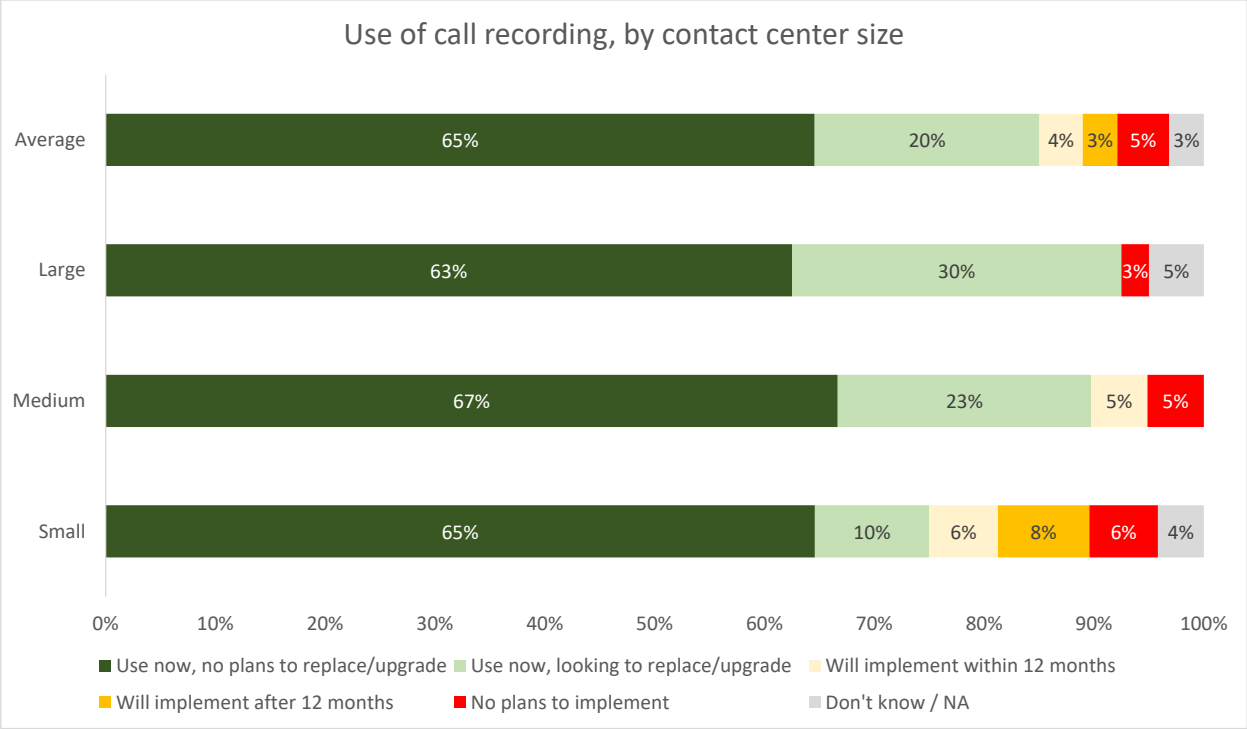
Figure 19: Use of call recording, by vertical market



A considerable proportion of respondents in the retail and finance sectors report that they are looking to update their call recording solutions. Taken in the context of data from elsewhere in this report, this is almost certainly connected with adding speech analytics capabilities to the recording functionality in order to improve the QA process, increase compliance and gather new business insight from their customer interaction records.

The use of call recording has in the past been influenced by the size of the contact center operation, although the current figure of 75% penetration in survey respondents from small operations shows that vendors have been able to offer solutions successfully at various price points and deployment methods.

Figure 20: Use of call recording, by contact center size



HOW IS RECORDING USED BY THE BUSINESS?

Call recording and monitoring may have been around for a long time, and it remains 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, supporting agent best practice and improvement, ensuring compliance with regulation as well as improving the organization's insight into the customer experience through analytics.

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 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 challenge has been that it is impossible to listen to every call. It's also difficult to know which calls are worthy of further evaluation based on the presence or absence of poor or good performance behaviors or other risk factors. Interaction analytics transcribes and analyzes all call recordings, consistently and objectively. Supervisors no longer have to listen in live on calls. Instead, based on KPIs established by the company, they can search for calls that meet a certain criteria and listen to only those that have significant coaching value. This not only helps improve agent performance, it also reduces the time and cost of manual call monitoring. The use of interaction analytics means that 100% of calls with 100% of agents can be monitored, meaning 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.

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 litigation.

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 add to the value of interaction recording: by using agent-initiated tagging of calls, the 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. Analysis of interaction recording is also vital to gaining a thorough understanding of the customer experience across channels and interactions, as part of a customer journey / Voice of the Customer project.

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.

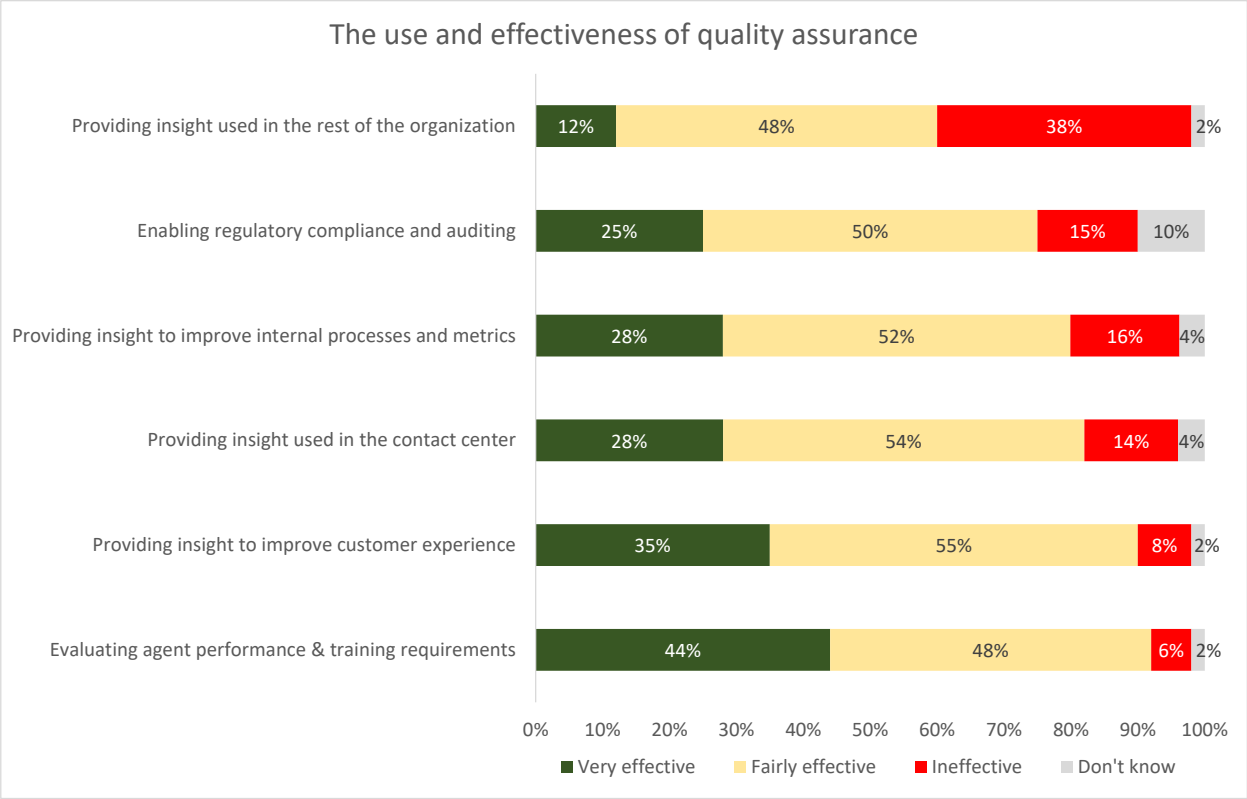
EFFECTIVENESS OF QA

When respondents were asked about how effective their QA processes are and what they are used for, it is noticeable that more of these respondents are lukewarm about the results of their QA processes than are actively enthusiastic: none of the options given had more respondents judging the QA process as 'very effective' rather than merely 'fairly effective' for this purpose, showing that there is still a need for improved functionality.

35% feel that QA drives customer experience improvements significantly, however, customer insight gained from the quality assurance process stands a very significant risk of not being used effectively within the wider organization, although the feeling is that it does generally help 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, and it is fair to say it is not yet being used at its full potential.

Figure 21: The use and effectiveness of quality assurance

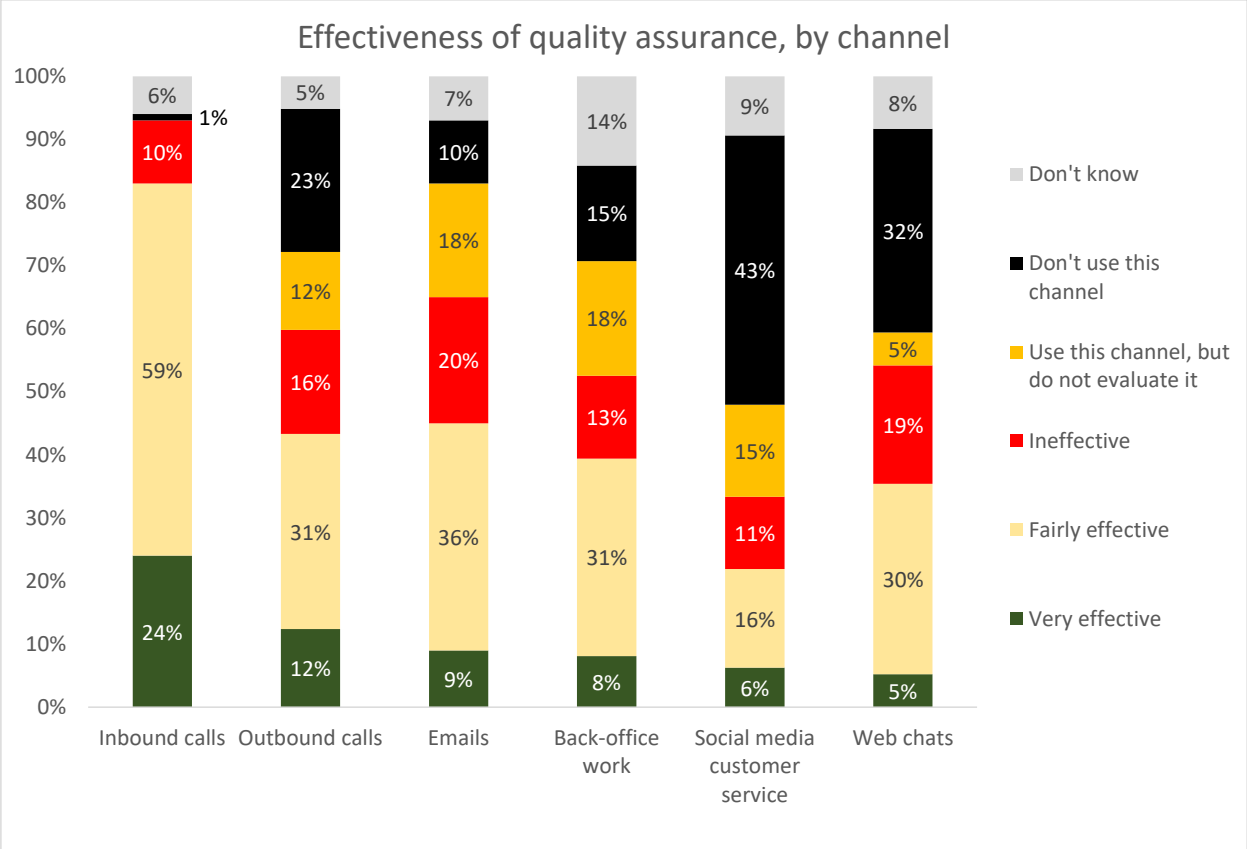


Survey respondents were asked their opinion on how effective they felt their quality evaluation was for specific contact center activities, including inbound and outbound activity, and multichannel work. As might be expected from the activity that has been around the longest, inbound telephony was judged to have the most effective quality evaluation, with 24% of all respondents stating that it was very effective. Evaluation of outbound calling was somewhat less positive, with 16% of the respondents who evaluated outbound activity feeling that it was ineffective and only 12% very effective.

For back office work evaluation, more respondents believed their QA to be ineffective as very effective, but the majority 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 these findings suggest that it is ripe for improvement in many organizations.

The quality evaluation of digital channels still has some way to go to reach the standard of telephony QA. Only 14% of respondents **that evaluated email quality** said that it was very effective, and 31% 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: the newer channels of social media and web chat had similar results.

Figure 22: Effectiveness of quality assurance, by channel



KEY ISSUES IN QUALITY ASSURANCE & MANAGEMENT

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.

The process of quality management – which includes quality assurance and quality monitoring (QA/QM) – tends to look at several specific steps in an iterative cycle:

1. interaction recording
2. monitoring and scoring interactions, whether through manual or automated analytical processes
3. identification of issues and subsequent feedback, coaching, training and e-learning
4. reporting at an integrated level
5. identification of areas for improvement, which are then acted upon and measured.

It is the responsibility of contact center management to identify required agent behaviors and characteristics that are most closely aligned to the operational requirements of the contact center, which should themselves be driven by the strategic requirements of the entire organization. The time is long since passed when agents' performance was focused on call duration or number of calls handled per hour: in fairness, this focus upon the production line method of handling interactions may have been more to do with the lack of tools available to look at metrics that impacted the customer experience. Nowadays, there is no excuse for focusing on efficiency to the detriment of quality and customer satisfaction, nor are there now many examples of contact center operations that continue to pursue this way of working.

Voice of the Customer (VoC) programs help to identify the characteristics and outcomes of interactions that customers most value, rather than simply ensuring compliance. ContactBabel research has consistently found that first contact resolution is most highly prized by the majority of customers, placing traditional contact center metrics such as call duration or even average wait time into the background. Many contact centers are still measuring and rewarding agents based upon metrics and behaviors that are not aligned with the more modern customer-centric outlook. Quality scoring tools and processes must be flexible enough to encourage and reward the agent characteristics and skills that support the overall organization's aims, rather than seeing the contact center existing in a vacuum where productivity is all that counts. The scoring criteria should be re-evaluated a regular basis, and to make sure that scores are fair and consistent across the contact center, there should be regular re-checks of calls already scored by other supervisors or QA staff.

As the focus of contact center's success moves away from the individual interaction, and more into understanding the entire customer journey, no matter how long that takes, quality management should look to do the same. Many customer interactions require more than a single interaction or channel, and to understand quality from the customer's viewpoint, all of the interactions between the customer and business should be monitored and understood.

In operations which are using manual quality processes, listening to 100% of calls is clearly impossible. The majority of benefits from quality monitoring come from understanding the best and the worst calls, so as to propagate best practice and to retrain agents where needed. However, listening to a small random sample of calls is unlikely to show either the highs or the lows, so this is an opportunity missed for many operations. The use of speech analytics for quality purposes has taken off significantly, especially in larger operations. This allows the analysis of all calls, allowing supervisors and QA teams to focus upon the areas in most urgent need of attention, and to provide training and coaching to those agents in greatest need. The next chapter considers analytics in more depth.

Quality management outputs can be used by the HR division in order to track the success or otherwise of recruits, and feed this back into their recruitment practices so as to attract more candidates with the skills that prove successful in the contact center environment. The training department can see where the greatest needs for improved training courses are: for example, if a large proportion of new agents receive low scores for similar attributes or characteristics, improvements to the induction course should be considered.

As quality-focused call recording is used by the vast majority of the industry, contact centers have a clear understanding of what works for them and what doesn't.

Respondents to recent ContactBabel surveys were asked which interaction recording functionality they would most like to add or improve. Of the seven choices provided, three stood out as the most popular. In order:

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

The most frequently-stated addition to recording functionality is a demand for higher quality of data to feed into the management information and reporting process (and also into the supporting wider analytical processes). 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.

It is likely that the major change to quality management in contact centers will come from the continued growth in the use of analytics, which allows organizations to take 100% of calls and interactions into account within the quality process. This easily and quickly identifies the outliers – both good and bad – as well as being able to provide analysis of all of an agent's calls so as to assess them more accurately. Currently, analytics is a useful tool for identifying where to look, but is not yet a substitute for the knowledge and experience of quality management professionals.

Based on results from quality management professionals who state that they do not have sufficient time to do everything that they would like to, we would also expect future quality management tools to focus on further automating manual processes. Furthermore, significant proportions of survey respondents indicate that outside the traditional practice of ensuring the quality of inbound calls, QA is far less effective in handling digital channels. As the relative and absolute importance of non-voice interactions will continue to grow throughout the industry, this is a challenge to which solution providers must rise.

INTERACTION ANALYTICS

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?

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

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

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

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

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

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

Some of the actionable findings from analytics may seem very simple – the recommendation to change a few words in a script, for example – but the overall potential impact upon the cost, revenue, agent capability and customer experience that is possible through analytics is perhaps unprecedented.

There are various elements to customer contact analytics solutions, including:

- Speech engine: a software program that recognizes speech and converts it into data (either phonemes – the sounds that go to make up words – or as a text transcription, although there are solutions which directly recognize entire spoken phrases and categorize calls based upon the occurrence of those phrases)
- Indexing layer: a software layer that improves and indexes the output from the speech engine in order to make it searchable
- Query-and-search user interface: the desktop application where users interact with the analytics software, defining their requirements and carrying out searches on the indexed data
- Reporting applications: the presentation layer of analytics, often in graphical format
- Business applications: provided by vendors, these pre-defined modules look at specific issues such as adherence to script, debt collections etc., and provide suggestions on what to look for
- Text analytics: this solution combines the transcription of customer calls with other forms of text interactions such as email, web chat and social media. It then uses natural language processing models along with statistical models to find patterns
- Desktop data analytics: a solution that gathers metadata from agent desktop and CRM applications – for example, account ID, product order history and order value – and tags them to call recordings or digital records, enabling deeper insight.

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

- ***Categorization:*** the activity of grouping conversations according to user-defined topics, such as complaints, billing issues, discussions of specific products, etc. Agent capability can be viewed by these categories, suggesting specific training needs as well as identifying any required changes to processes. Categorization can be done by the business based on their own experiences and requirements, through using vendors' out-of-the-box categorizations for common analytics use cases, or by implementing AI and machine learning to find categories within the business's data
- ***Discovery:*** requiring a transcription-based solution, analytics will seek out phrases and words that are showing up in noteworthy patterns, showing how they fit together and how they relate to each other, discovering trends automatically
- ***Metadata***: non-audio data, which may be taken from CRM, ACD or agent desktop applications, which is tied to audio recordings or other interactions, improving the ability to correlate, discover patterns and pinpoint specific types of interaction
- ***Search:*** if the analytics user knows what they want to find, the search function can return a list of calls with these words or phrases within them. Speech-to-text / transcription applications return the sentence or whole interaction so that the user can see the context as to how this has been used, offering the opportunity to run text analytics on top of this as well
- ***Closed-loop analytics:*** where also known as "closed-loop marketing", this activity involves tracking the entire customer lifecycle (i.e. connecting the initial contact all the way to the sale, and into ongoing support and post-sale activity), in order to draw actionable insights about how elements of the customer lifecycle impact upon sales success and marketing effectiveness. From a perspective more closely focused upon the customer experience, "closed-loop" refers to the continued, iterative use of automated alerts, follow-up of issues (e.g. through call-back) to support root cause analysis, and the identification and resolution of suboptimal processes.

DRIVERS FOR CUSTOMER INTERACTION ANALYTICS

Customer interaction analytics offers huge opportunity to gain business insight, improve operational efficiency and develop agent performance. In fact, the list of potential applications for this technology is so high that businesses could be forgiven for being confused about how to target and quantify the potential business gains. Depending on the type of business, the issues being faced and even the type of technology being implemented, drivers, inhibitors and return on investment can differ greatly. While an analytics solution will be implemented to look at one particular pressing issue, such as compliance or automating the QA process, it will further develop over time into looking at business intelligence, process optimization, customer experience improvements and revenue increase.

There are various ways to segment the uses of analytics, and it may therefore be useful to divide them into one of two groups: those that are around solving a specific known problem, and those which are of a more strategic, long-term nature, although there is some crossover between the two groups.

Figure 23: Uses of customer contact analytics

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

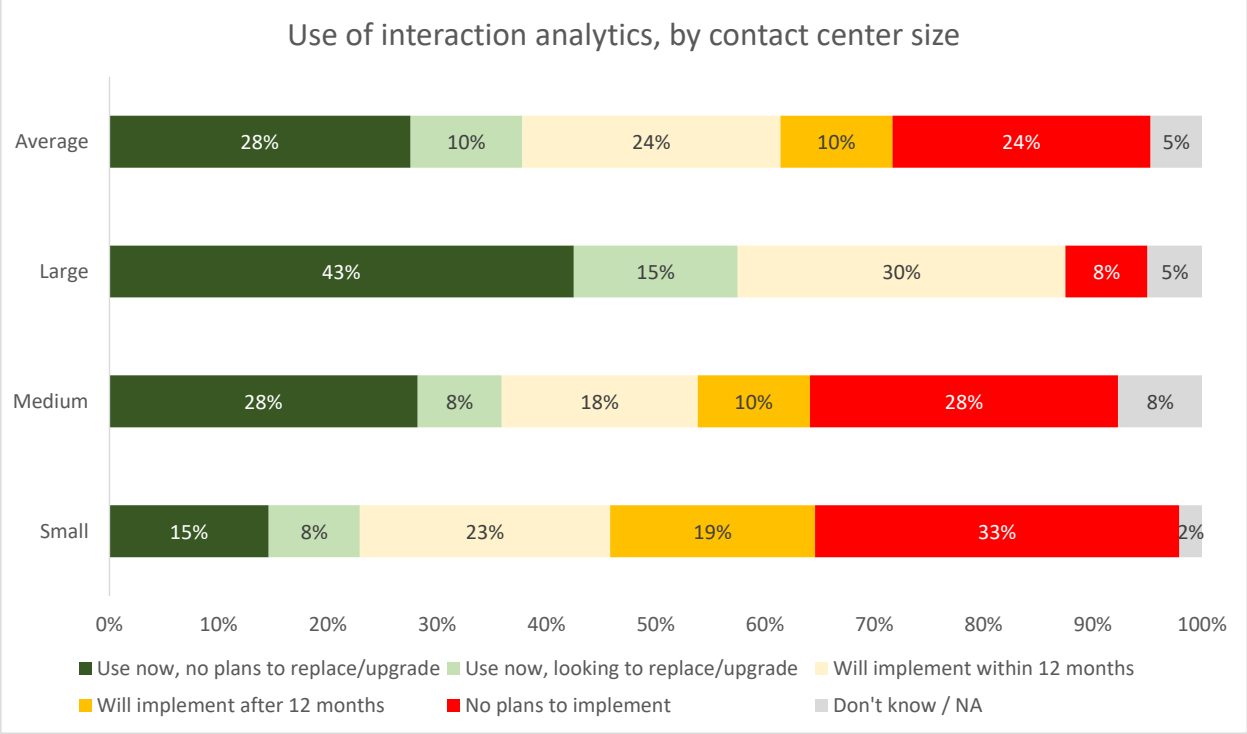
USE OF INTERACTION ANALYTICS

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

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

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

Figure 24: Use of interaction analytics, by contact center size

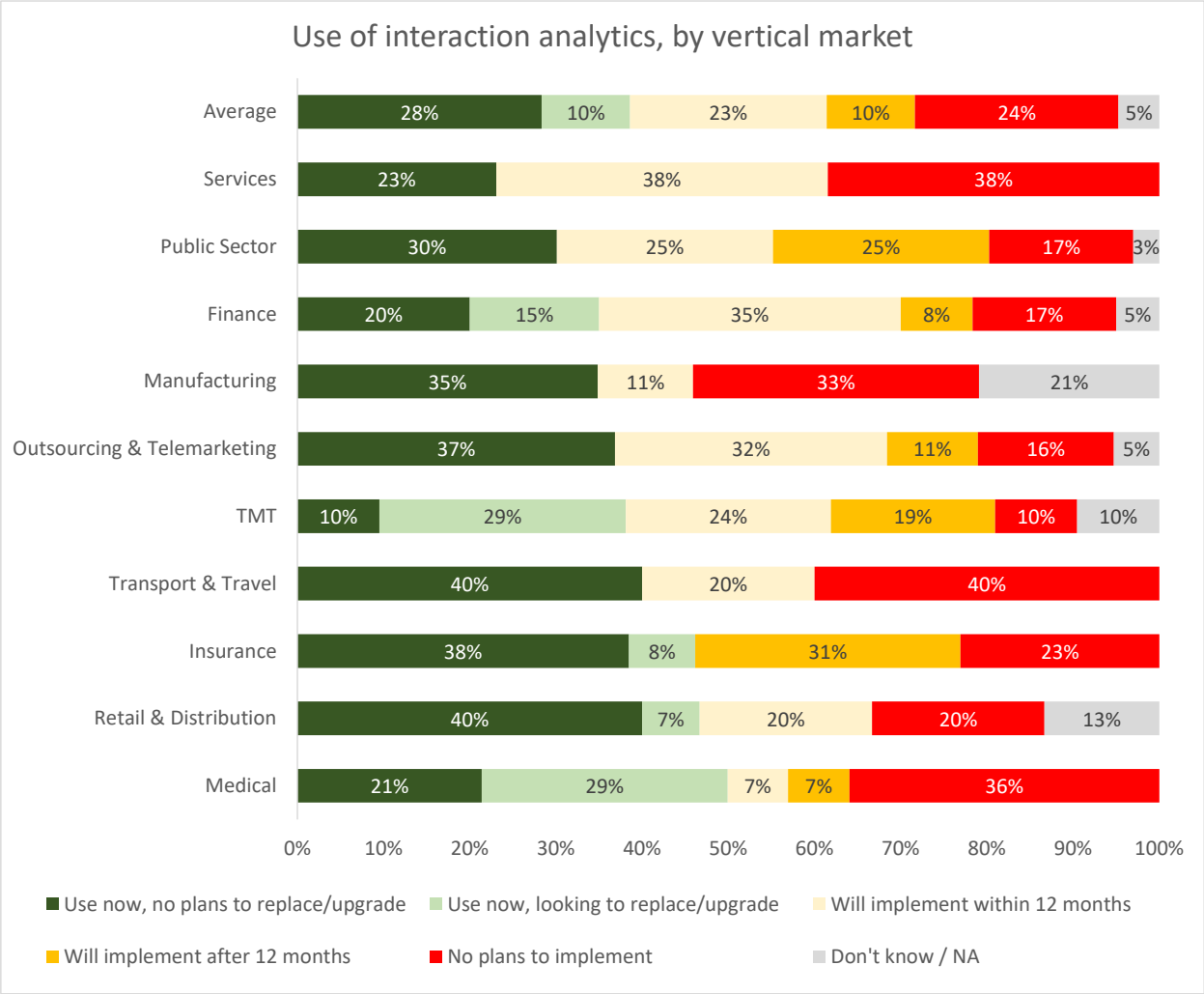


Against a virtual ubiquity of call recording, the penetration rates of interaction analytics are much lower: 38% of this year's respondents use it now, with a further 33% stating that they have plans for implementation.

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

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

Figure 25: Use of interaction analytics, by vertical market



As we might expect, the use of post-call speech analytics – the bulk analysis of call recordings – is the most widely used type of interaction analytics functionality. 38% of analytics users have also implemented functionality which can analyze the agent desktop activity which is linked to these calls.

Real-time (or near real-time, i.e. within the call) speech analytics is used by only 17% of interaction analytics users. 33% of respondents that state that they use multichannel analytics.

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

Figure 26: Use of various interaction analytics functionality (from only those respondents who use analytics)

Interaction analytics type	% respondents using this functionality
Post-call speech analytics	63%
Back office analytics	42%
Desktop analytics	38%
Multichannel analytics (i.e. email, web chat, social media, etc.)	33%
Customer journey analytics	29%
Real-time speech analytics	17%

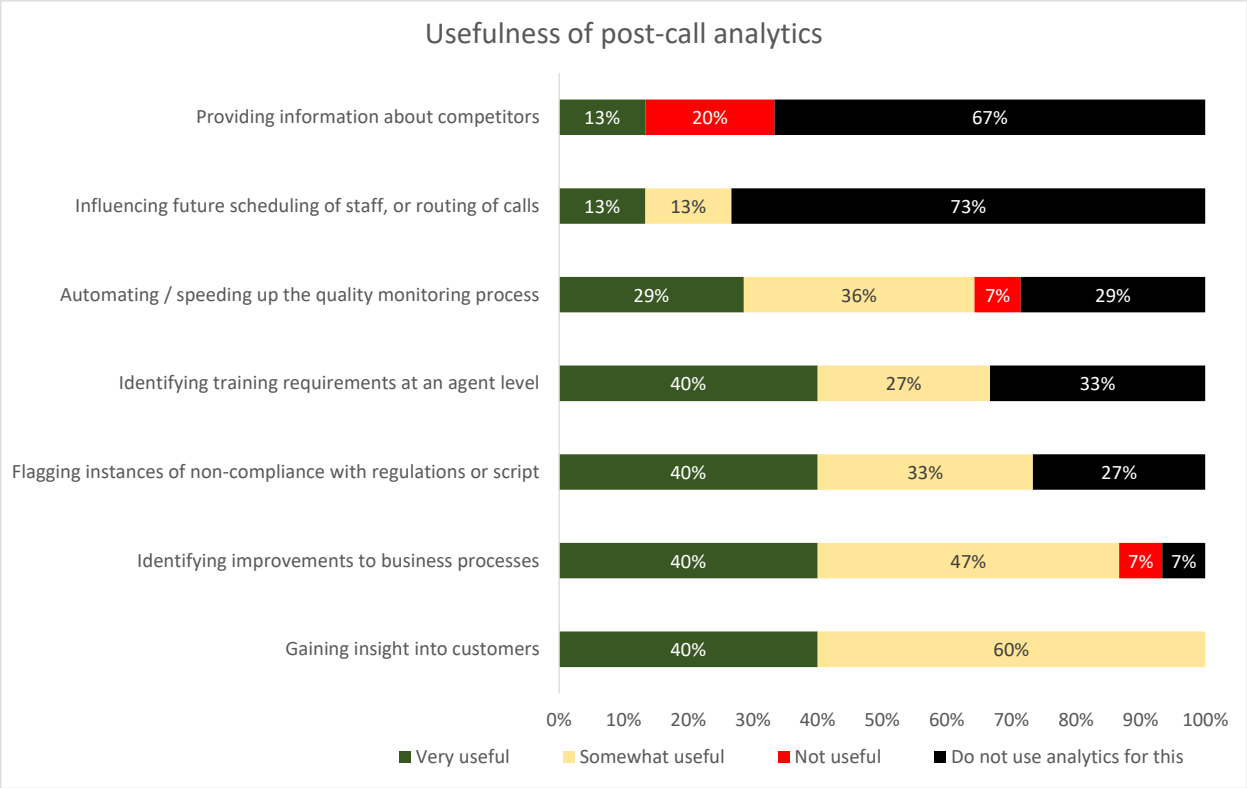
POST-CALL ANALYTICS

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

Post-call speech analytics is vital for business intelligence, performance improvement, QA and compliance. As the majority of contact centers have call recording in place, the raw material is already available. In fact, the amount of recorded voice data available to most businesses can be overwhelming, and post-call speech analytics that analyze 100% of recorded calls is proving hugely valuable.

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

Figure 27: Usefulness of post-call analytics



Survey respondents are very enthusiastic users of analytics in order to gain insights into customers, and the use of the application for this purpose has grown greatly in recent years.

Analytics is also seen as being valuable for flagging instances of non-compliance with regulations or script, with 55% of respondents that use analytics for this purpose reporting that it is very useful.

The automated quantification of agent performance and capabilities, feeding into the training and skills upgrades required should be one of the most important outputs for interaction analytics, and somewhat more than half of respondents using analytics for this purpose state that it is very useful. A lower proportion indicate that analytics is very useful for speeding up the overall quality monitoring process as well through automation.

40% of analytics users state that it is very useful in identifying improvements to business processes. Optimizing processes and gaining actionable insight that can be applied to the customer journey will become one of the most important uses of analytics, as users' sophistication increases and solutions' capabilities are explored more fully.

There is little enthusiasm around the use of analytics for providing information about their competitors, with more than half not using it for this purpose at all. This is a very underused area of analytical usage at the moment, and one which we would expect to see growing significantly in future years.

A growing proportion of respondents report that analytics helps influence scheduling or routing strategies, and as more tightly integrated WFO suites are used we would expect this to continue to change for the better.

REAL-TIME ANALYTICS

Some solution providers suggest that 'real-time analytics' should perhaps be more accurately referred to as 'real-time monitoring and action'. Analysis ("a detailed examination of the elements or structure of something[2]"), refers to the discovery and understanding of patterns in data, and is currently something that by definition only happens post-call when all data are fully present. Real-time monitoring on the other hand, looks for and recognizes predefined words, phrases and sometimes context, within a handful of seconds, giving the business the opportunity to act.

AI can be trained to understand intent and recognize patterns through immersion in vast quantities of historical data, so that when a call is taking place it can draw upon this knowledge and provide advice or action that has proven successful previously, moving towards the actual provision of real-time analytics.

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

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

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

Real-time analysis can be used in many ways:

- monitoring calls for key words and phrases, which can either be acted upon within the conversation, or passed to another department (e.g. Marketing, if the customer indicates something relevant to other products or services sold by the company)
- alerting the agent or supervisor if pre-specified words or phrases occur
- offering guidance to the agent on the next best action for them to take, bringing in CRM data and knowledge bases to suggest answers to the question being asked, or advice on whether to change the tone or speed of the conversation
- escalating calls to a supervisor as appropriate

[2] http://www.oxforddictionaries.com/definition/english/analysis

- detecting negative sentiment through instances of talk-over, negative language, obscenities, increased speaking volume etc., that can be escalated to a supervisor
- triggering back-office processes and opening agent desktop screens depending on call events. For example, the statement of a product name or serial number within the conversation can open an agent assistant screen that is relevant to that product
- making sure that all required words and phrases have been used, e.g. in the case of compliance or forming a phone-based contract
- suggesting cross-selling or upselling opportunities.

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

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

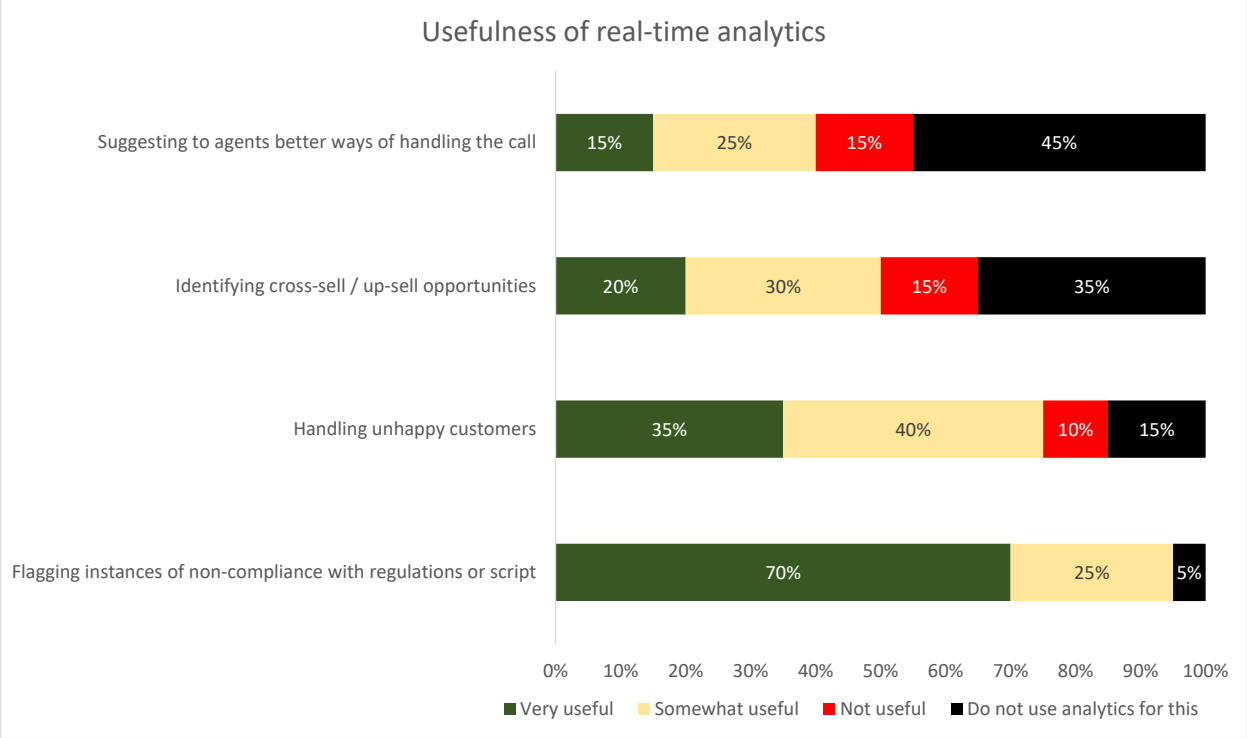
The effectiveness of real-time analysis may be boosted by post-call analytics taking place as well. For example, by assessing the outcomes of calls where specific cross-selling and upselling approaches were identified and presented to agents in real time, analysis can show the most successful approaches including the use of specific language, customer type, the order of presented offers and many other variables (including metadata from agent desktop applications) in order to fine-tune the approach in the future. Additionally, getting calls right first-time obviously impacts positively upon first-call resolution rates, and through picking up phrases such as "speak to your supervisor", can escalate calls automatically or flag them for further QA.

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

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

Real-time analytics' ability to identify cross-selling and upselling opportunities is less highly rated, with only 31% of respondents that use analytics for this purpose state that it is very useful. A relatively low proportion of real-time analytics users report that they use it to suggest better ways to the agent of handling the call.

Figure 28: Usefulness of real-time analytics



TEXT ANALYTICS

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

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

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

Perhaps the most obvious potential contact center use of AI-enabled text analytics is in handling digital enquiries, where web chats generally take far longer than phone calls (due to agent multitasking, and typing time) and some email response rates can still be measured in days. As the cost of web chat is broadly similar to other channels such as email, voice and social media, there is considerable room for increasing efficiencies and lowering costs. Real-time text analytics can be used to assist agents when answering emails or handling web chats, or to identify customers at risk based on feedback comments they have left, initiating an action aimed at alleviating their problem immediately.

PREDICTIVE ANALYTICS

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

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

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

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

SCREEN/DESKTOP ANALYTICS

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

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

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

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

BACK-OFFICE ANALYTICS

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

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

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

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

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

CUSTOMER JOURNEY ANALYTICS

In the long-term, the use of customer contact analytics will improve the customer journey as many business process improvements will be enabled by the complete understanding of what is happening each step of the way, whether within the customer interaction cycle, or in one of the other processes occurring elsewhere within the organization.

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

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

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

Customer journey analytics aims to gather together the various data sources, channels, triggered processes and customer touchpoints involved in the customer interaction in order to optimize the overall customer journey. By fully understanding the customer experience, businesses can identify and rectify inefficiencies, helping to break down the boundaries and siloes between channels and between the front office and the back office.

Customer journey analytics goes beyond the measurement of individual interactions and touchpoints. Sophisticated analytics solutions use data inputs from multiple sources, both structured and unstructured, in association with journey maps, which are produced by employees in multiple roles within the organization who document how various processes currently work and how they could be optimized. This is particularly the case in larger businesses which are increasingly looking at the effectiveness of back office processes that can impact upon whether the customer has to contact the business multiple times.

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

VOICE OF THE CUSTOMER ANALYTICS

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

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

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

Closed Loop

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

Coaching

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

Reporting

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

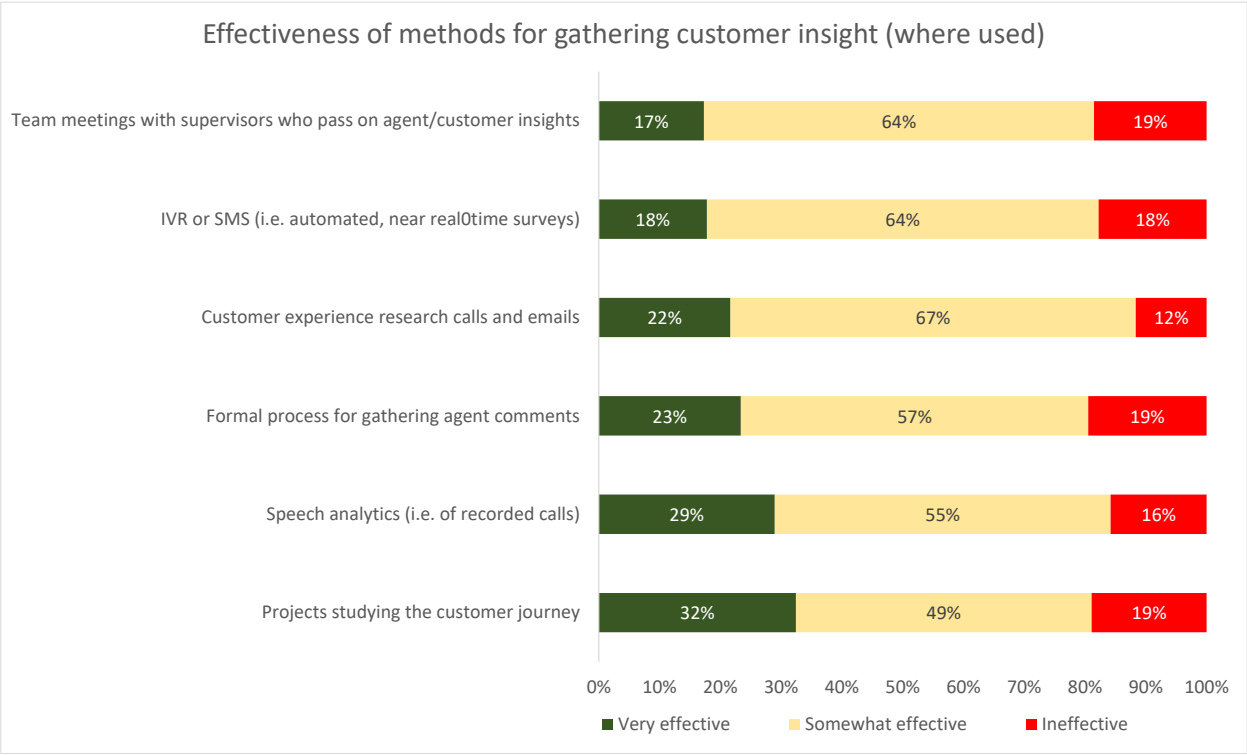
VoC programs are frequently ongoing engagements with result measured by internal CSAT scores, NPS benchmarks and efficiency improvements. VoC surveys discover what the company is doing wrong (and right), where improvements can take place, how the company is perceived against its competition and how it can improve. It is important to view the survey from the customers' perspective, rather than checking boxes that just relate to internal company metrics, which is self-serving. Surveys should also be ongoing, to check whether real improvements are being made after the issues have been identified.

It is vitally important before beginning to survey customers, that a business:

- Clearly determines the purpose and aims of the survey
- Considers adopting a variety of question types. Scored questions enable a business to produce statistically significant and representative data. Free comments allow the gain of real insight into customers' perception of service
- Selects an experienced company to set up and host the survey. Businesses will benefit from their expertise and knowledge and avoid potentially costly errors
- Ensures that the survey can be carried out throughout the day, including peak times and through different channels, to gain a truer picture of the customer experience
- Makes 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
- Has procedures in place to act upon the information that it finds. 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, the survey platform should provide some mechanism for alerting and following-up to ensure that dissatisfied customers are escalated to the appropriate staff
- Adopts a unified approach across the business to assessing and monitoring customer satisfaction. If a business continues to reward agents based on traditional call performance metrics, it is merely paying lip service to good service. If agents are rewarded based on customer satisfaction ratings, it will increase agent engagement and retention at the same time as improving the service it offers to customers.

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

Figure 29: Effectiveness of methods for gathering customer insight (where used)



The previous chart looks at contact center professionals' opinions of the effectiveness of each method of gathering customer insight.

Automated analytics solutions get reasonable approval ratings, although IVR/SMS surveys get a mixed response. However, these methods are used by less than half of respondents as the following table shows.

Figure 30: Use of methods of gathering customer insights

Method	Proportion of respondents using this method
Meetings with supervisors who pass on agent insights	90%
Formal process for gathering agent comments	78%
Customer experience research calls and emails	75%
Projects studying the customer journey	60%
IVR or SMS (i.e. automated, near real-time surveys)	40%
Speech analytics (i.e. of recorded calls)	38%

MEASURING THE ROI OF ANALYTICS

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

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

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

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

Variables to be considered for ROI measurements include:

Cost reduction:

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

Revenue increase:

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

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

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

Against these potential positives, costs to consider include:

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

Any business case needs to be built with support from the potential end-users, understanding the specific key performance indicators that are important to them, rather than focusing on IT specific issues. Whatever the variables and factors that businesses choose to build the ROI and business case, it is important to gather benchmark data before the solution is deployed, so as to be able to quantify any change accurately. If possible, use a 'control and experiment' approach : for example, one sales team carries on as they were, while the other may have their scripts changed or receive tailored training based on analytical insights. It is also important to get business users involved early in the process, giving them a key part in defining the right business case and the desired ROI.

DEVELOPING THE USE OF ANALYTICS

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

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

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

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

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

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

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

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

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

Discovery

'Discovery' is a term often used within the customer contact analytics industry, and refers to a deep, automated analysis of trends, patterns and results which are identified by the speech analytics solution rather than the knowledge or insight of the human operators. Discovery will help users to find calls that are similar to each other, perhaps through similar groupings of words or phrases, and explore these links to discover the issues driving them. Many solutions offer automated discovery and this is an area that will always be improving and becoming more subtle and effective, having huge potential benefits for businesses.

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

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

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

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

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

For more information about interaction analytics, please download ContactBabel's free "Inner Circle Guide to Customer Interaction Analytics".

MAXIMIZING EFFICIENCY AND 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. Many of the efficiency-enhancing solutions available to today's contact center serve a dual purpose of decreasing customer effort as well,

This section looks at ways in which contact centers improve their efficiency without damaging the customer experience, through increasing automation, offering alternatives to making inbound calls, or benefiting from economies of scale.

Solutions and issues include:

- Self-Service
- Robotic Process Automation and the Back-Office
- Customer Identity Verification
- PCI Compliance
- Queue Management & Call-Back
- The Remote Agent & Connected Enterprise.

SELF-SERVICE

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, and the increasing use of AI is injecting fresh interest into an area which promises to benefit customer experience while offering significant cost reductions.

Figure 31: Some functions for self-service, by vertical market

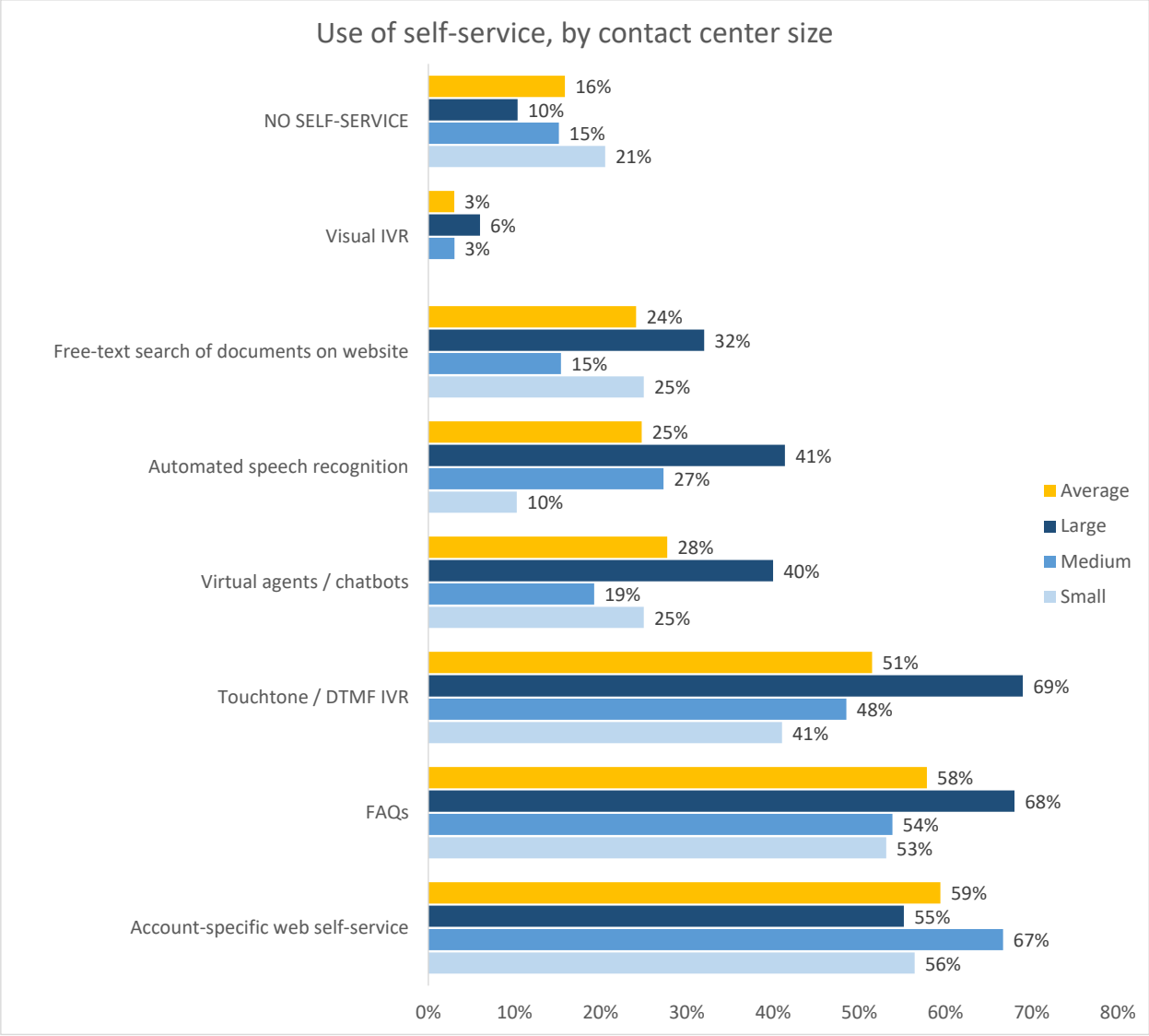
Self-service activity	Typical sector offering this form of self-service
Problem reporting and resolution	IT helpdesk
Account access & card payments	Banking
Product information & registration	Retail
Online registration	Any
Order entry	Retail, travel
Balance inquiry	Banking, credit cards
Dealer or store 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

THE USE OF SELF-SERVICE

84% of respondents offer some form of self-service to customers, with account-specific self-service being made available by more than half of respondents.

Touchtone / DTMF IVR, virtual agents and automated speech recognition are more widely-used in larger operations.

Figure 32: Use of self-service, by contact center size



WEB SELF-SERVICE

For businesses, by far the major advantage to having customers use web self-service is the fact that the cost per automated support session is estimated to be between 40 and 100 times cheaper than a live call to an agent.

Research has found that around 50-60% 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. The ContactBabel report, "The Inner Circle Guide to AI, Chatbots & Machine Learning" looks at this application in depth.

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. Sector such as utilities (which may be virtual monopolies) may be less concerned about competitiveness, instead being heavily focused on cost reduction, and these business cases will focus on contact avoidance. Online retailers, which want to cross-sell and reduce their shopping cart abandonment rates, will have yet another strategy.

AI-ENABLED AGENT ASSISTANCE

Self-service can be used to help agents as well as customers. The use of AI to assist agents in real time within a call is a game-changer: by the nature of the job, an agent-customer interaction is between two people, and the level of support that an agent can actually receive within a call is very limited. Advice on learning points have been restricted to post-call reviews or sometimes supervisors 'whispering' in the agent's ear, which is a limited and non-scalable way to improve the outcome of the interaction.

AI offers an opportunity to provide timely and effective support to every agent, actually within the call. AI can provide the agent with suggestions about next best action, offer relevant information from the knowledge base, make suggestions based on customer history and sentiment about optimal cross-selling and upselling opportunities, and even suggest the style of conversation that this customer may prefer. This has a positive impact on first contact resolution as well as customer experience, and is of particular use to less experienced agents and in unfamiliar subject areas.

AI can work alongside agents to provide relevant knowledge that may be otherwise take a long time to find, and update the knowledge bases available to humans and AI self-service systems using an automated feedback loop that is constantly improving based on actual outcomes.

It's possible to fix customer service problems before they occur: for example, sudden numerous requests about the same thing is likely to indicate a breakdown in a specific business process or the occurrence of an outside event. AI can quickly recognize that this is an issue, and deliver information solutions to an agent's screen, to the chatbots and note that changes should be made to the IVR announcement.

COST-SAVING OPPORTUNITIES FOR AI-ENABLED SELF-SERVICE

The table below uses data gathered in the course of this year's survey to show the cost that a typical 100-seat contact center, with an average level of digital interactions (email, web chat & social media) would incur by handling these interactions manually, i.e. without the assistance of AI.

At over $1.6m of spend per year, there is clearly a case to be made that successfully investing in solutions that can automate or accelerate the agents' handling of these type of interactions is likely to have a positive financial outcome. Of course, if the solution is also aimed at improving web self-service so that the digital interactions are avoided altogether, cost savings will also accrue.

Figure 33: Cost per channel of handling digital interactions manually – 100-seat contact center

Channel	Estimated average # interactions p.a.	% of interactions that are manual	Cost per interaction	Overall cost
Email	196,000	90%	$6.35	$1,120,000
Web chat	29,000	72%	$6.03	$126,000
Social media	59,000	95%	$6.97	$391,000
TOTAL				**$1,637,000**

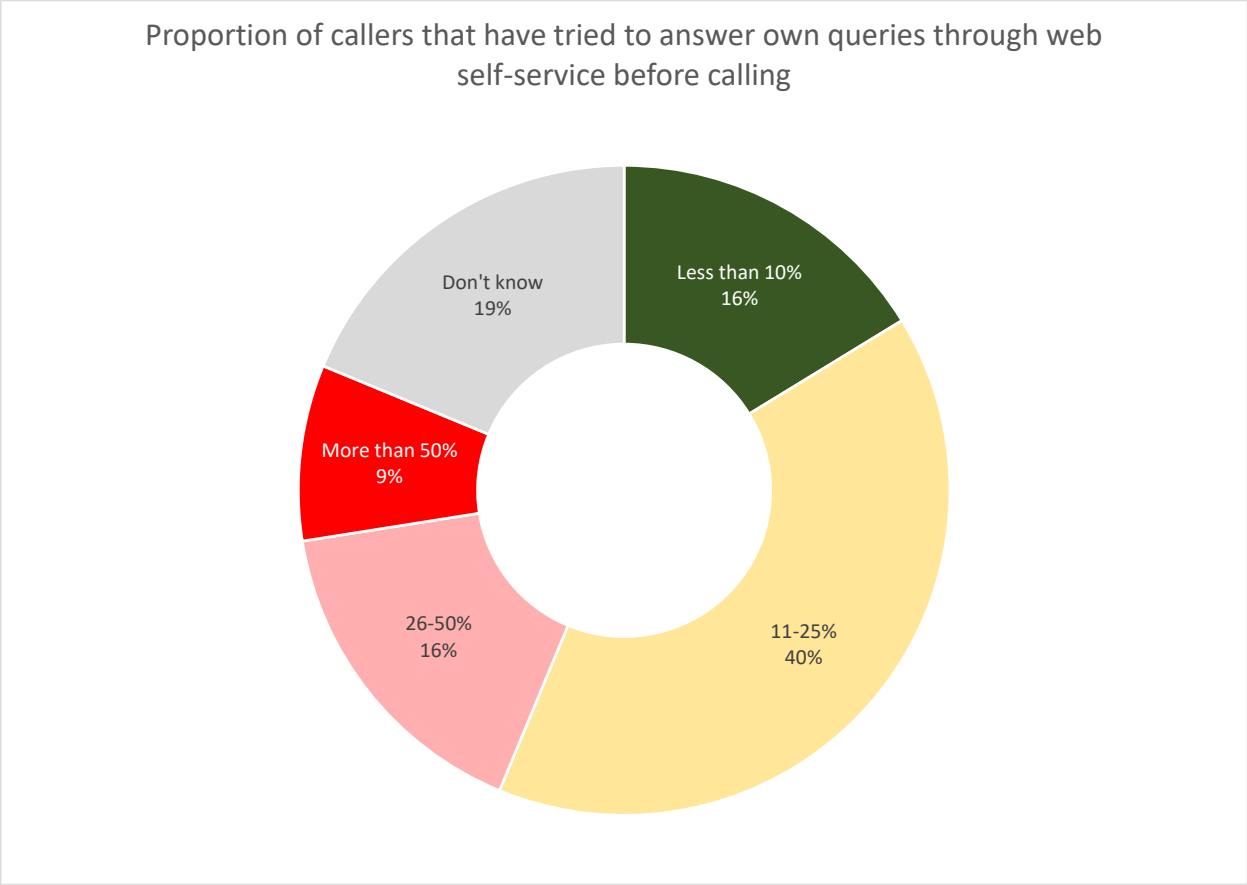
The table above does not look at potential savings through improving live telephony outcomes. In the case of a typical 100-seat contact center, the operation could expect to receive around 900,000 phone calls each year, which at an average cost of $7.29, adds up to around $6.6m per year. It is easy to see that a 10-15% decrease in call handling times created by AI-enabled agent assistance would be a very significant cost saving as well.

ESCALATING FROM WEB SELF-SERVICE TO LIVE TELEPHONY

Although 16% of survey respondents state that fewer than 10% of customers have tried to resolve their issues online before calling the contact center, 25% state that more than 1 in 4 calls come from people who have failed to complete their objective on the website first.

Worryingly, 19% of respondents using web self-service do not have any idea of its success from the customers' perspective.

Figure 34: Proportion of callers that have tried to answer own queries through web self-service before calling



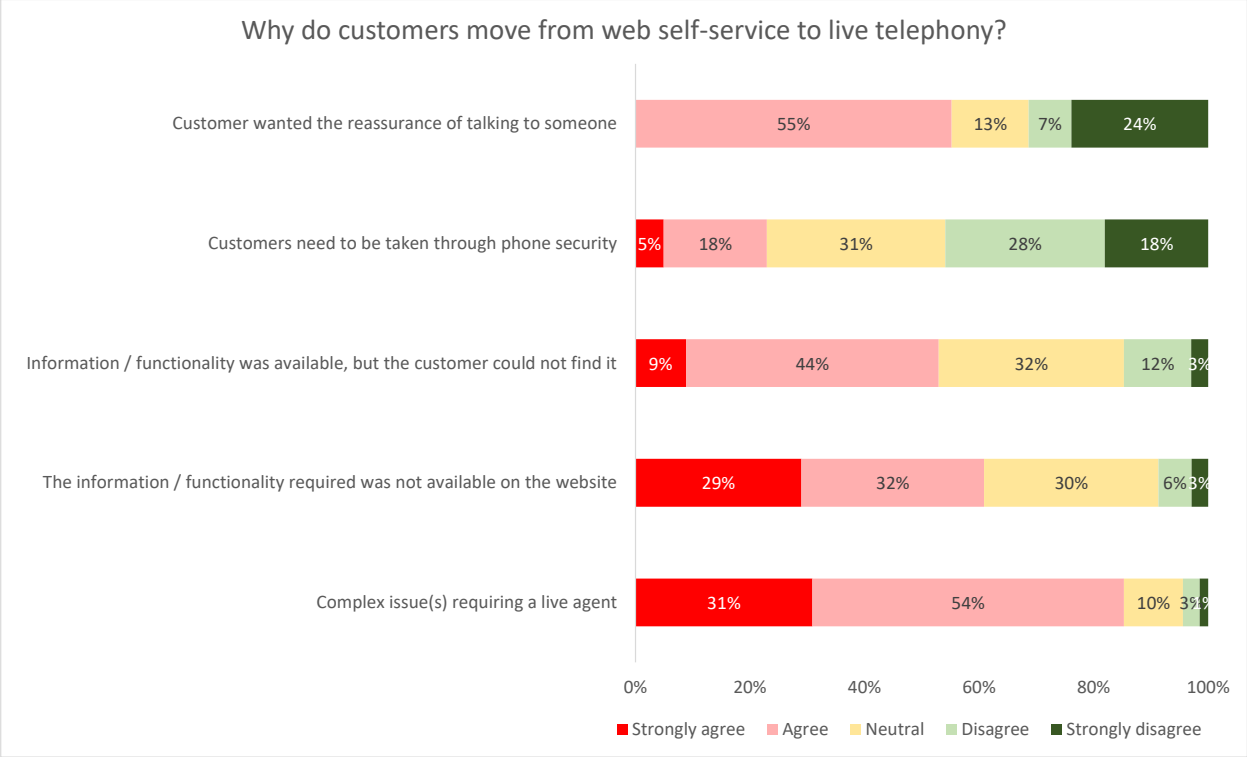
85% of respondents agreed or strongly agreed that customers escalate their query from the web to the phone due to a complex issue requiring a live agent to complete successfully.

55% of respondents also felt that customers wanted the reassurance that a live agent brings to a conversation, which is a drop on previous years, suggesting that customers are becoming more confident in using self-service.

61% stated that the functionality that the customer calling in required was not available online, but interestingly, 53% stated that they received calls about issues that could have been resolved online, but that customers were unable or unwilling to do so.

Only 23% of this year's respondents believed to some extent that lack of website security authentication was an issue causing unnecessary inbound calls.

Figure 35: Why do customers move from web self-service to live telephony?



TELEPHONY SELF-SERVICE

Despite the rapid growth in the use of web-based services, the importance of the voice channel has not diminished to the extent predicted by some commentators:

- Customers still find voice the most convenient, flexible and quickest communication channel in many instances, especially in older demographics and for complex and high-emotion 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 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. Some businesses, often with large contact centers and high call volumes, use automated speech recognition (ASR), which allows customers to speak their requirements to the system, allowing greater flexibility and functionality. The emergence of visual IVR – a front-end developed for smartphones which bridges the gap between digital and voice – has the potential to give self-service a significant boost although current usage is low.

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 report 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' elsewhere in the report.

Figure 36: 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 legacy 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. Visual IVR can alleviate these issues
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 around 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.

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, 55% of respondents offer a full telephony self-service channel (either through DTMF IVR or automated speech recognition), with the finance and the public sector leading the way. The manufacturing and retail sectors were least likely to be doing so.

There is a distinct pattern in full DTMF self-service when considering contact center size, with 77% of respondents from large operations doing this, compared with 50% in the mid-sized sector and only 28% of small contact centers.

Of those contact centers offering telephony self-service, a mean average of 33% of calls were handled entirely by self-service without requiring an agent.

Figure 37: Overall proportion of calls handled entirely through self-service (only in respondents which offer telephony self-service)

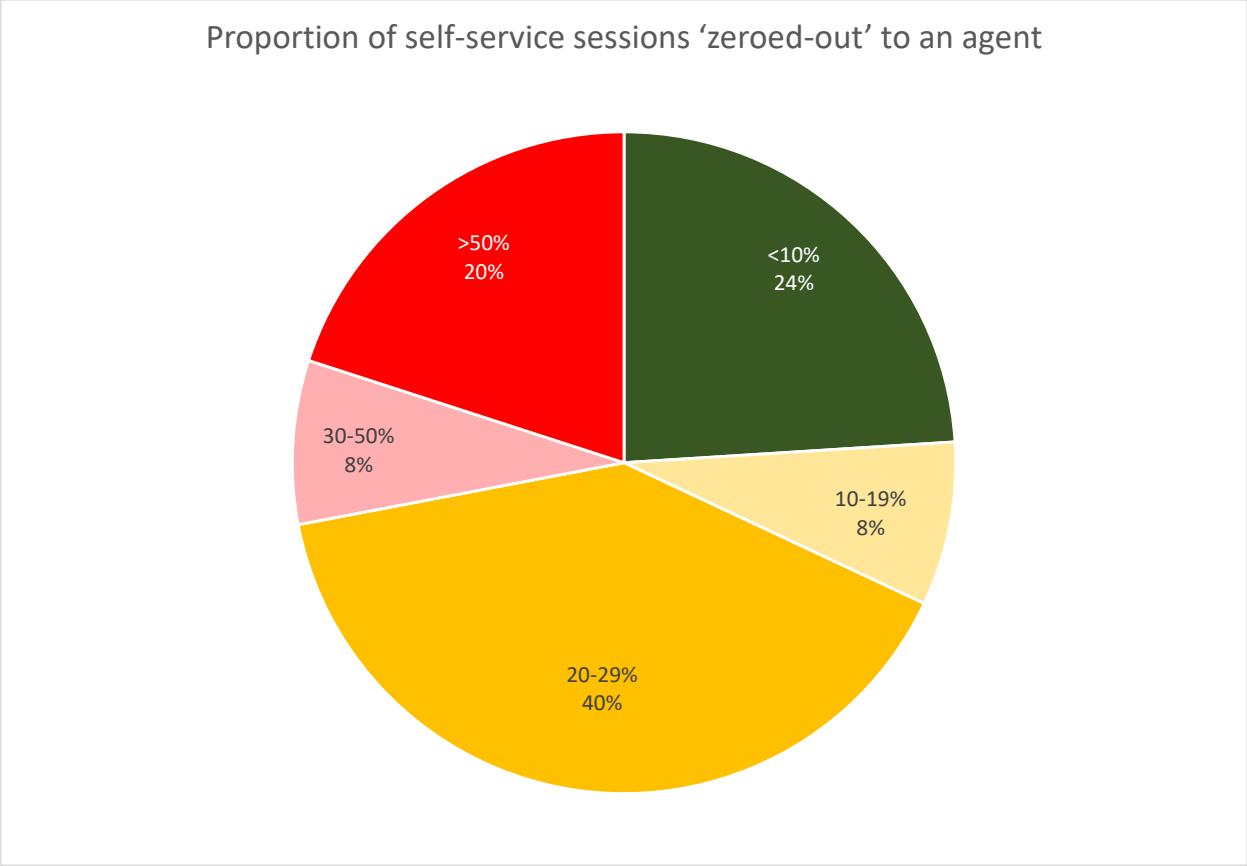
	Proportion of calls handled entirely through self-service if offered
1st quartile	60%
Median	30%
3rd quartile	5%
Mean	33%

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 person. 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 telephony 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 hectored into using an unhelpful and irrelevant self-service system.

Figure 38: Proportion of self-service sessions 'zeroed-out' to an agent



The 1st quartile performance for 'zeroing-out' is 12%, the median is 20% and the 3rd quartile is 30%.

Figure 39: Telephony self-service abandonment rate ('zeroing-out'),

	Proportion of self-service calls abandoned
2013	13%
2014	18%
2015	21%
2016	17%
2017	14%
2018	17%
2019	23%
2020	24%
2021	27%

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. The chapter in this report on **Customer Effort, Engagement & First Contact Resolution** has more detail on IVR menu structures and the length of initial announcements.

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, and for once, this is the case:

- In contact centers where the majority of self-service is offered through speech recognition, the mean zero-out rate is 35%.
- In contact centers where the majority of self-service is offered through DTMF IVR, the mean zero-out rate is 25%.

It may be 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 did 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 prefer to choose from a limited group of options is an interesting conundrum.

Cost differentials in self-service and live voice support

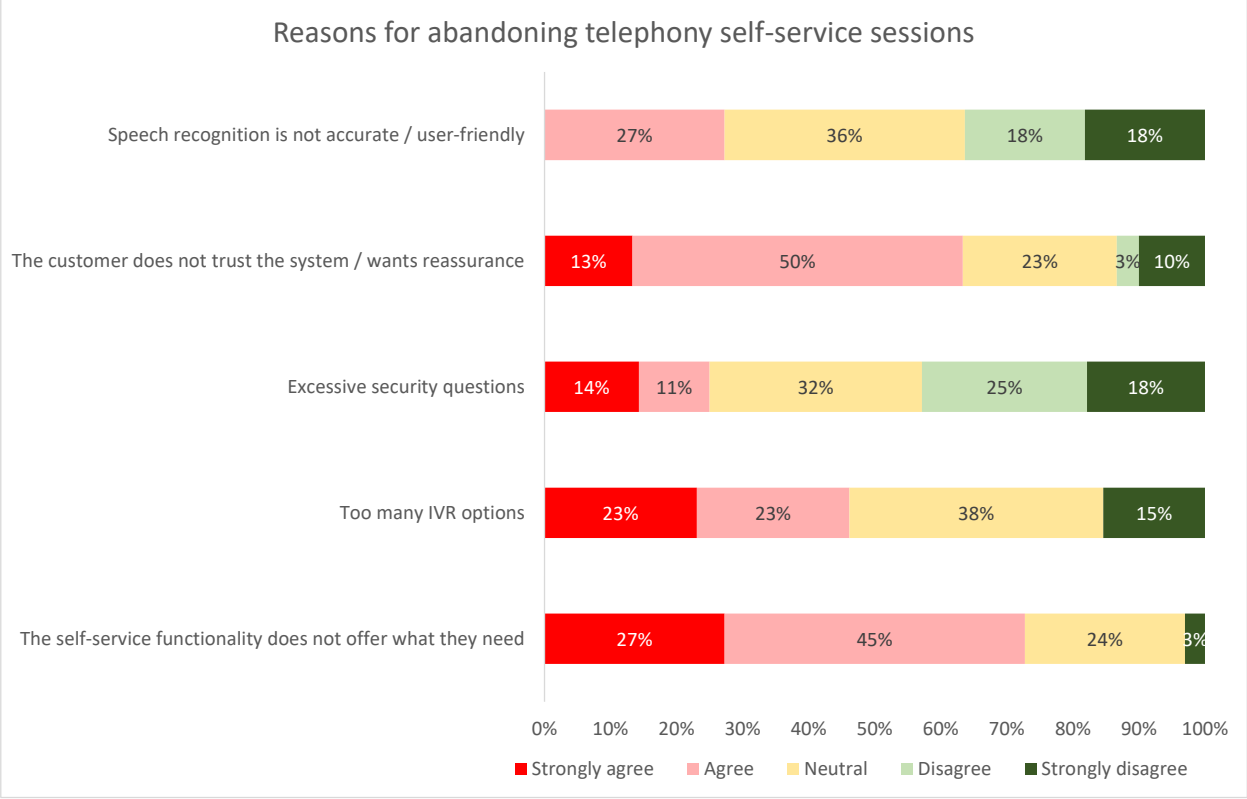
- The cost of a live service telephone call varies considerably, but has a mean average of around $7
- Past research found that the average cost of a telephony self-service session is $0.50-$0.90.

By a considerable margin, respondents agreed that the main reason for abandoning self-service sessions was that the self-service function simply does not offer what the customers want, with 72% of respondents agreeing that this is a factor. 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.

46% of respondents agree that having too many options presented to customers as a major reason for them seeking human assistance, and it is very noticeable that 63% of respondents strongly 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.

Figure 40: Reasons for abandoning telephony 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. Companies increasingly prefer to adopt the cloud-based method of providing IVR options to the customers, and more information on the take-up of this deployment method is available in the 'Cloud' chapter elsewhere in the report.

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 Compliance & Fraud Reduction' 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. This can be used to adapt and personalize the IVR experience in real-time to suit the customer's behavior and preferences, and also to detect and manage fraud.

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 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, mind-set 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 cloud-based 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 41: 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.

ROBOTIC PROCESS AUTOMATION AND THE UNIFIED DESKTOP

Contact centers state that back-office integration is one of the most important solutions that they are considering in the next two years, showing that that the need for end-to-end integration – not just between the agent and the customer, but also throughout the entire contact center and back office – 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.

Robotic process automation (RPA) consists of digital software agents that handle repetitive, rules-based tasks at high speed, with great consistency and accuracy. The RPA workforce acts in the same way as human agents, working at the presentation layer level rather than requiring deep integration with systems, replicating the work that live agents would be doing, but more quickly and without requiring any rest. RPA agents can input data, trigger processes, pass work onto other robots or humans as rules dictate and replicate data across multiple applications without making any copying mistakes.

RPA does not replace existing systems, it simply sits on top of existing logic and applications, using them in the same way that human contact center agents or back-office workers would do. In this way, it does not require complex integration, meaning roll-out of the robots can be relatively quick and flexible. Processes and the necessary steps to perform a task are defined, put into a queue and the controller assigns various tasks to the robots. These robots can be monitored for speed and accuracy in the same way that a human workforce would be managed, with exceptions being flagged to human supervisors who can investigate why a particular task could not be completed as designed.

RPA has can assist contact centers and back offices in numerous ways, including:

- Handling routine activities, such as the actions associated with a particular task such as change of address, including automated login to specific systems, field completion, screen navigation, copy and paste after a single entry is placed by a human agent in one application
- Triggering of processes based on call or digital interaction outcomes
- Record processes in ticketing systems
- Review documents and pass them onto the next stage in the workflow
- Validating customer account information
- Proactively sending updates to customers depending on the stage of the process.

THE AGENT DESKTOP

One of the major applications suitable for RPA is assisting front office agents. 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.

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 42: Use of multiple applications across vertical markets

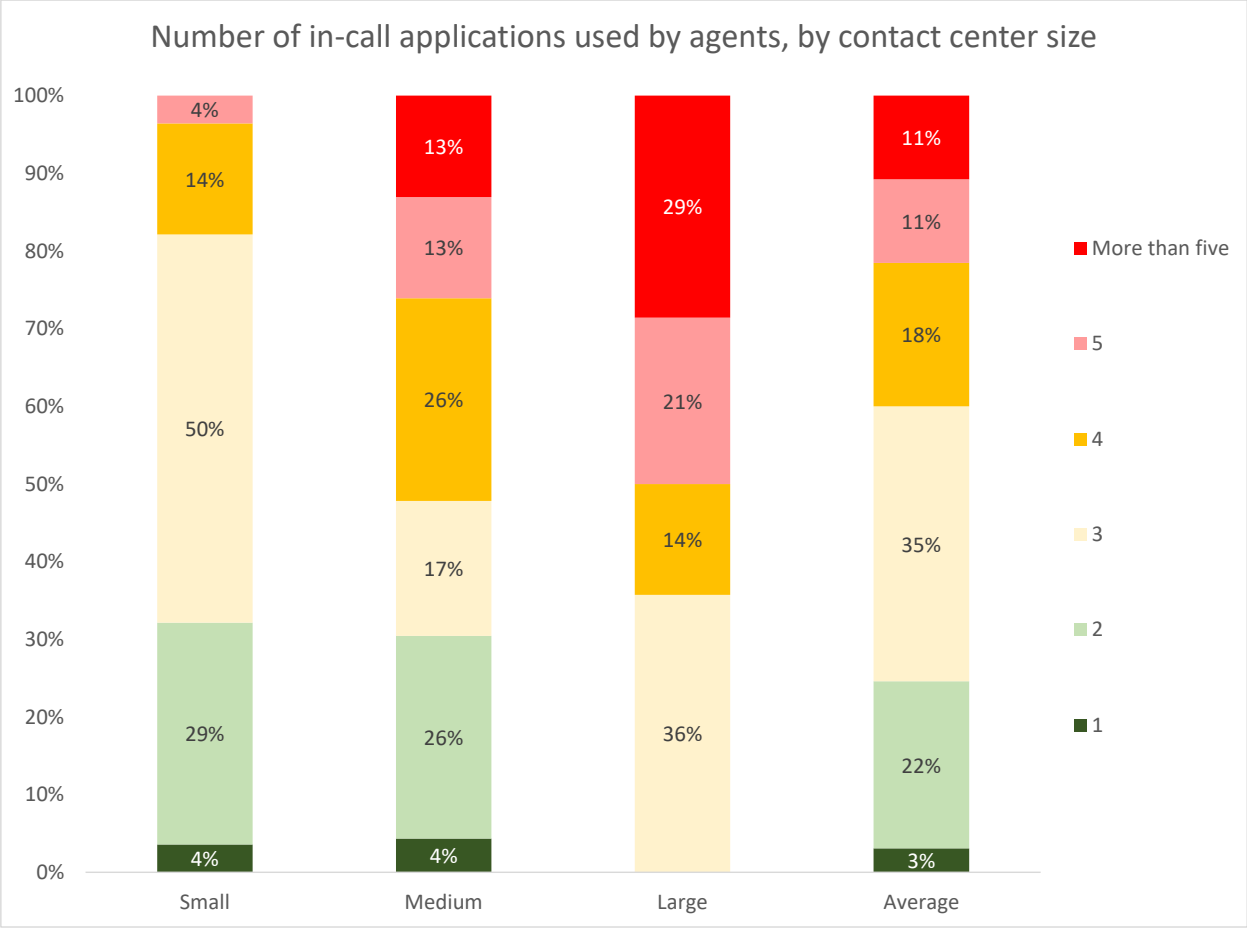
Vertical market	Use of multiple applications
Finance	Customer accounts, CRM, product database, payment systems, email, quotation system (esp. insurance), complaints, other sister companies' systems (often through merger and acquisition), legal and compliance scripts, insurance claims
Outsourcing	Multiple 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, fulfilment 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. RPA offers a way in which agents can be supported to assist customers through optimizing the agent desktop without needing to rewrite systems or integrate deeply with multiple applications and databases.

Only 3% of this year's respondents use a single agent desktop, with 97% requiring their agents to navigate multiple screens and applications within the call, and 40% needing agents to handle four or more screens.

This is particularly the case in larger contact centers, and is the highest use of multiple desktop applications that these surveys have shown.

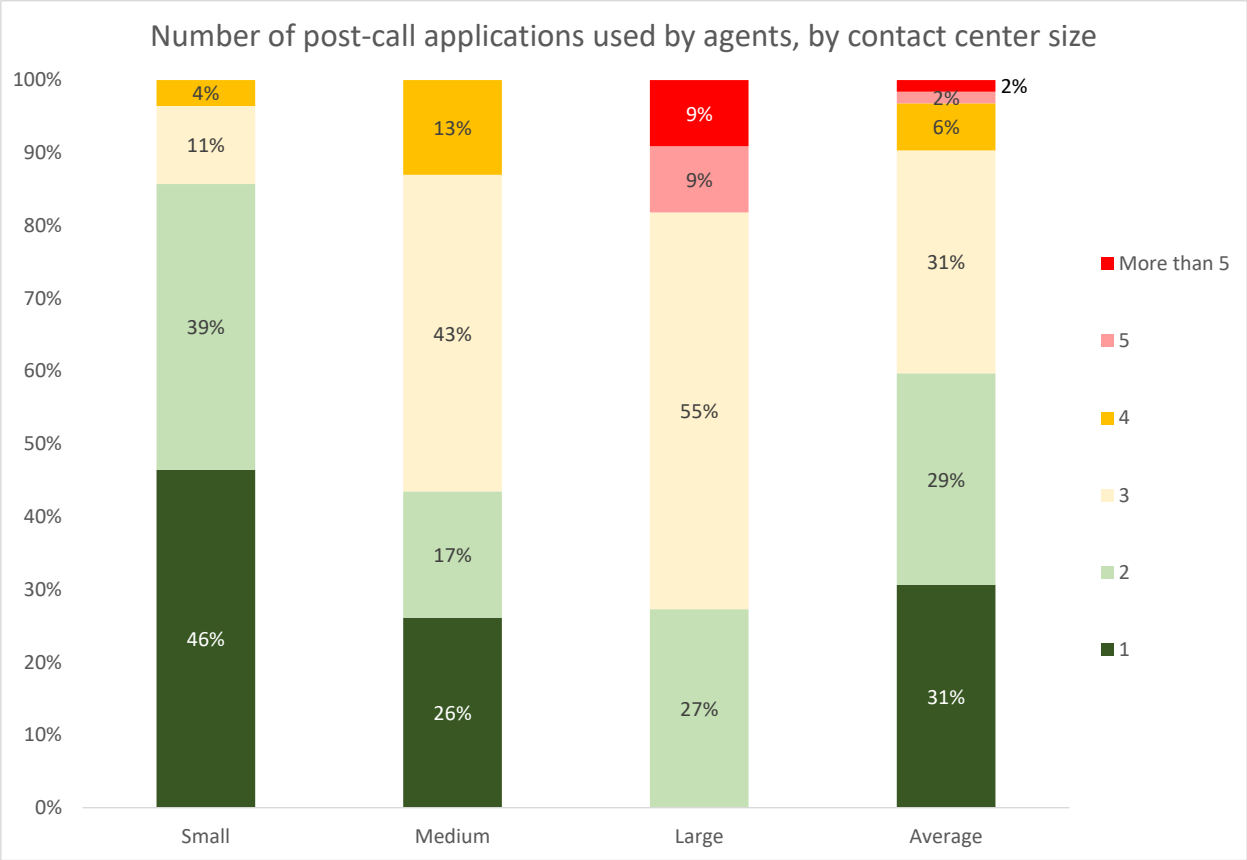
Figure 43: Number of in-call applications used by agents, by contact center size



Looking at post-call applications, agents generally have fewer to navigate in the wrap-up process, although only 31% of respondents allow agents to use a single application, which is heavily weighted towards smaller operations.

The need to enter information in multiple applications will tend to increase post-call wrap-up to a point where the agent spends a considerable amount of their time unavailable to take more calls. Historically, 10-15% of an agent's time is spent on post-call wrap-up.

Figure 44: Number of post-call applications used by agents, by contact center size



With 97% 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 have a negative effect on training times and accuracy rates for new agents as well.

This is not merely an issue in large, complex environments. Only 4% of sub-50 seat operations use a single in-call application, although those in medium and large operations are substantially more likely to be using four or more applications on the agent desktop.

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. RPA can gather the information and data relevant to the situation, and then start the back office processes required by the call's outcome.

Using live agents to handle this manually 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.

RPA-assisted integrated desktop 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 proportion of time that agents spend navigating through multiple in-call applications. It is important to note that although there appears to be a correlation between superior performance metrics and less screen navigation, 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 calls, improved agent availability, and lower call abandonment rates.

Figure 45: Selected performance metrics, by % of time spent navigating between screens

Metric	Respondents spending <10% of call navigating between screens	Respondents spending 30%+ of call navigating between screens
Mean average speed to answer	58 seconds	138 seconds
Call abandonment rate	5.1%	6.0%
Call duration (seconds)	390	436

These figures are not as dramatic as they have been in past years, perhaps because the difficulties that many operations have had in handling calls efficiently and effectively has been so widespread, reducing the differential between contact centers with a single unified desktop and those where multiple applications are used.

However, 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.).

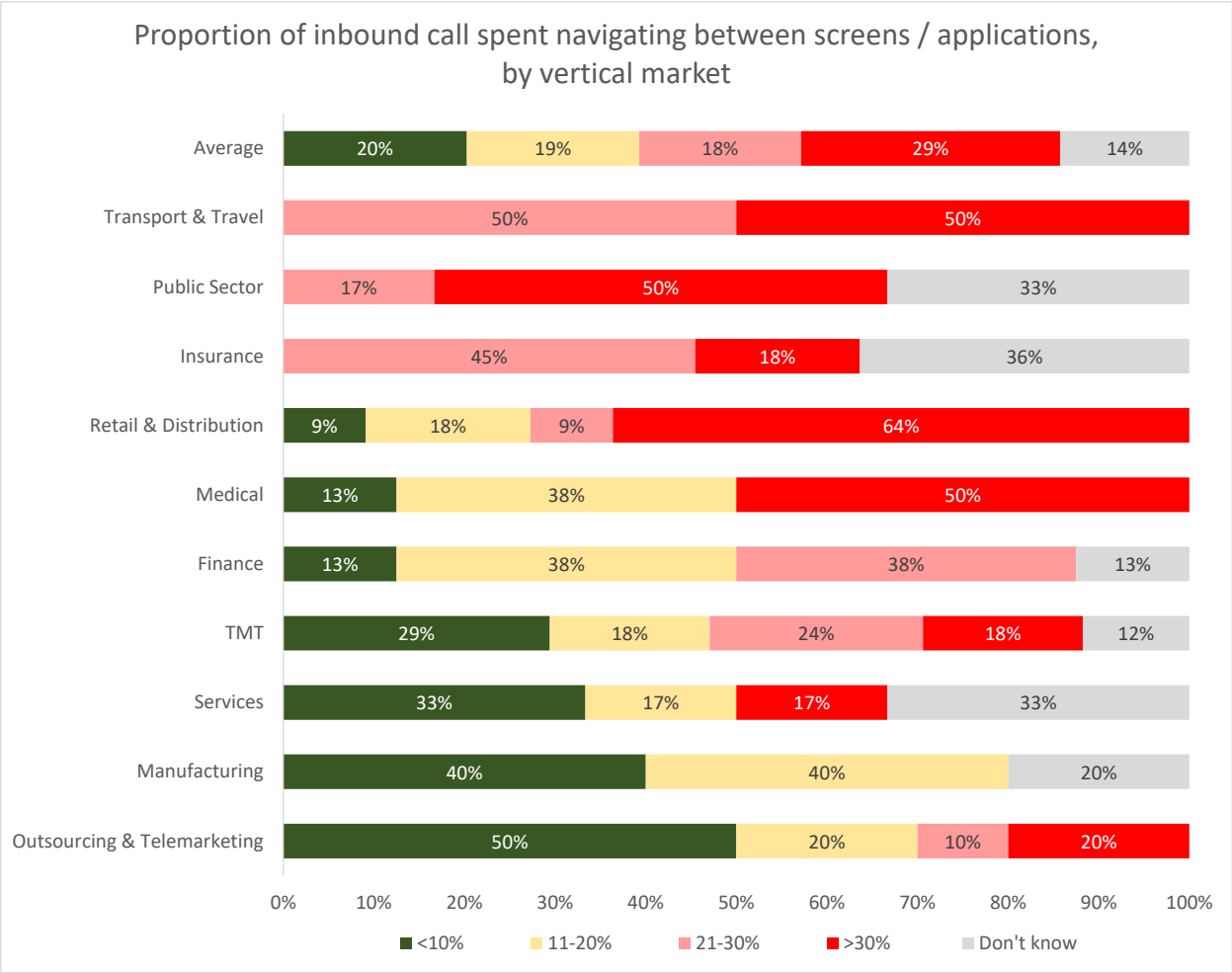
This, as well as the need to enter information in multiple applications, will tend to increase post-call wrap-up to a point where the agent spends a great deal of their time unavailable to take more calls. Historically, 10-15% of an agent's time is spent on post-call wrap-up.

Additionally, manual inputs involved in transferring data during wrap-up commonly lead to data entry and processing errors, causing an adverse effect on operational efficiency, contact center cost, performance and customer satisfaction. Cost per call rises, productivity per agent declines and first-call resolution rates slip as more calls are escalated due to the complexity of the systems hindering agents, rather than helping them. So we can see that poor application integration and presentation at the desktop level has a direct and negative effect on those long-term contact center strategies deemed most important and desirable, such as customer satisfaction, lower first-time resolution and reduced escalation levels.

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. RPA is set up to handle these processes in a consistent, accurate and rapid manner.

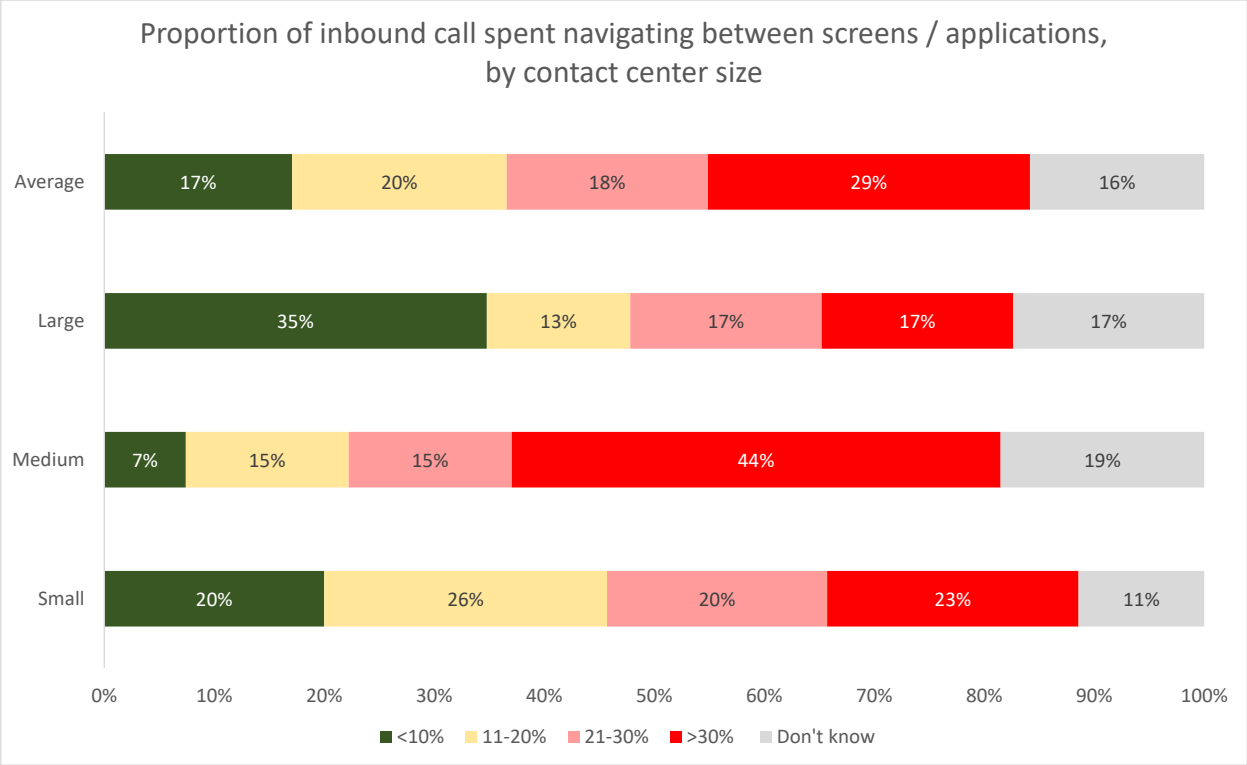
Survey respondents were asked how much time their agents spent navigating between screens or applications as a proportion of the overall call length. 66% reported that their agents spent over 10% of the call's time in flicking between screens, and those in medical, retail, the public sector, insurance and transport & travel reported very significant amounts of call time spent doing this.

Figure 46: Proportion of inbound call spent navigating between screens / applications, by vertical market



Larger operations, which generally have more systems, screens and processes to handle, are in theory most likely to require an agent to spend more than 30% of call time navigating between applications while on a call, although many operations from all size bands actually suffered from this.

Figure 47: Proportion of inbound call spent navigating between screens / applications, by contact center size

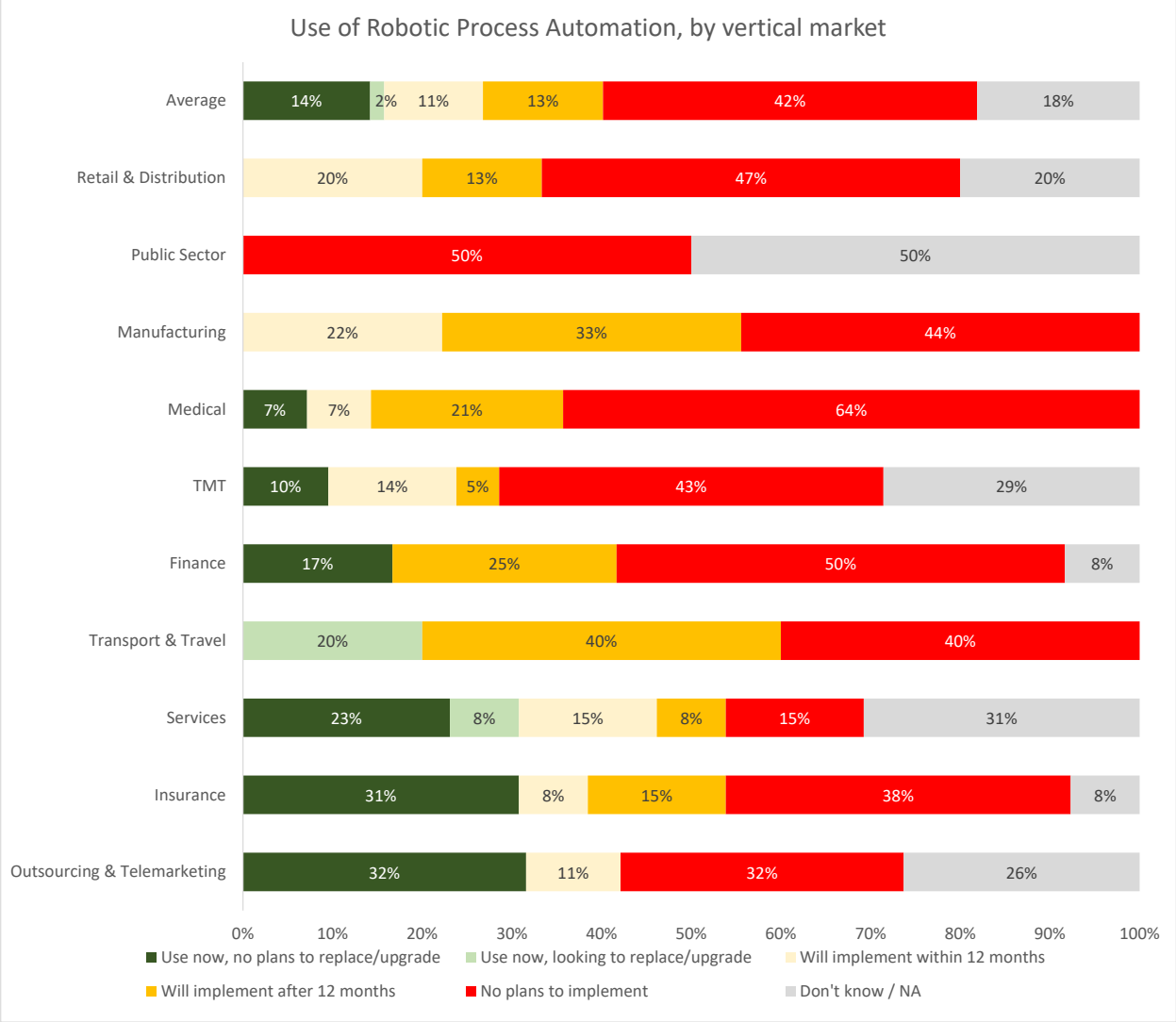


CURRENT AND FUTURE USE OF ROBOTIC PROCESS AUTOMATION

Current reported levels of RPA usage are relatively low, with 16% of respondents stating that they are using it. Those in insurance and outsourcing are most likely to report using it, although penetration rates are low in every vertical market.

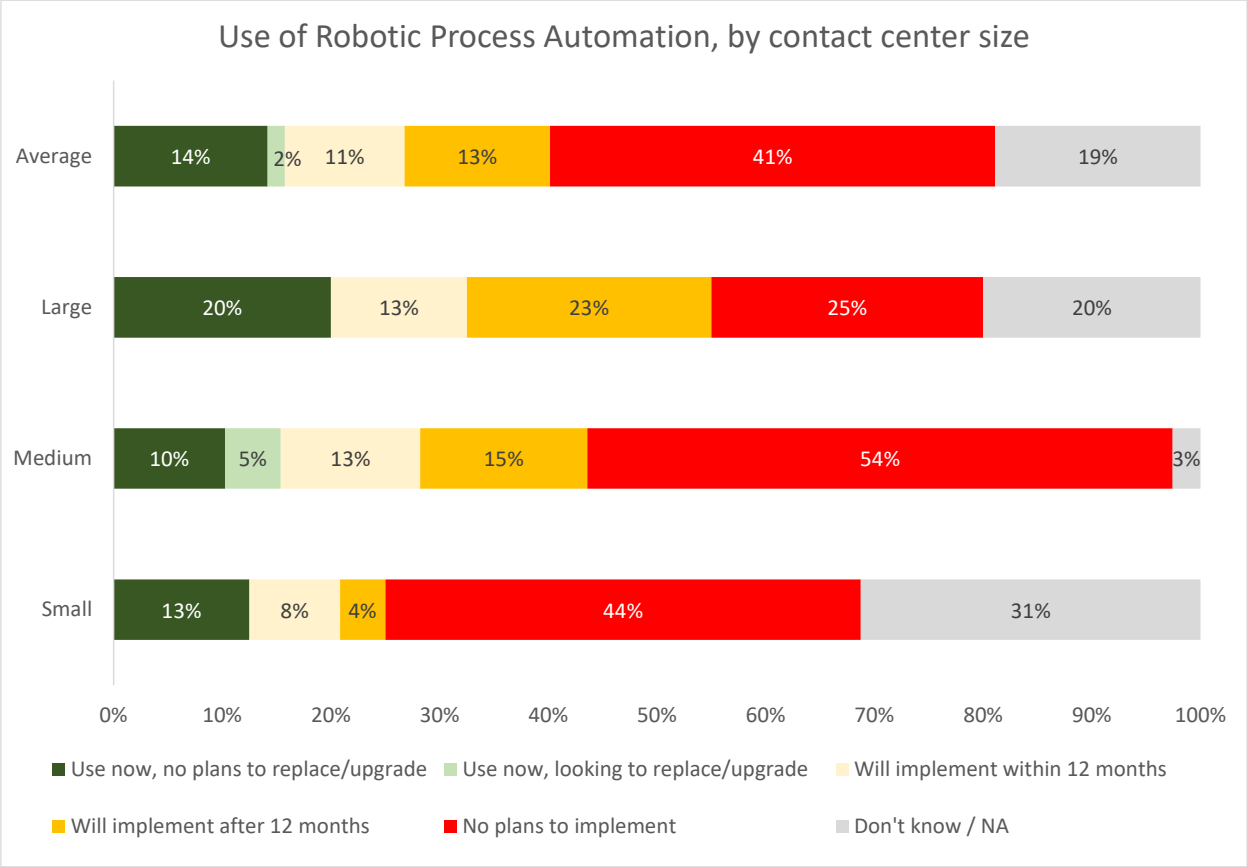
However, there is a significant interest in doing so, especially in manufacturing and retail, where back office processes can play a large part in the success of the overall customer experience, and where there may be many systems, processes and applications for an agent to familiarize themselves with.

Figure 48: Use of Robotic Process Automation, by vertical market



Looking at the use of RPA by contact center size, it is unsurprising to see that larger contact centers are by far the most likely to be using it now, and also exhibit the greatest level of interest in future implementations.

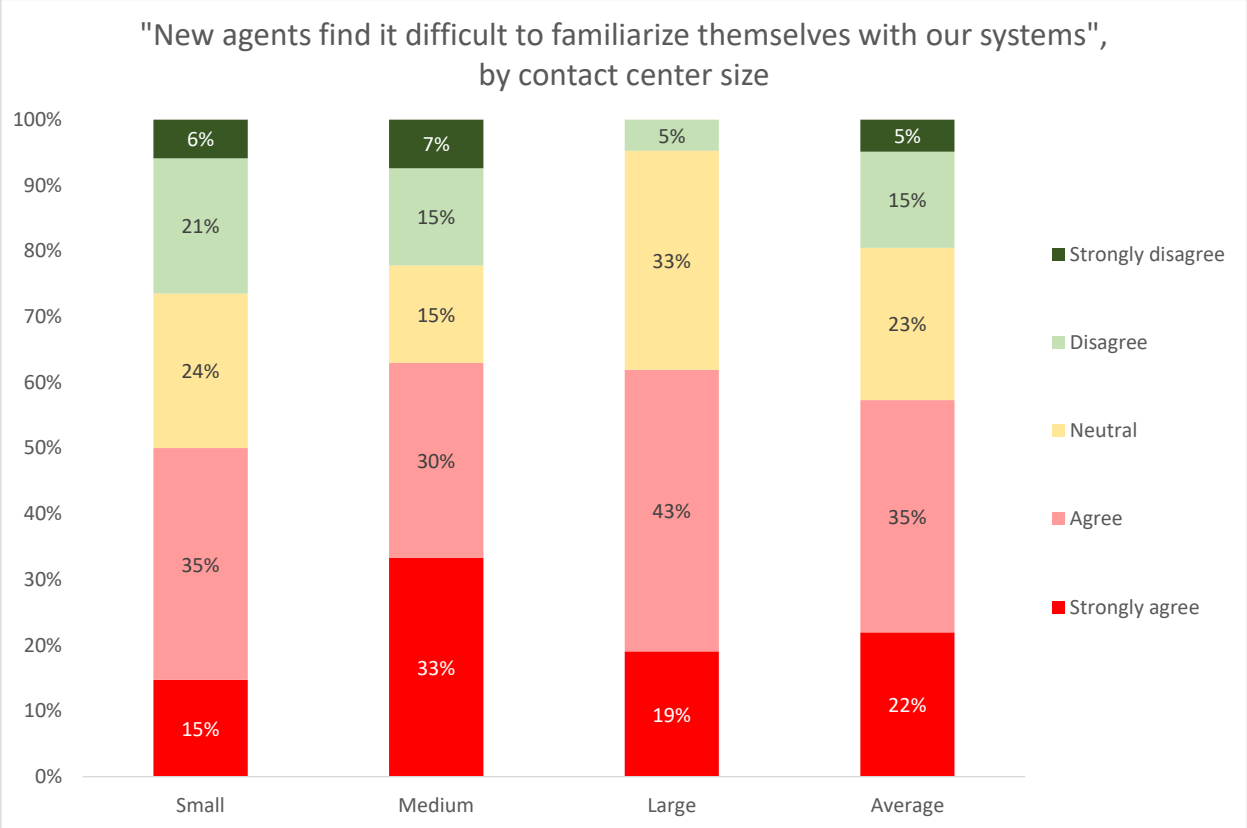
Figure 49: Use of Robotic Process Automation, by contact center size



The following charts show the impact of some of the potential business drivers for RPA implementation.

62% of respondents from large contact centers and 63% from mid-sized operations agree or strongly agree that new agents find it difficult to familiarize themselves with systems when they first start in the contact center, which leads to sub-optimal performance, errors in processes and low morale.

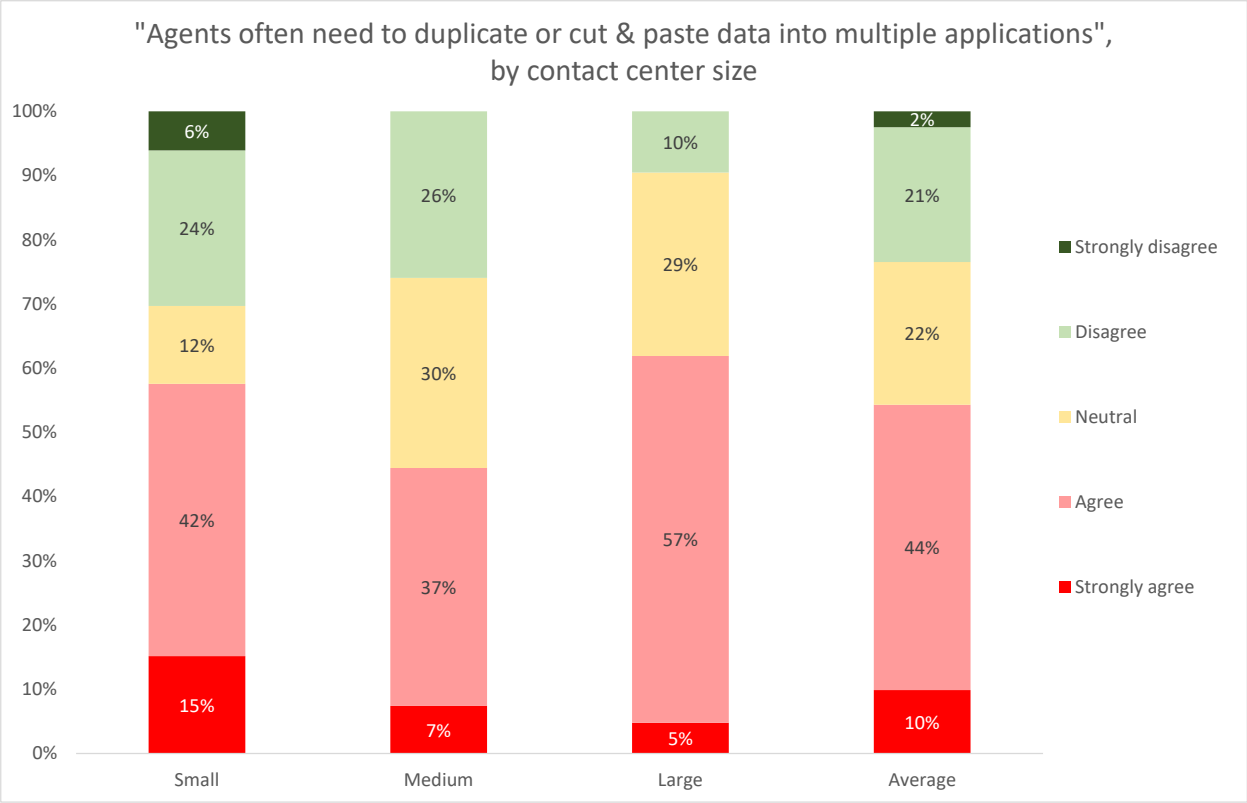
Figure 50: Agreement with statement: "New agents find it difficult to familiarize themselves with our systems", by contact center size



62% of large operations agree or strongly agree that it is necessary for agents to duplicate or cut-and-paste data multiple times across systems, leading to wasted time and transcription errors.

This is a problem found across all size bands studied.

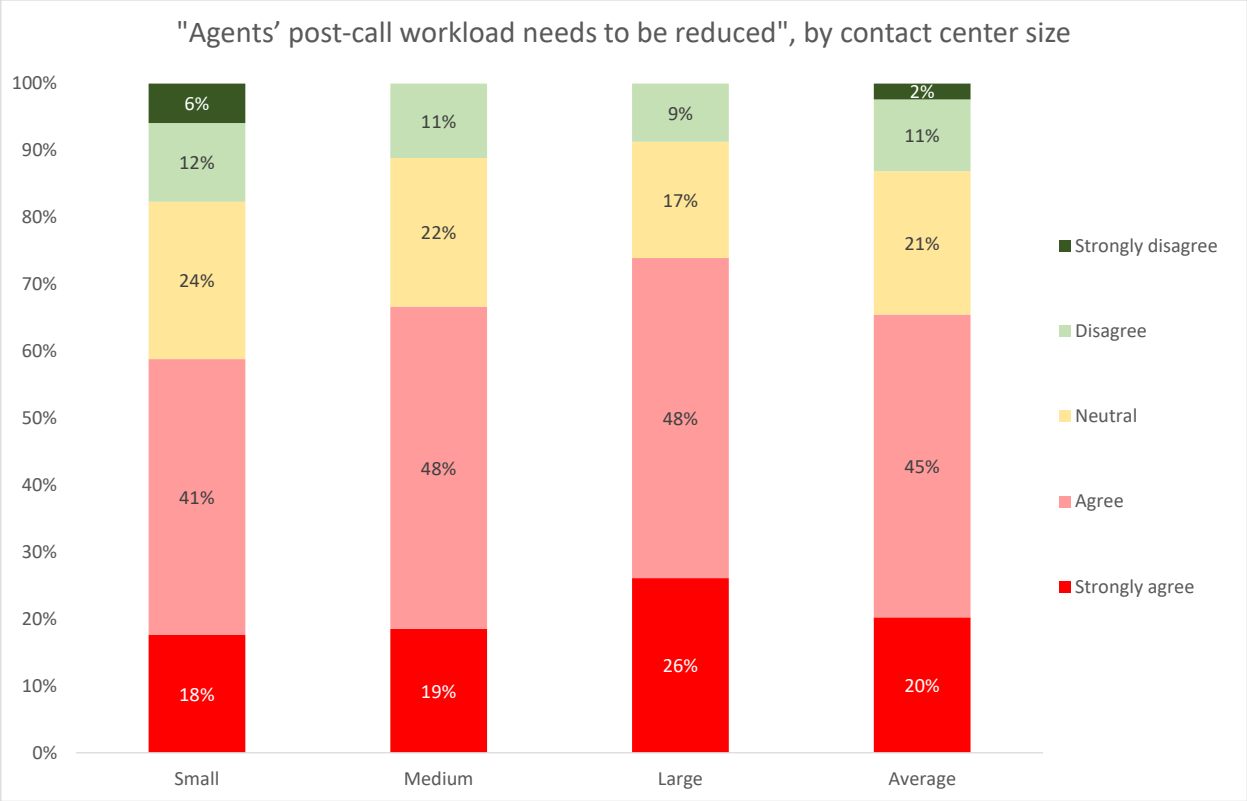
Figure 51: Agreement with statement: "Agents often need to duplicate or cut & paste data into multiple applications", by contact center size



With agents spending 10-15% of their time on post-call admin, starting up back office processes, or making sure that data has been entered in all appropriate fields and databases, the resultant negative effect on agent availability and queue lengths can be considerable.

The majority of respondents in all contact center size bands agree or strongly agree that post-call workload needs to be reduced, with those in large operations feeling particularly strongly about this.

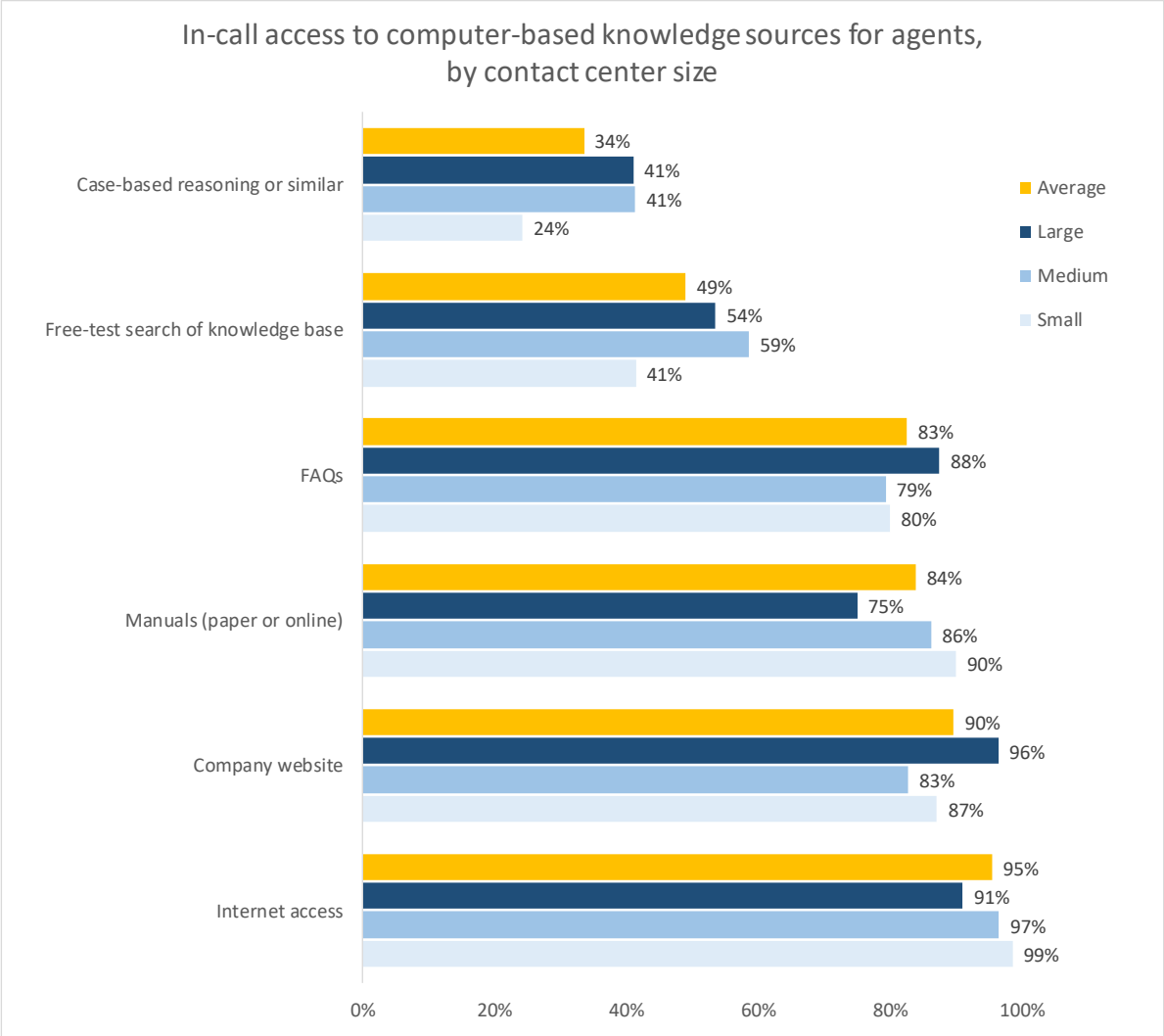
Figure 52: Agreement with statement: "Agents' post-call workload needs to be reduced", by contact center size



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 34% 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. 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 16% 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.

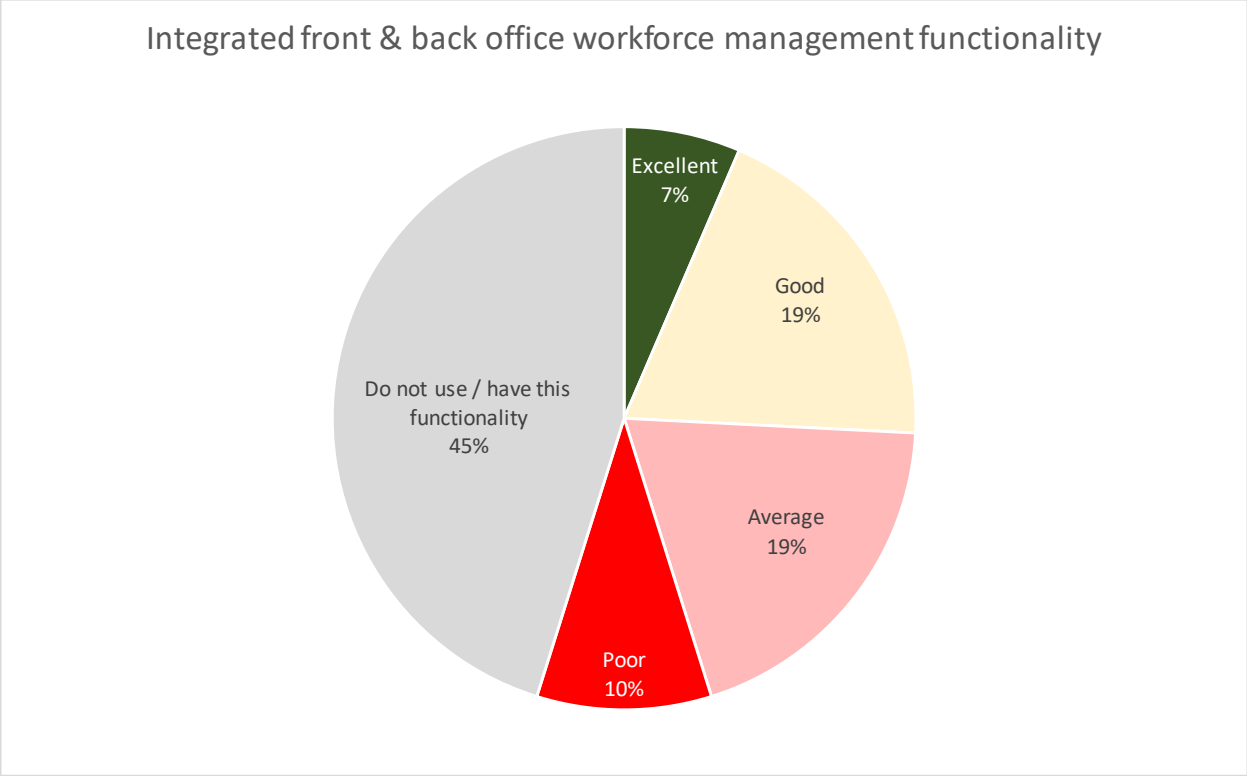
Figure 53: In-call access to computer-based knowledge sources for agents, by contact center size



Back office integration is growing in priority for contact centers, particularly larger ones, but the current reality for many is that the back office exists for many businesses as an entity separate from the contact center.

An example of this can be seen when looking at how businesses schedule back office work: although the back office depends in large part on what the front office / contact center is doing, the scheduling of back office resources is not always integrated with the contact center – front/back office workforce management is used in only 55% of contact centers that use WFM solutions – and as the following chart shows, is thought of as being average or poor in more than half of these cases.

Figure 54: Integrated front & back office workforce management functionality



RPA is a scalable, non-disruptive way of making the existing processes run more smoothly, quickly and accurately. However, it cannot improve sub-optimal or broken processes, so businesses looking to assist their agents and back office should consider whether this implementation provides them with the opportunity to take stock and consider whether the processes in place are as efficient and effective as they could possibly be, rather than simply automating them.

CUSTOMER IDENTITY VERIFICATION & FRAUD REDUCTION

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 responded by introducing ever more complex identity verification processes.

In many cases, 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, or details of their last transactions. Customers can undergo a 'Spanish Inquisition' before being permitted to make their inquiry 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 billions of pounds each year, just to verify the caller is who they claim to be, and are permitted to do what they are asking.

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 fingerprint, retina pattern or voiceprint
- something you have - a tangible object, e.g. a PIN-generating key fob, or the 3- or 4-digit security code on payment cards.

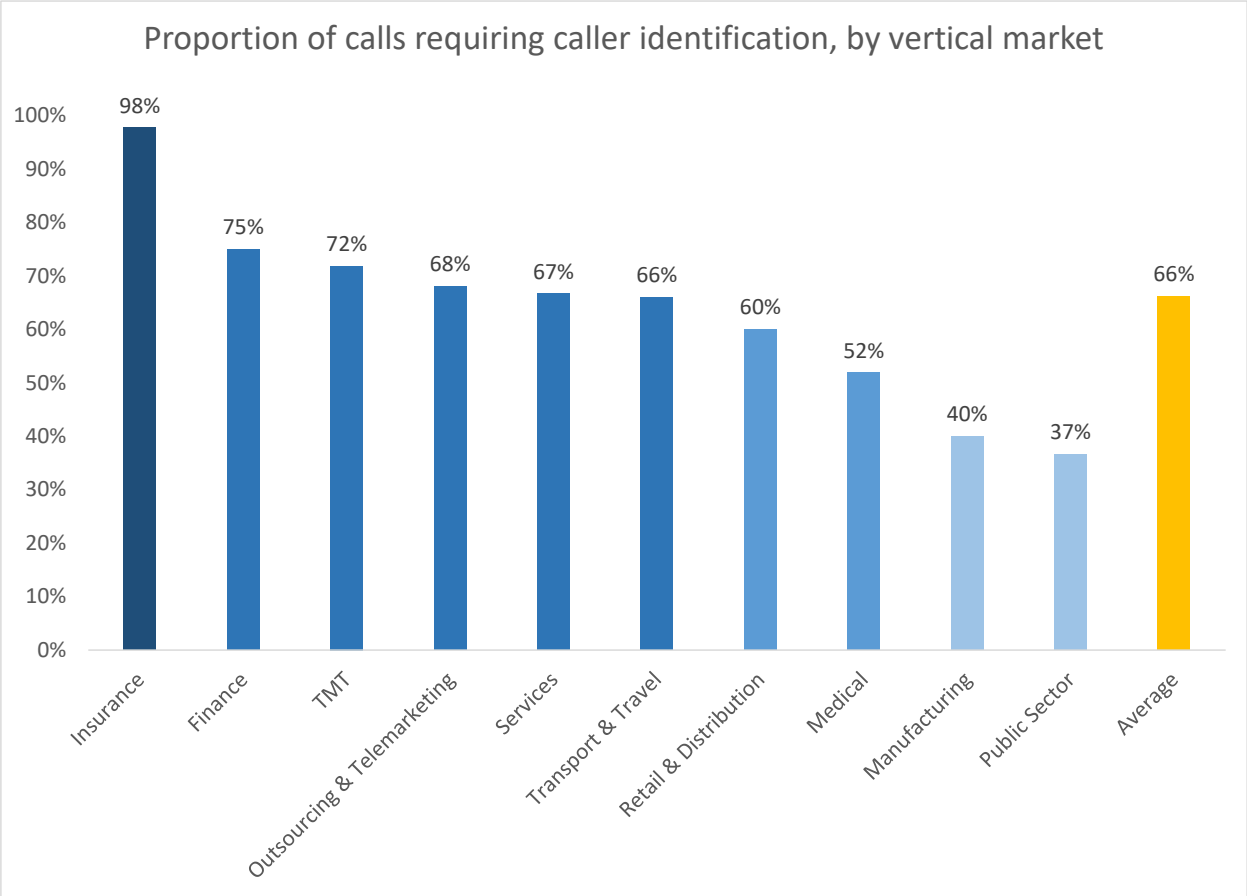
Combining these factors creates a more complex, and potentially more secure two-factor or three-factor authentication process, although being able to rely upon a previously enrolled voiceprint or having the calling device, location and other factors assessed pre-call (rather than have to remember various pieces of information or carry round a code-generating device) can make identity verification far quicker and easier for the customer.

Industry-wide, a mean average of 66% of calls require caller identity verification this year.

43% of respondents state that all callers go through identity verification, with only 17% stating that they never do so. Insurance, finance and TMT operations are the sectors most likely to require identity verification. Public sector respondents (which include information lines) and manufacturers (often sales and product support) are the least likely.

As we would expect, service-oriented operations are far more likely than sales-focused contact centers to require authentication, as access to user accounts is required.

Figure 55: Proportion of calls requiring caller identification, by vertical market



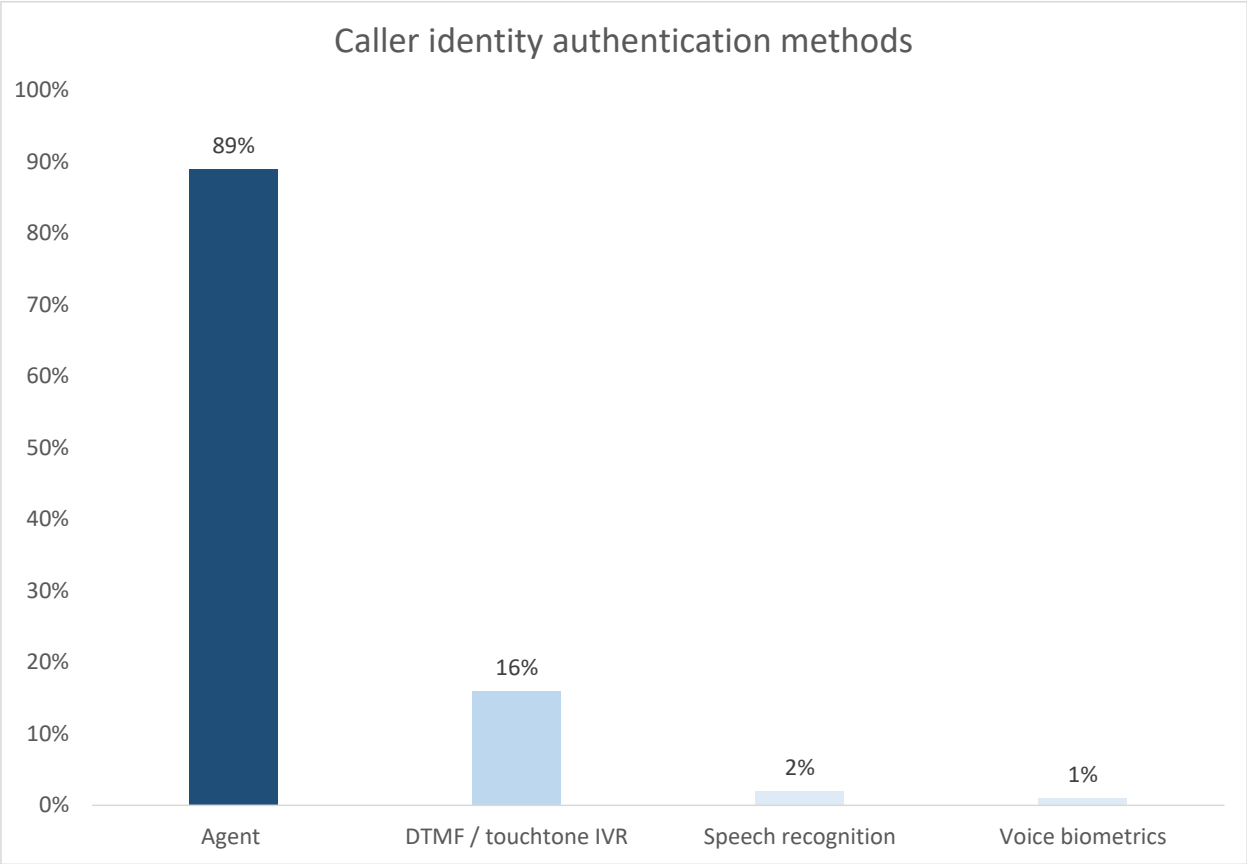
Live agent authentication accounts for 89% of calls. 16% of calls are authenticated with DTMF touchtone IVR and 2% use speech recognition to identify the caller, which itself can take around 20-30 seconds and 1% are carried out through voice biometrics.

In small and medium operations, the vast majority of customer identity authentication is carried out by agents, rather than automation.

Respondents from larger contact centers with far higher volumes of calls are more likely to use some form of automation – usually DTMF IVR – to authenticate customers.

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 56: Caller identity authentication methods



NB: totals may be more than 100% e.g. all calls may be authenticated by IVR, with some of these then requiring agent checks.

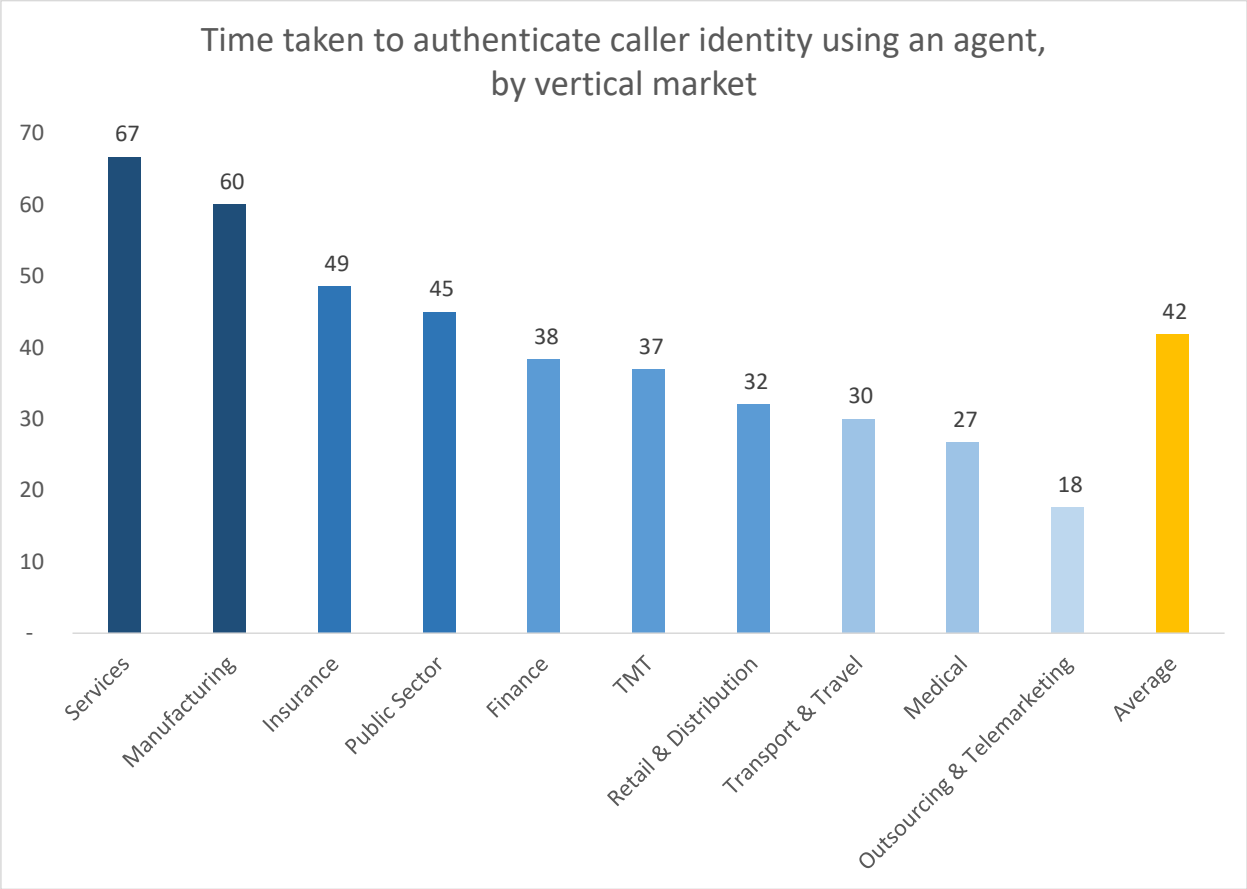
The mean average time taken to authenticate using an agent is 42 seconds. The figure for authentication using an IVR is only a little less, although the main difference is that the agent's time is not used, so the call duration (from the operation's perspective) and cost per call is reduced.

Figure 57: Time taken to authenticate caller identity using an agent (seconds)

	Seconds to authenticate caller identity using an agent
1st quartile	18
Median	30
3rd quartile	60
Mean	42
High	120
Low	10

Those in the services sector who use customer identity verification take an average of 67 seconds to do so. Outsourcing respondents again report taking the least time.

Figure 58: 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. We have assumed that only service-related calls for existing customers will require authentication.

66% of all calls require a security and identification process to be completed first. This year, 89% of calls were reported to be authenticated by agents. On average, it takes 42 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): 31.7bn[3] of which 83% are service-related

Proportion of inbound calls that require security and identification checks: 66%

Average length of agent-handled security and identification check: 42 seconds

Average call duration: 7m 27s (therefore 9.4% of the call is ID&V)

Mean average cost per inbound call: $7.29

Cost of time spent on agent-handled security and identification check: 68.5c per call

Overall cost of agent-handled security and identification checking: **$11.9bn per year**

[3] ContactBabel, "US Contact Centers 2021-2025: 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:

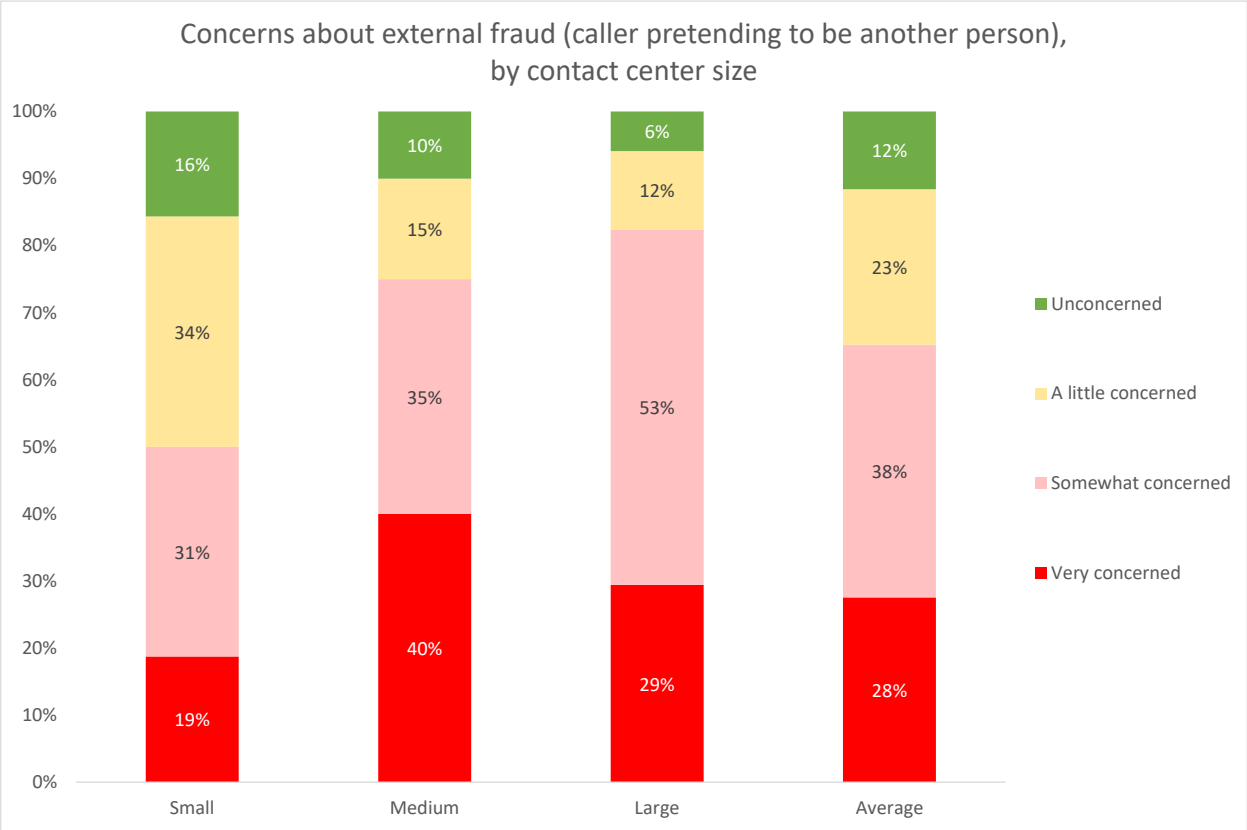
- businesses want to reduce the cost of fraud
- customers want convenience, but also their personal information and assets protected
- businesses need to comply with existing and new laws and regulations
- the contact center industry spend excessive amounts of money on identifying and verifying customer 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.

THREATS FROM FRAUD

Respondents were asked to rate the level of concern they had about the possibility of fraud coming from various sources.

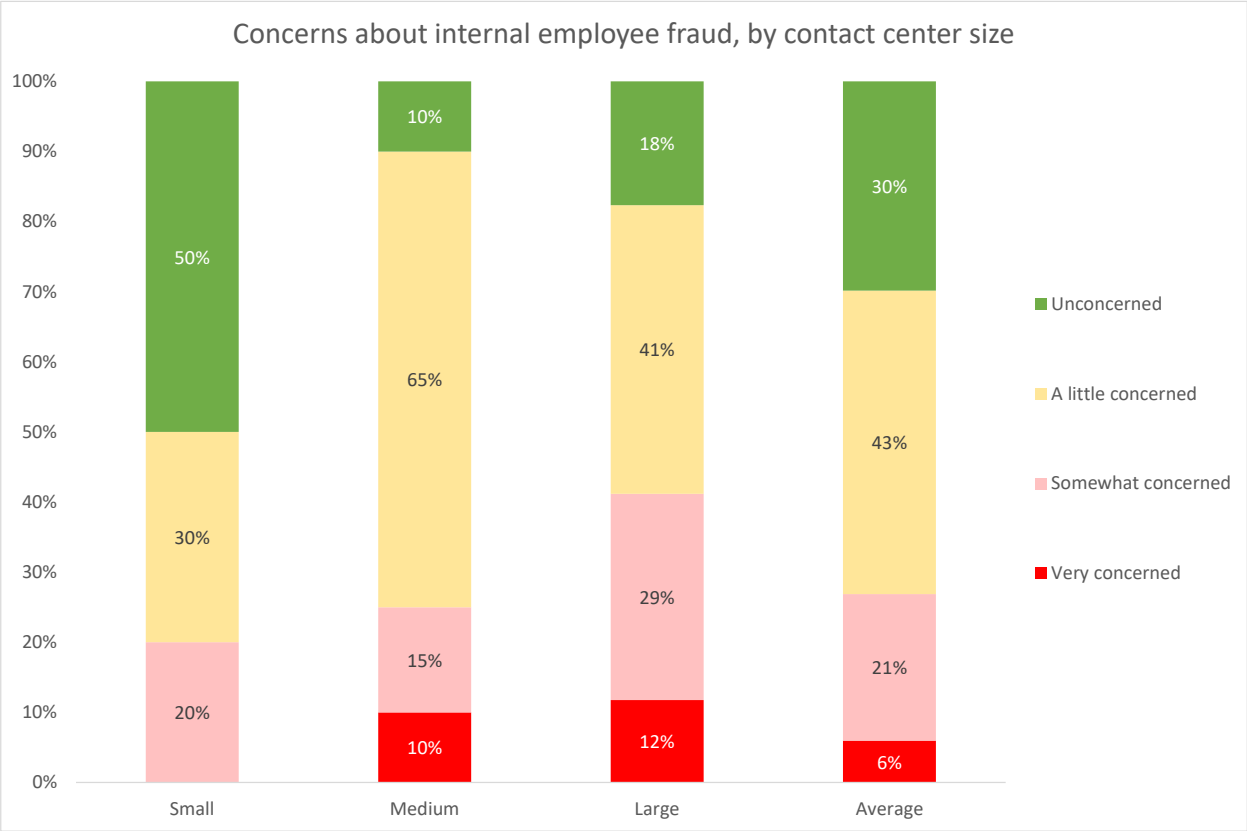
82% of respondents from large contact centers stated that they were very or somewhat concerned about external fraud, defined within the survey as the caller pretending to be another person. This shows that customer identity verification is taken very seriously, and that many organizations do not feel that they have an acceptable level of fraud control.

Figure 59: Concerns about external fraud (caller pretending to be another person), by contact center size



Levels of concern about internal employee fraud were much lower, although 41% of respondents from large contact centers were either very or somewhat concerned about this.

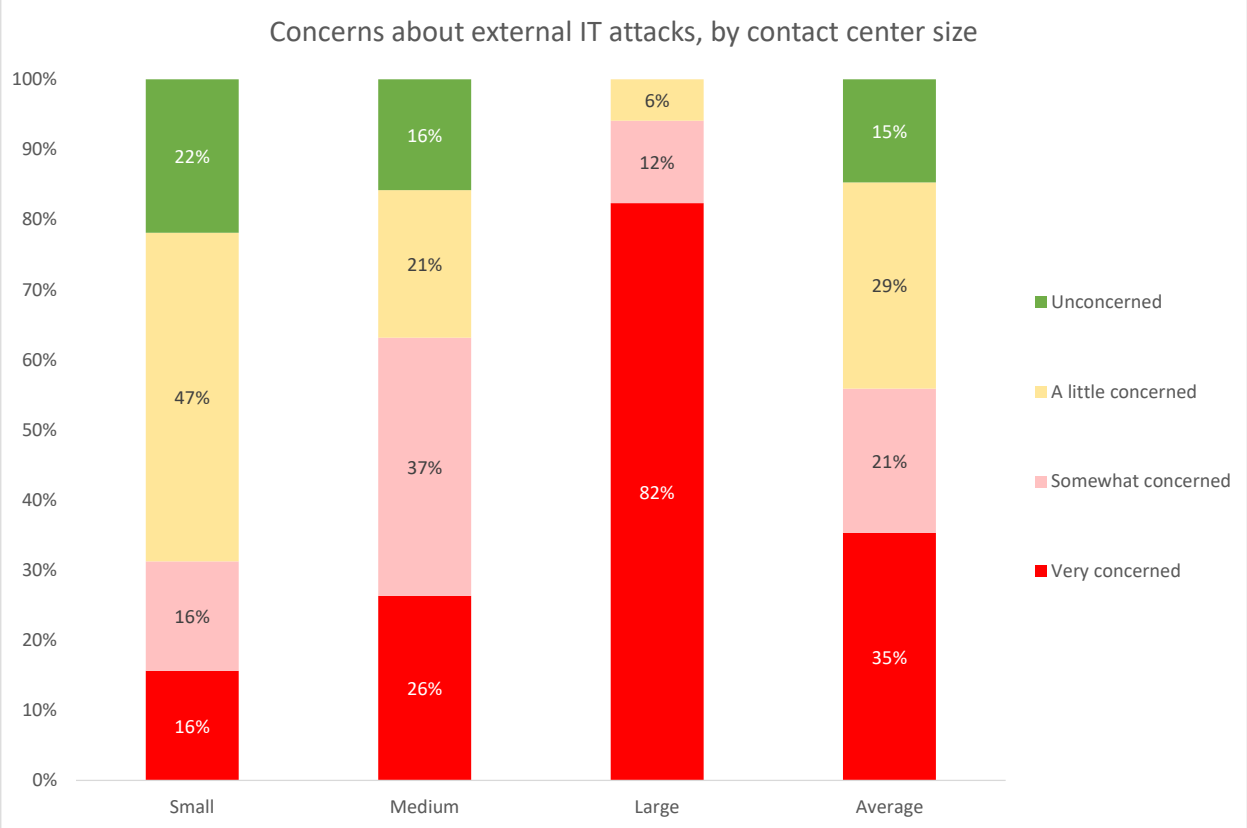
Figure 60: Concerns about internal employee fraud, by contact center size



Concerns about external IT attacks were very much weighted towards larger operations, which are likely to be representing larger organizations.

Finance, insurance, outsourcing and services respondents were most likely to be very concerned, with manufacturers being least concerned.

Figure 61: Concerns about external IT attacks, by contact center size



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. It should be noted that some businesses now allow thumbprint-enabled smartphones to be used as trusted devices to log into mobile apps.

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. 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.

A significant advantage of voice biometric verification is that both enrolment 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.

However, voice biometrics, while an excellent authentication tool, is not enough to deter fraud attacks. In fact, researchers at the University of Alabama[4] found that a fraudster armed with just a few minutes of recordings of a person's voice, could build a model of the victim's speech patterns and successfully pass voice biometric security. As voice is a characteristic unique to each person, such attacks essentially give the attacker the keys to that person's privacy.

[4] http://www.biometricupdate.com/201509/uab-researchers-find-that-automated-voice-imitation-can-spoof-voice-authentication-systems

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 42 seconds and being performed by an agent:

- Eliminating the time taken by an agent to verify a caller's identity can save 68.5c per call ($6.85m 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 mobile phone'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.

Contact centers wishing to deter fraud should consider combining voice biometrics with phoneprinting technology for a multi-layered solution. Phoneprinting relies on background audio, source, and channel features that are more difficult for an adversary to manipulate than voice. Phoneprinting can detect CLI spoofing, voice distortion, and social engineering based fraud attempts, which voice biometrics would have missed.

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.

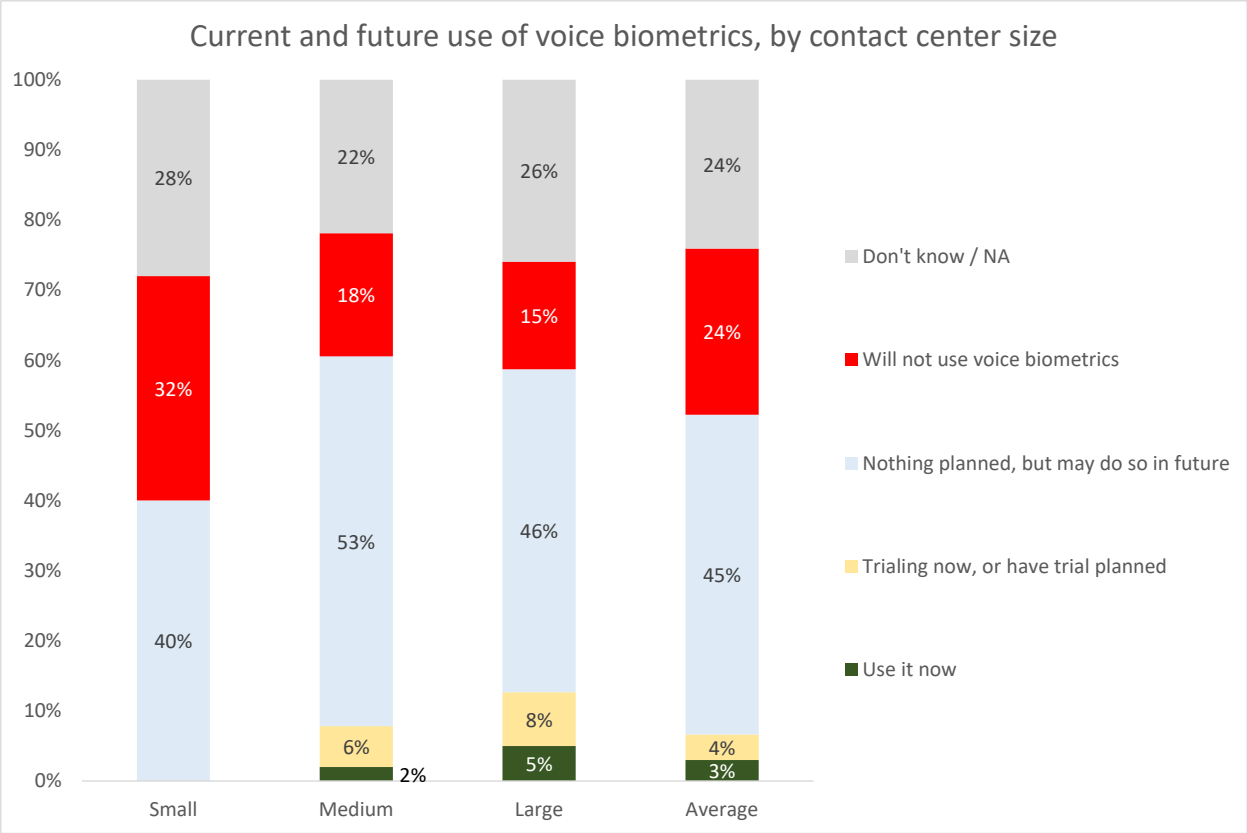
FUTURE USE OF VOICE BIOMETRICS

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 40 seconds or more cut from each call would add up to a very considerable saving, without affecting the customer or agent experience negatively.

Finance, medical and TMT respondents were most likely to look favorably on voice biometrics, and although the argument has certainly not yet been won, there has been a significant increase in interest in recent years, especially in large contact centers.

However, 24% of respondents do not yet have a firm view on whether or not voice biometrics is a solution they would even consider implementing.

Figure 62: Current and future use of voice biometrics, by contact center size



INHIBITORS TO VOICE BIOMETRICS

The main inhibitor to voice biometrics is the perceived expense of the solution, with around half 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.

Another issue with voice biometrics is the question of low customer adoption. Only around 60% of customers will call into a contact center in a given year and of those, a significant group will be resistant to having a voiceprint created due to privacy concerns or will experience poor call quality. This means that voice biometrics will likely be applicable to 50% or less of customers and that a majority of customers will never be enrolled, leaving them vulnerable to fraud attacks.

In terms of usability, some issues have been reported with callers using speakerphone or cordless phones, leading to false negative responses, which means the caller then has to go through a very long and stringent manual ID&V process, taking far more time than is usually the case for agent-led identification.

Although the reliability of the technology was a concern, almost half of respondents admitted that they did not know enough about this to even form on opinion. Worries about managing the solution were also present in smaller operations and there are concerns over customer sentiment for contact centers in all size bands.

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.

BEYOND VOICE BIOMETRICS

Voice biometrics can be a useful tool, especially for larger contact centers through cutting call lengths and costs, and improving customer experience. However, it may not always be enough against a fraudulent attack or series of attacks.

Solutions that focus on identifying potential fraudulent callers don't rely solely on matching the voiceprint, which is not an infallible method of authentication, as can be seen below.

Biometric security fooled by twin's voice

The BBC carried a story[5] about an experiment that a BBC reporter and his twin had tried on a UK bank. The reporter had enrolled in a bank's voice identification system, but his twin was able to access the account after ringing the bank and pretending to be his brother.

The security breach did not allow the twin to withdraw money, but he was given access to some of the account's functionality. The twin took eight attempts to access the account, which is a failing in the implementation process rather than the technology – most typed passwords will allow perhaps three failures before the user is locked out.

Experts stated that although each voice is unique, if the system has been implemented to allow too much leeway when detecting some of the 100+ characteristics of the voice, then it would not take an exact voiceprint match to access the account.

The expert noted that if the voiceprint was hacked or copied, the genuine account holder would not have the option to change their voice like they would change their password.

Voice replication software was also noted to be becoming increasingly sophisticated, and the general feeling was that alternative methods of security would be required alongside voice biometrics.

[5] http://www.bbc.co.uk/news/technology-39965545

CALL SIGNALLING ANALYSIS & 'PHONEPRINTING'

An alternative – or rather, additional method of customer identity verification is 'phoneprinting' or call signaling analysis, which is perhaps focused more on identifying and preventing fraud than on simply authenticating genuine customers.

Call signaling analysis is the process by which the metadata surrounding a call can be looked at, for the purpose of identifying potentially fraudulent and suspicious calls that can then be handled differently by the business.

The process collects information about the call being made, such as location, the type of phone being used (VoIP is far more likely to be used in fraudulent calls), caller ID, the phone number's history and the chances it has been 'spoofed', levels of voice distortion, etc. These factors can be scored, and after assessing the likelihood of the call being fraudulent will then impact upon the security processes and questions that the agent is required to ask the caller, speeding up the process for genuine callers, and focusing the tightest levels of security on potentially fraudulent calls.

For solution providers who have access to their country's PSTN, data such as network level caller ID may be collected from the call at carrier-level compared to the presentation caller ID: a mismatch may indicate that the call is suspicious.

Call metadata may include many dozens of individual pieces of data, which are put together to form a phone print:

- presentation caller ID
- network caller ID
- geographic ID
- the type of device being used
- codec artefacts
- packet loss
- clarity

The solution checks to see if this pattern of metadata has been seen before, and if so which account it is linked to. If it is anything other than the account of the customer that the caller claims to be, it is flagged as a potentially fraudulent interaction. If the phone print is not recognized, it will be stored and used in future interactions.

The caller's voiceprint and phoneprint can be matched against a database of fraudsters: while this "bad voice" method of matching recorded voice against the database of known fraudsters can be effective, this is usually done as a retrospective batch process so does not work in real-time, although it can be useful to check that requests for new credit cards are authentic before the card itself is sent out.

Some fraudsters call in multiple times to find an agent that they can socially engineer. Identifying and logging multiple calls from the same caller/device can identify this and allow agents to be aware and/or block calls.

Call signaling analysis can work in conjunction with voice biometrics to alleviate some of the weaknesses of the latter. By identifying suspicious phone prints, the caller can be identified as being suspicious and handled accordingly:

- IVR spear-phishing: fraudsters use the IVR to validate customer information such as recent transactions, which is then used to conduct fraud through other channels
- Fraudulent voice biometric registration: if the customer has not already registered their voiceprint, a fraudster can do so if they have sufficient static identification information about the customer (e.g. password, date of birth, address, etc.)
- 'Catch and release' fraud: fraudsters contact the bank to clear blocked fraudulent payments that they themselves have made, if they are able to successfully authenticate themselves as the customer
- SIM swap and fraudulent ports: fraudsters gain control of genuine customers' phone numbers in order to bypass two factor authentication (e.g. caller ID and another factor)
- Call signaling analysis can also reduce unnecessary customer callbacks caused by a lack of confidence about the caller ID: in cases where voice biometrics has been uncertain, meta data around the call can be used to provide a more definite answer either way.

Some solutions allow fraudulent phone numbers to be gathered and shared with other businesses, red-flagging likely fraudsters. Data from various sources can be added, such as consumer complaint sites, spam calls databases, detecting attack patterns and improving suspicious call identification. Such information can also feed into fraud detection platforms which gather data from many sources often do not include flags from the telephony channel – despite 60% of forthcoming through the phone channel – causing a limited detection of cross-channel attacks.

Some solution providers offer a fraud investigation service for SMEs who may not have the resources to implement the full biometrics or call signaling analysis solution. The solution provider takes the audio recordings identifies the fraudulent activity on an as needed basis.

Sophisticated fraud detection solutions use AI and machine learning to identify fraudulent transactions and also to analyze cases where legitimate users fail the authentication attempt (e.g. due to noise variations, the ageing process, a change in devices, etc.) to amend and optimize the voiceprint so that they are more likely to be identified correctly in future.

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 (PCI SSC).

The Council wished to put their terms, conditions and regulations into a single agreed global framework. The Council maintains, evolves, and promotes the Payment Card Industry Security Standards, providing critical tools needed for implementation of the standards such as assessment and scanning qualifications, self-assessment questionnaires, training, education, and product certification programs.

Compliance to the PCI DSS is a contractual obligation by the Merchant to either the scheme or the acquirer (in the UK, to the acquirer; in the US to individual schemes and/or acquirer). Penalties are levied by the schemes in the event of a data breach, and may even deny the merchant the ability to take card payments at all. At the time of writing, the current standard is PCI DSS 3.2.1, which was released in May 2018. PCI DSS v4.0 is targeted for release in Q1 2022[6].

To be PCI DSS compliant, merchants have to complete the correct Self Assessment Questionnaire (SAQ) that applies to the payment channel that they are assessing. They complete the SAQ documenting evidence of compliance and then get their most senior responsible executive to 'attest' (warrant) that the organization that they represent meets the requirements of the standard. Third Party Service Providers (included cloud contact center providers) have to complete SAQ D SP (Service Provider).

PCI DSS is not a prescriptive methodology to be followed to the letter, but should be viewed as a set of contractual requirements that organizations, their Internal Security Assessors and or, external Qualified Security Assessors (QSAs) can interpret in conjunction with the business's existing processes, technology and policies to reach the required level of information security. Having said that, in the event of a data breach the card schemes will take a very dim view of any documentation that is not readily available as evidence of meeting the contractual requirements or official PCI SSC, card scheme or acquirer documentation that has been signed fraudulently or without due care.

Compliance with PCI DSS should also 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. It's important to remember that PCI compliance isn't a once-a-year box-ticking exercise, but should be entwined in the security DNA of an organization. It's just as important to note that technology or payment solutions in themselves are not – and cannot be – "PCI compliant": compliance is judged and proven at a company level and is only complete when an organization has not also considered their PCI compliance status but also the compliance status of Third Party Service Providers supporting their card payments process.

A list and explanation of each SAQ is available from the PCI Security Standards Council here.

[6] https://blog.pcisecuritystandards.org/updated-pci-dss-v4.0-timeline

QSAS AND SELF-ASSESSMENT QUESTIONNAIRES (SAQS)

SAQ A is relevant to card-not-present merchants (including contact centers) who have outsourced all cardholder data functions to a compliant third-party, and who do not process, transmit or store any card data, even if encrypted, in any circumstances. Completion of SAQ A is therefore relatively easy and quick and on the face of it, this seems to be the obvious method for contact centers to consider, with many QSAs recommending this.

For Level 1, 2 and some 3 merchants, SAQs have become channel-related (e.g. a organization may complete an SAQ for chip-and-pin payments, and another for phone or website payments), and PCI strategies are becoming increasingly built up by channel, reflecting the specific risks and controls that need to be put in place.

If using IVR, businesses should make sure that they do not discriminate against those customers who are unable to complete card payments via touchtone, and who need to read out card payment details. Examples include blind people, a proportion of elderly people uncertain with DTMF touchtone, and those customers who are perhaps driving at the time of the call or cannot use their hands for other reasons. Forcing customers to type card details into a keypad may also provide a sub-optimal experience in the case of smartphones, where the phone is taken away from the ear, the touchpad activated, and the required data typed in on multiple occasions (i.e. going through each stage for the long card number, expiry and CVC), or else use the speakerphone, which is not always appropriate. If a frustrated or confused customer decides just to read out the card details and let the contact center deal with it, the call recording system will pick these up and immediately put the operation back in scope and become non-compliant.

Even in non-cardholder data environments (e.g. those completing SAQ A), there are likely to be some exceptions where card data is introduced into the environment unintentionally. Businesses should agree with the acquirer controls to be put into place to cover exceptions, and implement people controls, make sure any exceptional card data is handled on a terminal that is not connected to the main network, or stored electronically, and provide a demonstration and documentation if required.

If businesses store any electronic cardholder data, including any legacy data, SAQ D will apply, and businesses should review whether there is the need to maintain electronic cardholder data storage. SAQ D is the most complex questionnaire, and if cardholder data storage can be avoided, compliance efforts will be eased significantly by completing a different SAQ.

Each organization should carefully assess the level of risk, the time and effort taken to complete the relevant SAQ(s), the cost of technology and the effect on customer experience. It should be noted that SAQ D for merchants may involve 12 requirements and 329 controls, rather than the 5 requirements and 24 controls involved in SAQ A, which is used in cases where there is no cardholder data environment within the business.

Merchants looking for a service provider should investigate the limit of the scope that any self-assessment takes, for example a cloud-based solution provider only applying it to the segments of their platform that handle sensitive data. Merchants may prefer a holistic perspective of security, 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.

Proving compliance 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?

PCI DSS REQUIREMENTS

There are 12 requirements to fulfil in order to achieve PCI DSS compliance (full details are available here[7]), with many specific sub-requirements within them, although for many businesses a large proportion of them may simply not apply.

- Build and Maintain a Secure Network and Systems
    - Requirement 1: Install and maintain a firewall configuration to protect cardholder data
    - Requirement 2: Do not use vendor-supplied defaults for system passwords and other security parameters
- Protect Cardholder Data
    - Requirement 3: Protect stored cardholder data
    - Requirement 4: Encrypt transmission of cardholder data across open, public networks
- Maintain a Vulnerability Management Program
    - Requirement 5: Protect all systems against malware and regularly update anti-virus software or programs
    - Requirement 6: Develop and maintain secure systems and applications
- Implement Strong Access Control Measures
    - Requirement 7: Restrict access to cardholder data by business need to know
    - Requirement 8: Identify and authenticate access to system components
    - Requirement 9: Restrict physical access to cardholder data
- Regularly Monitor and Test Networks
    - Requirement 10: Track and monitor all access to network resources and cardholder data
    - Requirement 11: Regularly test security systems and processes
- Maintain an Information Security Policy
    - Requirement 12: Maintain a policy that addresses information security for all personnel.

[7] https://www.pcisecuritystandards.org/document_library?category=pcidss&document=pci_dss

Whether contact centers decide to go down the self-assessment route or work with a QSA, all of the requirements of PCI DSS have some impact upon the way in which they work. Requirements 3, 4, 7, 9 and 12 may have the greatest relevance to the contact center and its agents.

It should also be noted that requirements 5 and 6 can often be the most expensive, as the amount of work required gets exponentially bigger with the more staff a business has.

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 (SAD) 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.

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 taking payments in their own environment, the most obvious place where data is stored is in recordings, and the use of RAM scrapers should be guarded against (a form of malware that takes data from volatile memory as it as being processed and before it is encrypted).

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. However, if it were to happen, then a formal and documented policy would be required to evidence that the card data had been either removed or securely deleted: if the email or chat interaction is found to be 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 3.2.1 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. 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. 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.

Requirement 7: Restrict access to cardholder data by business need to know

Identify roles which require access to specific card data, limit access privileges and restrict access to information such as the full PAN only where needed in specific instances. 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. 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.

Requirement 9: Restrict physical access to cardholder data

Restrict physical access to environments where card data is present only to legitimate employees through access control. Discourage risk by encouraging a clean desk policy, and restricting the use of smartphones and cameras. Use secure data centers and limit physical access to servers storing payment card information.

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

This requirement is mainly about managing the security of payment card data through having an incident response plan that deals with card data at risk, and also deals with third-party solution providers – TPSPs – as requirement 12.8 states: Maintain and implement policies and procedures to manage service providers with whom cardholder data is shared, or that could affect the security of cardholder data.

Requirement 12.8 requires the merchant to have policies & procedures in place to manage their service providers, in addition to

- Maintaining a list of service providers
- Having a written agreement where the service provider acknowledges responsibility for card data security
- Having a documented engagement process in place "including proper due diligence"
- Having a program to monitor compliance status
- Maintaining information on which Requirements each provider is responsible for and which the merchant is responsible for (Responsibilities Matrix)

NB: In the context of contact centers, Requirement 12.8 will not apply to 'carriers' delivering voice traffic 'point to point'.

Requirement 12.6 also states that 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, i.e. to be used in cases where the business simply does not want to meet the requirement and associated controls in full, 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.

VALIDATING COMPLIANCE

Merchant compliance validation involves the evaluation and confirmation that the security controls and procedures have been properly implemented as per the policies recommended by PCI DSS.

For merchants (organizations accepting card payments), there are four levels:

- Level 1 – Over 6 million transactions annually
- Level 2 – Between 1 and 6 million transactions annually
- Level 3 – Less than 1 million transactions annually and more than 20,000 ecommerce transactions
- Level 4 – Less than 1 million transactions annually and less than 20,000 ecommerce transactions

However, each of the card issuers has their own specific criteria:

- Visa
- Mastercard
- Discover
- American Express
- JCB

Depending on the merchant level (i.e. how many card payments are taken), businesses may 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 VISA transactions per year or any other merchant at the request of their acquirer or scheme, who are a 'Compromised Entity' (having experienced attacks before) must have an annual on-site QSA audit rather than one of the **Self-Assessment Questionnaires** (SAQs). They are required to have an Annual Report on Compliance ("RoC") delivered by the QSA – commonly known as a Level 1 onsite assessment – or by an internal auditor if signed by a senior officer of the company. They must also have a quarterly network scan by an Approved Scan Vendor (ASV), and complete an Attestation of Compliance Form. NB: Level 1 TPSPs with more than 300,000 Visa transactions annually also have to be externally audited and have an RoC. Level 2, 3 and 4 Merchants may choose to use a QSA, but do not have to, as a Self-Assessment Questionnaire, quarterly network scan and Attestation of Compliance form are the requirements.

An **Internal Security Assessor** (ISA) is an individual who has earned a certificate from the PCI Security Standards Company for their sponsoring organization, giving them the competence to perform PCI self-assessments for their organization. ISA certification empowers inward appraisal of their organization and allows them to propose security solutions and controls.

Dependent on the SAQ that the merchant completes based on PCI SSC SAQ Guidelines, an **Approved Scanning Vendor** (ASV) may be required. ASVs perform penetration tests on the company's network in order to verify that it cannot easily be hacked, through using a set of security services and tools to conduct external vulnerability scanning services to validate adherence with the external scanning requirements of PCI DSS Requirement 11.2.2. The scanning vendor's ASV scan solution is tested and approved by PCI SSC before an ASV is added to PCI SSC's List of Approved Scanning Vendors.

The PCI DSS self-assessment questionnaires (SAQs) are validation tools intended to assist merchants and service providers report the results of their PCI DSS self-assessment. The Self-Assessment Questionnaire is a set of questionnaire documents that merchants must complete annually and submit to their transaction bank. Each SAQ question must be replied with “yes” or “no”. In the event that a question has the appropriate response of "no", the organization must highlight its future implementation plans.

A formal **Attestation of Compliance** (AOC) which is usually signed by the Financial Director or Information Security Officer states that all PCI requirements have been met and that any compensation controls have been put in place in case of system or process failure or exception.

Visa provides a partial list of compliant TPSPs on its website: while it is a requirement by Visa that TPSP’s complete the listing documentation, a TPSP can be compliant without being on the published Visa list. In 2018, Visa listing became free of charge – prior, it was around £5,000 to register, so a more complete listing should be expected in future. It is worth noting that many corporate procurement teams make a Visa listing a requirement for their TPSPs.

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. 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, but should question them as to which SAQs are most appropriate for their business. It should be remembered that any business with a no card data environment (no CDE) approach will not require an external audit.

The vast majority of contact centers do not require a full audit, and self-assessment questionnaires (SAQs) are the norm for many organizations, and many Level 3 and 4 merchants complete an online questionnaire provided by their acquirer, as all main acquirers offer this service in the UK. The PCI DSS 3.0 standard introduced some new types of SAQ, with changes to others, recognizing that one size did not fit all. It was acknowledged that it was inappropriate for smaller and less at-risk companies to have to complete the same list of requirements as a large multinational taking many millions of card payments each year. A list and explanation of each SAQ is available from the PCI Security Standards Council here. To make compliance easier, quicker and cheaper, businesses should consider a descoping process by limiting the number of places where card data is present in the logical or physical environment. This allows businesses to choose a less onerous SAQ to report their compliance.

For service providers, things are different: there are two levels, rather than four, and compliance requirements are different. A service provider is a business entity that isn’t a payment brand, but is directly involved in the processing, storage, or transmission of cardholder data on behalf of another business. This includes companies that provide services that control or could impact the security of cardholder data. Examples include managed service providers that provide managed firewalls, hosting providers, payment service providers, etc.

A Level 1 Service Provider stores, processes, or transmits more than 300,000 Visa credit card transactions annually. The PCI Requirements need to be validated through:

- An annual Report on Compliance (ROC) by a Qualified Security Assessor (QSA)
- Quarterly network scan by an Approved Scanning Vendor (ASV)
- Penetration Test
- Internal Scan
- Attestation of Compliance (AOC) Form.

Receiving a ROC and validating as a Level 1 Service Provider allows the service provider to be on Visa's Global Registry of Approved Service Providers.

Level 2 Service Providers store, process, or transmit less than 300,000 Visa transactions annually. Their PCI Requirements are validated through:

- Annual Self-Assessment Questionnaire (SAQ) D
- Quarterly network scan by an ASV
- Penetration Test
- Internal Scan
- AOC Form.

Small operations are more likely to use self-assessment questionnaires, while large operations tend to use dedicated internal resource and/or an external Qualified Security Assessor (QSA).

THE VIEW FROM THE CONTACT CENTRE

Potential danger points within the contact center fall into three main areas: storage, agents and infrastructure. The storage element will include customer databases and the recording environment – both voice and screen – and the potential opportunity for dishonest employees to access records 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 November 2018 PCI SSC information supplement "Protecting Telephone-Based Payment Card Data" had a change of emphasis away from "recorded" account data, towards "spoken" account data. The paper emphasized that "accepting spoken account data over the telephone puts personnel, the technology used, and the infrastructure to which that technology is connected into scope of PCI DSS", which also includes VoIP: "where VoIP is used for transmissions of payment card account data between a cardholder and an entity, the entity's systems and networks used for those transmissions are in scope.[8]"

The PCI SSC information supplement provides a useful classification of technology types. Technology is classified firstly by customer experience where the agent attends (in constant voice contact with the customer for the entire duration of the transaction) or unattended when they are not. The guidance then considers technology in terms of delivery media, either telephony or digital. Examples include:

- Telephony/attended: includes pause and resume, DTMF suppression
- Digital/attended: includes agent-initiated payment links sent via email, chat, SMS, social etc., where the agent remains on the call and can assist the caller
- Telephony/non-attended: IVR-based solutions, fully-automated or initiated by agent
- Digital/non-attended: automated payment links sent without agent's action, or where the agent closes the call after the link has been sent but before payment is made.

The information supplement also differentiates between simple telephone environments (limited number of lines; dial-up or virtual payment terminal), and complex environments (agents linked to systems and servers, i.e. a contact center). The supplement also explains the processes whereby an organization can understand which part of their telephony environment is in scope for PCI DSS, and which the responsibility of third-party providers. Bear in mind that responsibility for the security of customer card data ultimately lies with the merchant organization, so any third-party used must themselves be confirmed to be PCI compliant.

[8] See FAQ 1153 How does PCI DSS apply to VoIP? for more detail.

For those organizations which handle customer card data themselves, the various elements of card data are permitted to be processed and stored in different ways.

Figure 63: 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:

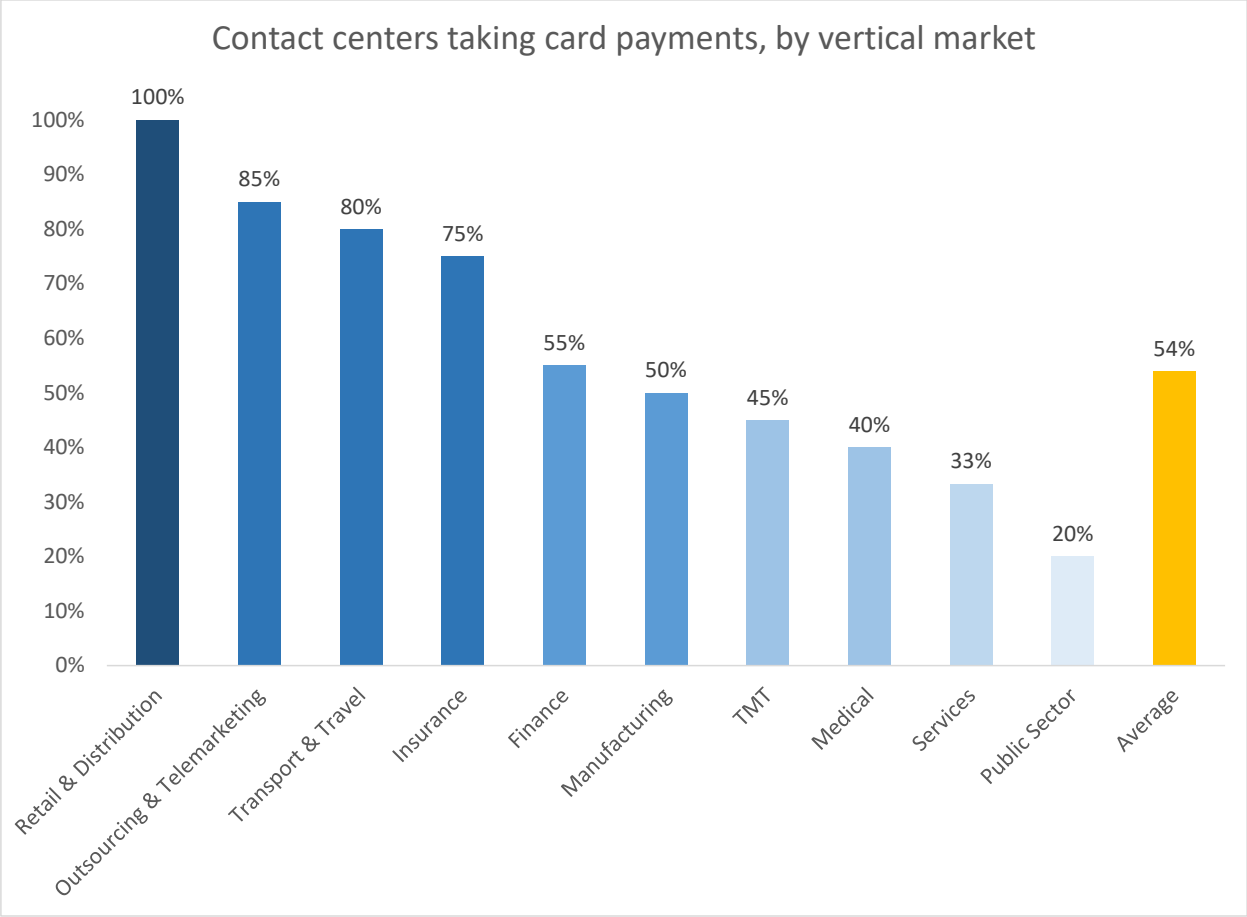
- make sure that contact center employees do not share passwords or user IDs with each other, in order to maintain a segmented and auditable security and access environment
- limit the number of employees given access to full card information. For example, restrict access to call recordings based on 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 storing payment card information
- do not record sensitive authentication data such as the card validation code in any circumstances
- 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 may need to keep customers' credit card details from the reservation point until checkout: there is no hard and fast rule.

It is worth noting that with the takeover of Visa Europe by Visa, US security methods are more likely to be brought into Europe. The requirement to supply the CVV code (3 digits on the back of the card) is something which UK merchants and customers are now trained to do, but it is worth noting that many merchants will pay the same processing fees to Visa regardless of whether they supply the CVV code or not, and that small merchants may simply be on a blended tariff where CVV/non-CVV transactions are grouped together.

CARD PAYMENT USAGE

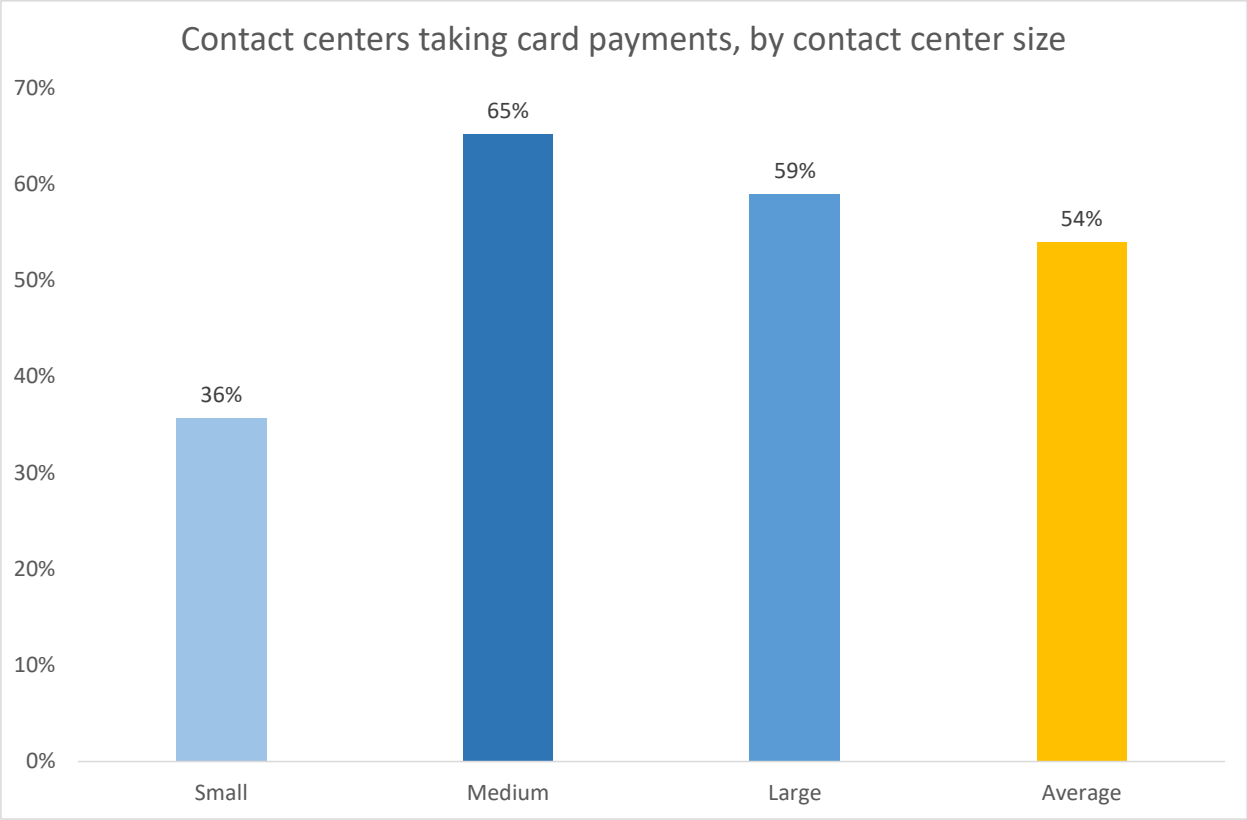
The proportion of respondents taking card payments remains steady at just over 50%. There is some evidence from other ContactBabel research that the increasing requirements and costs associated with more stringent payment technology, processes and training outweigh the benefits of being able to take card payments over the phone.

Figure 64: Contact centers taking card payments, by vertical market



While the usual positive correlation between size and card payment is again present this year, it is noticeable that there is a drop in the figure of the largest operations which offer this facility to their customers, suggesting that the cost and effort of implementing a PCI DSS compliant environment is greater than the potential benefits of being able to take card payments.

Figure 65: Contact centers taking card payments, by contact center size

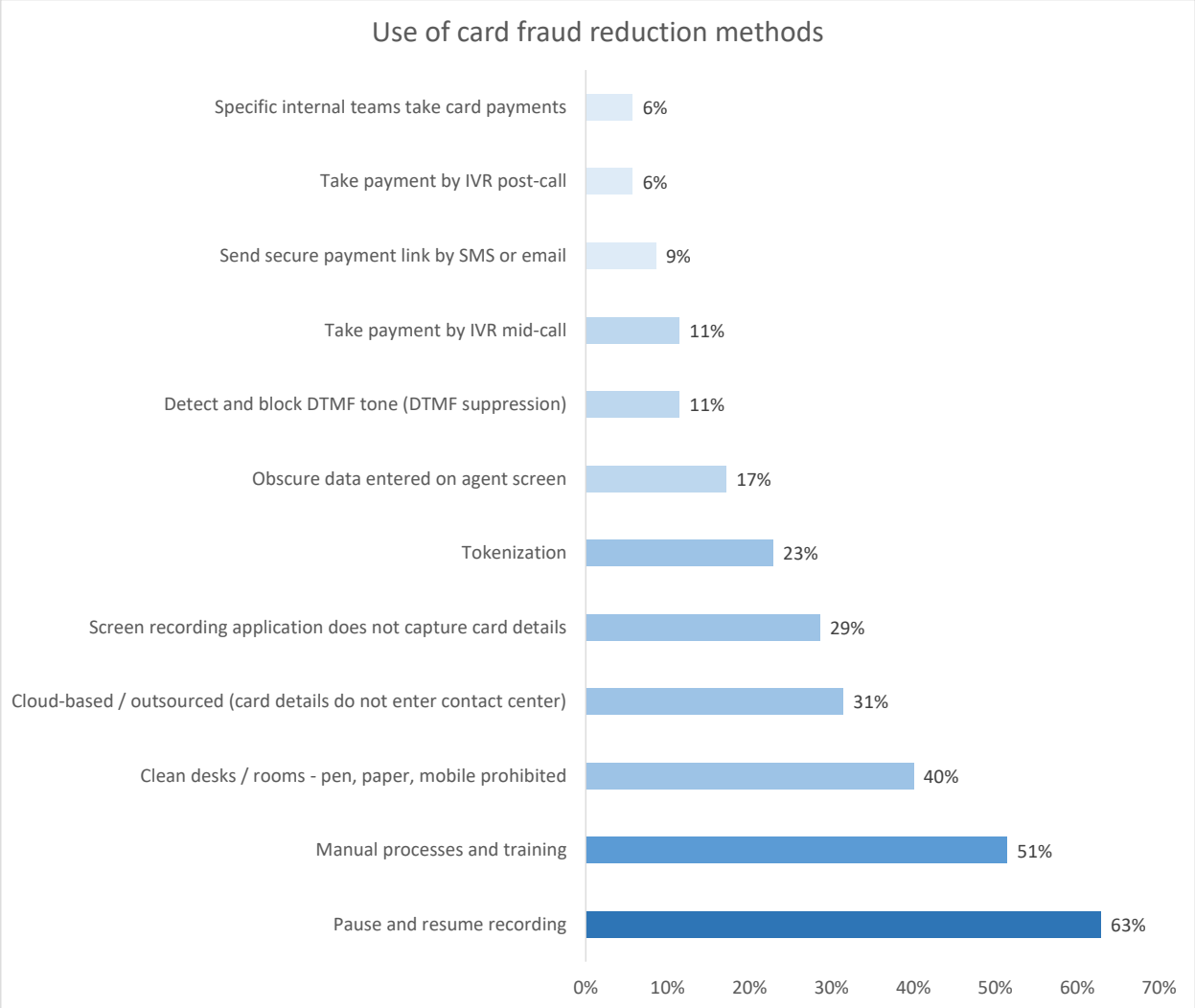


CARD FRAUD REDUCTION METHODS USED

The PCI DSS guidelines state: "As a starting point, consider whether the organization should aim at excluding telephone-based card payment data entirely…for organizations committed to taking payments over the telephone, consideration should be given to techniques that minimize exposure of PAN and SAD to the telephone environment and balance that with user/customer experience requirements, with the object of significantly reducing the CDE (card data environment) or eliminating the CDE altogether".

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. It should be noted that many of these methods used do not in themselves render the operation fully PCI-compliant, although methods that do not allow the card data into the contact center at any point (even encrypted) will take the operation out of the scope of PCI.

Figure 66: Use of card fraud reduction methods



Pause and Resume (63%)

The most widely-used method of card fraud reduction is '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. The PCI DSS standard could be interpreted as to prefer automation over manual intervention to avoid human error. 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. This method, one of the most popular, has several obvious benefits, not least of which include a low set-up cost and the speed of implementation.

Pause and resume is historically the most popular method of assisting with PCI compliance, and has several obvious benefits, not least of which include a low set-up cost and the speed of implementation. However, breaking a recording into two parts makes it difficult to analyze the entire interaction, and goes against some industry-specific regulations, e.g. any financial services regulations which require a record of the full conversation, so some contact centers prefer to mute the recording or play a continuous audio tone to the recording system while payment details are being collected, meaning that there is still a single call recording which can be used for QA and compliance purposes.

More pertinently, PCI DSS 3.0 guidance states that "Pause-and-resume technologies may be manual or automated, and whilst a properly implemented pause-and-resume solution could reduce applicability of PCI DSS by taking the call recording and storage systems out of scope, the technology does not reduce PCI DSS applicability to the agent, the agent desktop environment, or any other systems in the telephone environment."

The new PCI guidelines have moved away from just securing recorded card data, to securing **spoken and recorded** card data, the former of which pause and resume cannot assist with. Pause and resume takes the recording and storage part of a call out of scope, but still leaves the agent, the agent desktop environment and other systems in the telephony environment in scope for PCI.

Improving Processes and Agent Training (51%)

The second most widely-used method of card fraud reduction is that of **improving manual processes and agent training**: the biggest risk in any organization relating to data theft is its staff – not necessarily from fraudsters, but laxity in taking proper care of data – 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. Phishing emails can mean that staff innocently allow hackers to enter the system, and is a bigger risk than a rogue staff member writing down card numbers.

The practice of **obscuring card details (17%)** on an agent's screen as they are being typed in is a low-tech way of preventing screenshots of the card data being taken on a smartphone, for example. It can be linked to IVR data input, so that the agent can see that the card details have been entered by the caller, but not be able to see exactly what they are. **Disabling screen recording (29%)** in the card input screen also reduces the risk of card data being hacked, as it is simply not available to be stolen.

Clean Desks / Rooms (40% / 6%)

Some organizations set up **dedicated payment teams (6%)**, 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 has been estimated that it takes around $3,000 per agent per year to create and maintain a clean room environment. Implementing a clean desk policy in the contact center (rather than a dedicated clean room) will reduce the opportunity for agents to write down card details, but cannot be relied upon to prevent fraud.

IVR Payments (11% / 6%)

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) (11%)** is more popular than **post-call IVR (6%)**, 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.

Detect and Block the Phone's DTMF Tones (11%)

11% 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 – albeit theoretically small – 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.

Third-Party Cloud-Based Payment Solution (31%)

31% of this year's respondents use **third-party cloud-based payment solutions**, which is far more likely to be the case in larger operations and which is growing in popularity very rapidly. Using a 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 that 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.

Tokenization (23%)

Tokenization takes place in order to protect sensitive card information such as the PAN (primary account number or 'long card number') by replacing it with non-sensitive data which merely represents the initial data. The purpose of this is to devalue the data so that even if it is hacked or stolen, it is of no use to a criminal. One of the main benefits to tokenization is that it requires little change to the existing environment or business processes, as apart from the addition of a decoding mechanism, the flow of data, its capture and processing works in the same way as if it were true card information coming into the contact center environment.

A customer entering a 16-digit card number might have six digits within the middle of the card taken out and replaced by entirely different digits, before this information is passed as DTMF tones into the contact center environment. This allows the contact center to be outside PCI scope, as there is actually no **real** cardholder data entering the environment, as well as making it a less attractive target for data hacking and stealing. Tokenization does not require special integration with existing payment processes, storage systems, telephony or IVR systems, nor does the agent desktop have to change as the same data format is coming into the desktop environment.

The first stage of tokenization is to collect the actual cardholder data via DTMF tones. For each key press, the solution replaces the associated tone with a neutral or silent tone, and sends the actual number relating to the DTMF tone elsewhere within the solution in order to be tokenized. Card numbers and sensitive authentication data such as card validation codes are replaced as necessary, and the new tokenized DTMF tones are played down the line to the contact center. The actual cardholder data is held temporarily within the hosted environment.

Within the contact center environment, the tokenized DTMF entry goes to the same places that the existing payment process defines, being recorded as usual and going to the agent desktop just as if the card information was actually true, passing through a decoder (which may be hardware or software) which converts the tones to keystrokes that are entered in the payment screen. As the card data is only a tokenized representation, it cannot be said to be actual cardholder data and thus does not fall into the scope of PCI DSS compliance.

Once the agent submits the tokenized payment card details, the transaction is sent back to the hosted environment, where the tokenized data is matched and converted back into the actual cardholder information, which is passed on to the payment service provider, which returns the usual payment success/failure confirmation.

Of course, cardholder data is not the only DTMF-provided information coming into the contact center environment, as other data such as IVR routing options and the entry of account numbers often requires capture of DTMF tones as well. Various configuration options exist within solutions, based upon the specifics of the business in order to circumvent confusion. Customers should check that any hosted tokenization solution will not alter the performance of any required card number validation checks, including card length, range validation and 'Luhn' checks (to make sure a card number 'looks right' before presenting it to the payment services provider). The PCI SSC has published tokenization product security guidelines[9].

Send Secure Payment Link by SMS or Email (9%)

This self-service card fraud reduction method involves sending an SMS, email or WhatsApp link to a customer which then opens a secure form in which card details can be entered. Card data is kept outside the organization, keeping it outside of scope and can also be linked with tokenisation to collect new information if existing data has expired. This method is secure and reduces agent time, allowing customers to pay at their own convenience, although will possibly be more suitable for some demographics.

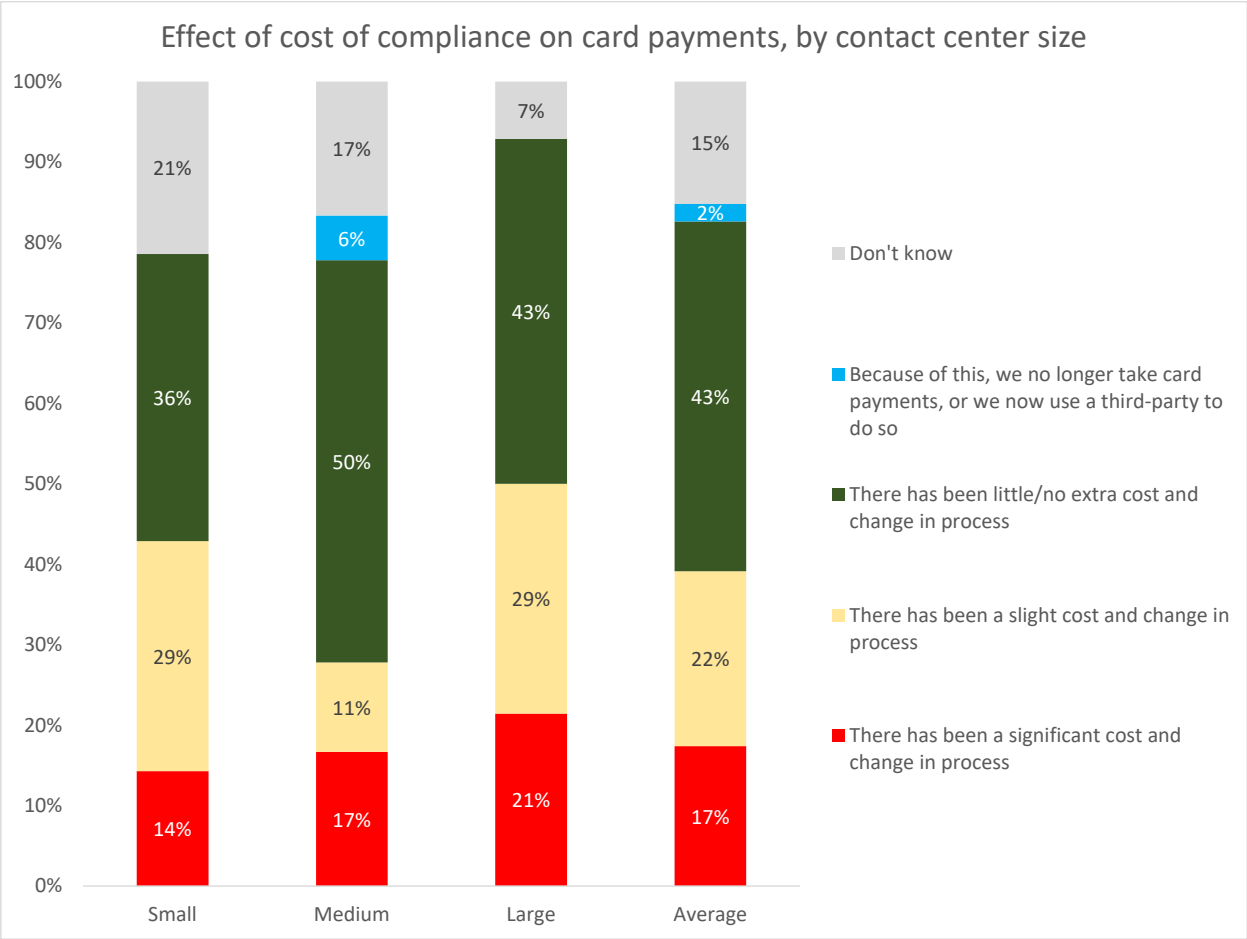
[9] https://www.pcisecuritystandards.org/documents/Tokenization_Product_Security_Guidelines.pdf

There seems to be an awareness that relying on manual processes and training is not sufficient, and methods such as third-party cloud-based card handling and field masking have definitely grown in use.

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 Fraud Reduction and PCI Compliance in the Contact Center"**, which is available from www.contactbabel.com.

The following chart shows that a significant proportion of contact centers have found that the cost of PCI DSS compliance is very considerable, with 1 in 6 respondents stating that they have seen a significant cost associated with compliance, particularly in larger operations.

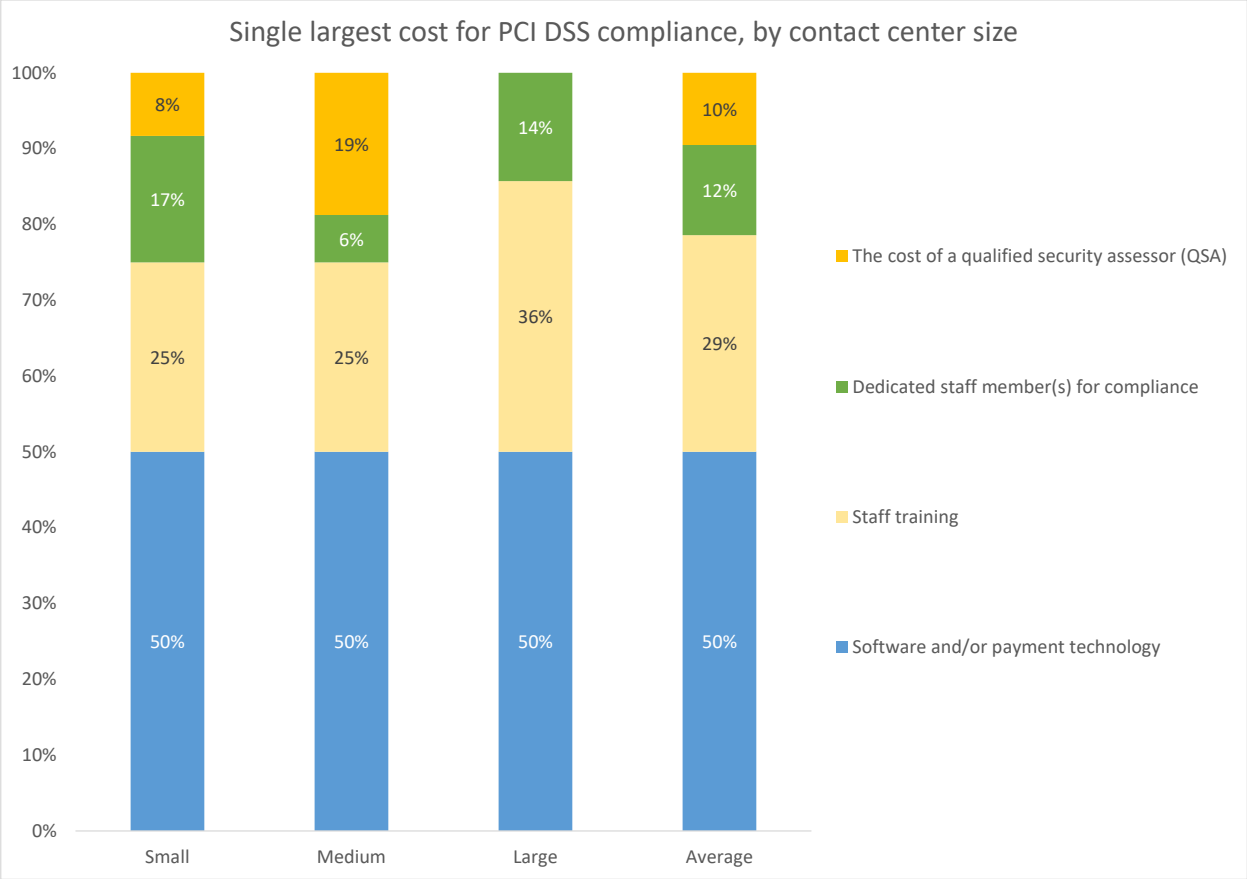
Figure 67: Effect of cost of compliance on card payments, by contact center size



50% of survey respondents state that software and/or payment technology is the single largest cost associated with PCI DSS compliance.

In the largest contact centers, the cost of training staff in card fraud prevention techniques and processes is said to be the largest cost in 36% of cases, with around 1 in 5 mid-sized operations noting that the cost of a qualified security assessor (QSA) was considerable.

Figure 68: Single largest cost for PCI DSS compliance, by contact center size



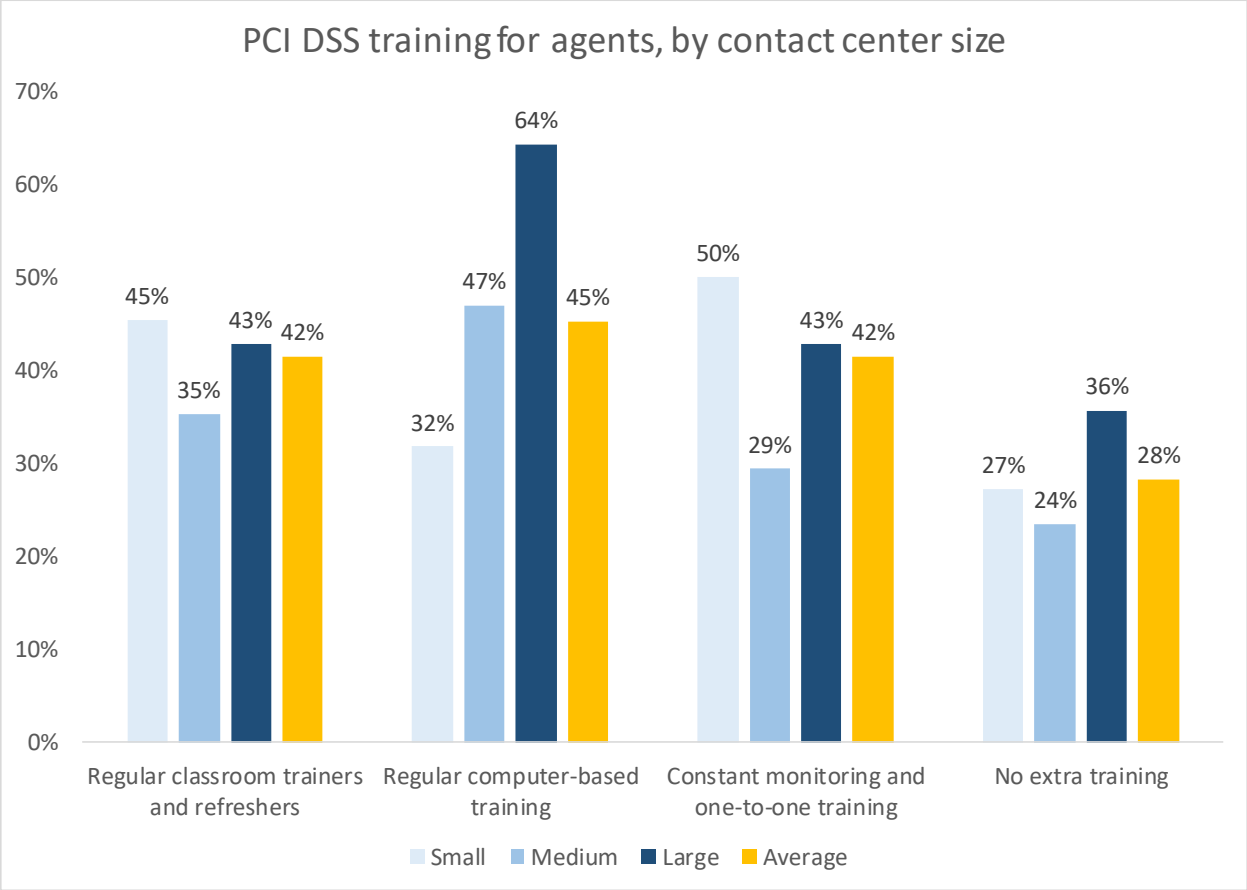
The cost of staff training is a major drain on resources for contact centers (especially smaller ones), and the following chart shows that small operations are providing individual levels of training similar to those that larger contact centers are giving to their agents.

Agents in small operations are more likely to be receiving constant monitoring and one-to-one training, a level of support which may be unsustainable and unaffordable in large-scale contact centers.

Larger contact centers are much more likely to be using regular computer-based training in order to educate agents about card fraud reduction practices, as this is likely to be scalable and require less personal support from managers and security specialists.

Somewhat less than half of contact centers from all size bands provide regular classroom training and refresher courses. 36% of large operations do not provide any additional PCI DSS or card fraud reduction training for agents whatsoever, perhaps preferring to outsource card payments altogether.

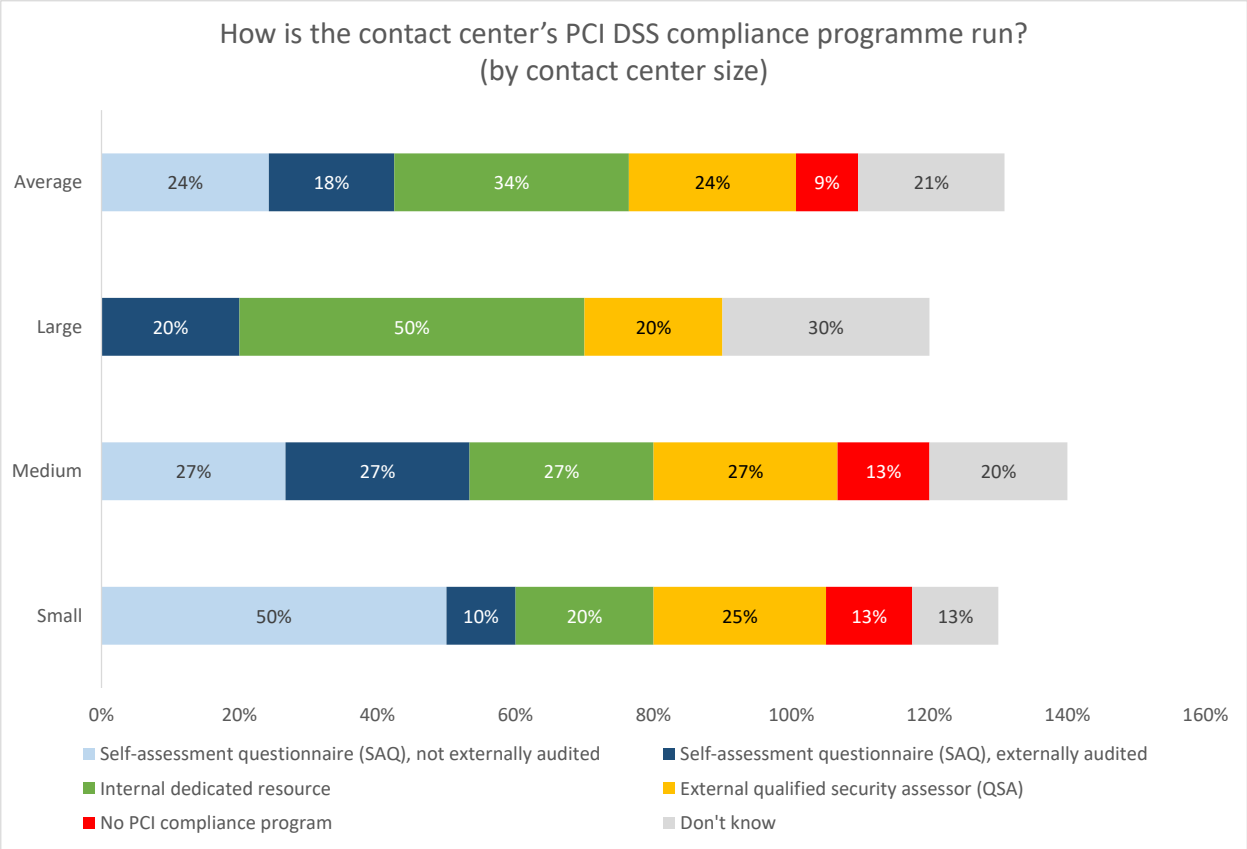
Figure 69: PCI DSS training for agents, by contact center size



Small and mid-sized operations are likely to use self-assessment questionnaires, whereas 50% of large operations use dedicated internal resource.

QSAs were used by 20% or more of operations from all size bands.

Figure 70: How is the contact center's PCI DSS compliance program run? (by contact center size)



NB: totals in the chart above add up to more than 100%, as multiple selections are allowed. Only those respondents that reported taking card payments were included.

QUEUE MANAGEMENT & 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 71: 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 30-60 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 – up to 23 times longer than the reality.

QUEUE POSITION ANNOUNCEMENTS

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.

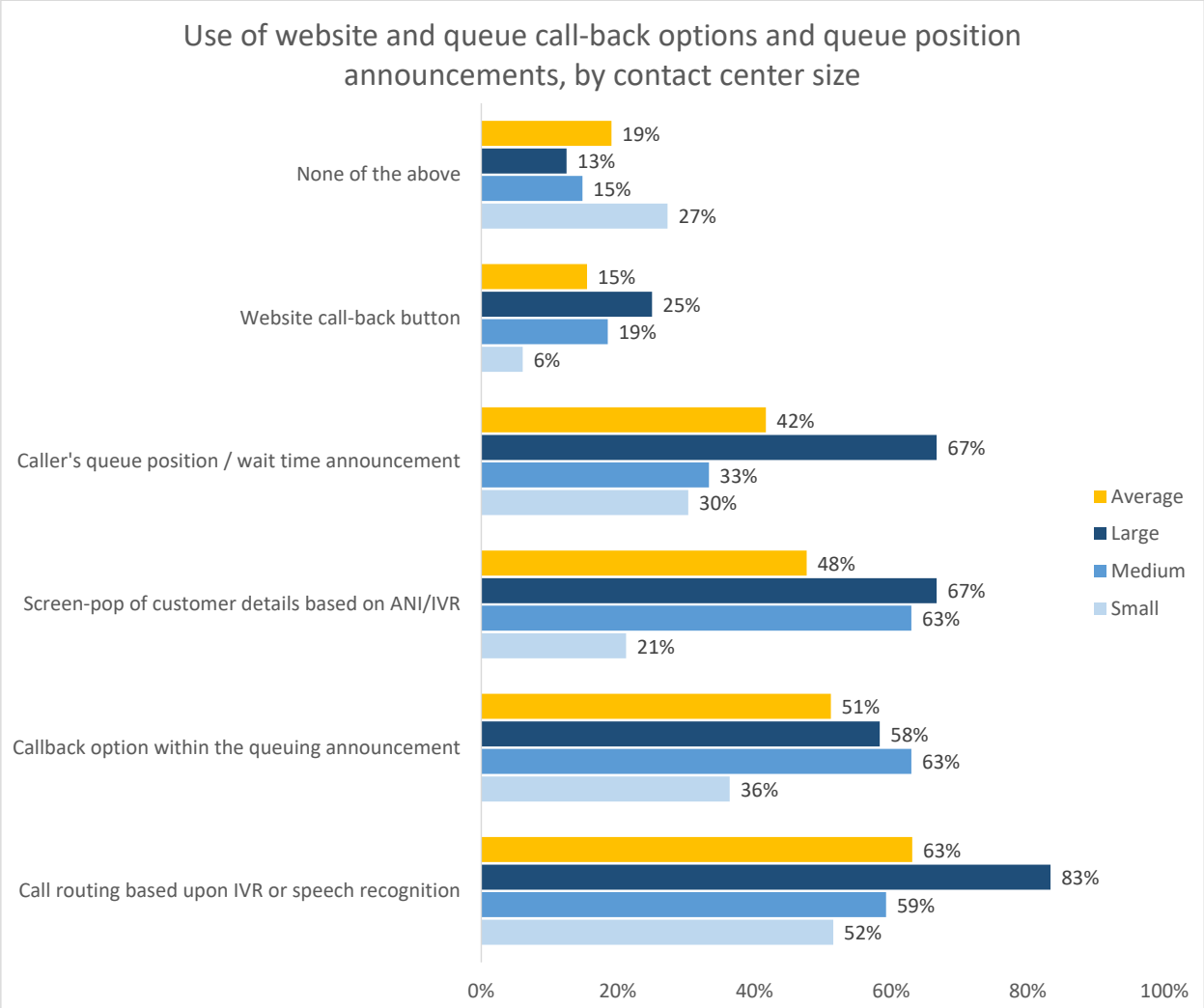
The use of a website 'call-me' button (which initiates an outbound call at a time specified by the recipient) is weighted towards operations that carry out significant sales, but is present only in the case of 15% of this year's survey respondents. This may yet play an important part in providing customer support via mobile / smartphone channels.

51% of respondents offer a telephony queue call-back option, weighted towards larger operations.

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

48% of survey 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 much more likely to do this, and also to route calls based on information gathered through IVR or speech recognition.

Figure 72: Use of website and queue call-back options and queue position announcements, by contact center size



CALL-BACK

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 73: 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	80%
Datebook (caller can specify a day to be called back on)	15%
Timed (called back at or before a specific time, regardless of queue conditions)	25%
Forecast-based (called back at a time to suit the contact center)	30%

The majority of respondents who offered call-back reported that FIFO placeholder call-backs were far more requested than one of the delayed call-back types. On analyzing the contact center activity type (i.e. sales or service), those callers making sales enquiries were more likely to want a placeholder-type of call-back. This could possibly be explained by the differing states of mind of customers calling to purchase something, or to make a query or payment. The former is more likely to have chosen to call the contact center to make a purchase that they are enthusiastic about, and/or which is time-sensitive, and as such, want to speak to the business as soon as possible.

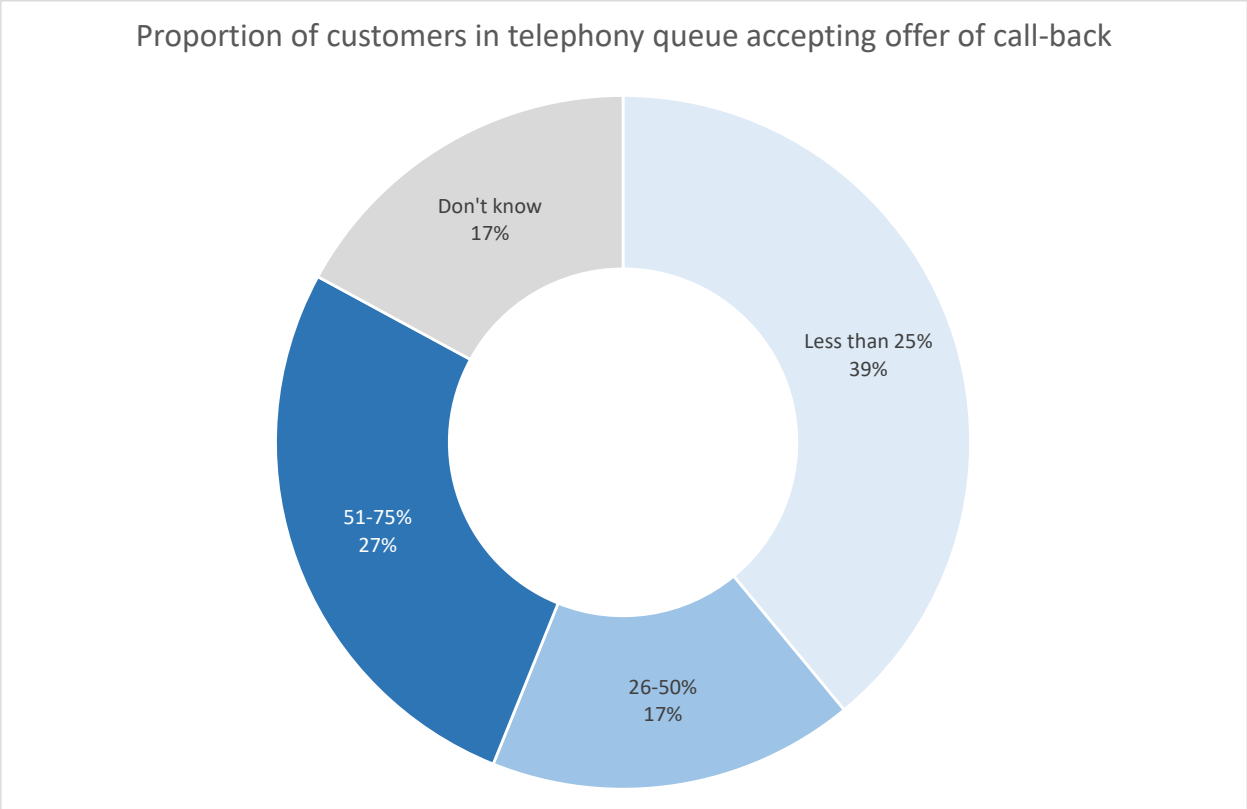
Respondents indicate that telephony call-back tends not to be universally available to callers, with businesses only offering it after a certain period of wait time or once the queue becomes so long that it triggers the functionality to be offered. Half of respondents trigger call-back functionality based on the actual time that the customer has spent waiting, with around 30% looking at the estimated wait time based on ACD statistics. The remainder of respondents use a mixture of actual and expected queue time.

Two-thirds of contact centers using call-back state that it is offered after the caller has spent up to two minutes in the queue, although 10% say that it takes longer than five minutes before call-back is offered, at which point many customers have already given up.

Of those who are offered a call-back, 39% of respondents report that fewer than a quarter of callers chose this option. This may be because customers lack confidence that the business will call back when they say they will, are relatively unfamiliar with the technology and/or do not have the call-back option offered to them early enough and so have already abandoned the call.

However, it should be noted that this figure is lower than previous years and that the proportion of customers accepting call-back is generally increasing each year.

Figure 74: Proportion of customers in telephony queue accepting offer of call-back



Call-back has great potential for both customers and businesses: virtual queuing and call-back, when implemented – and explained properly to customers – can be a win-win for both business and customer by:

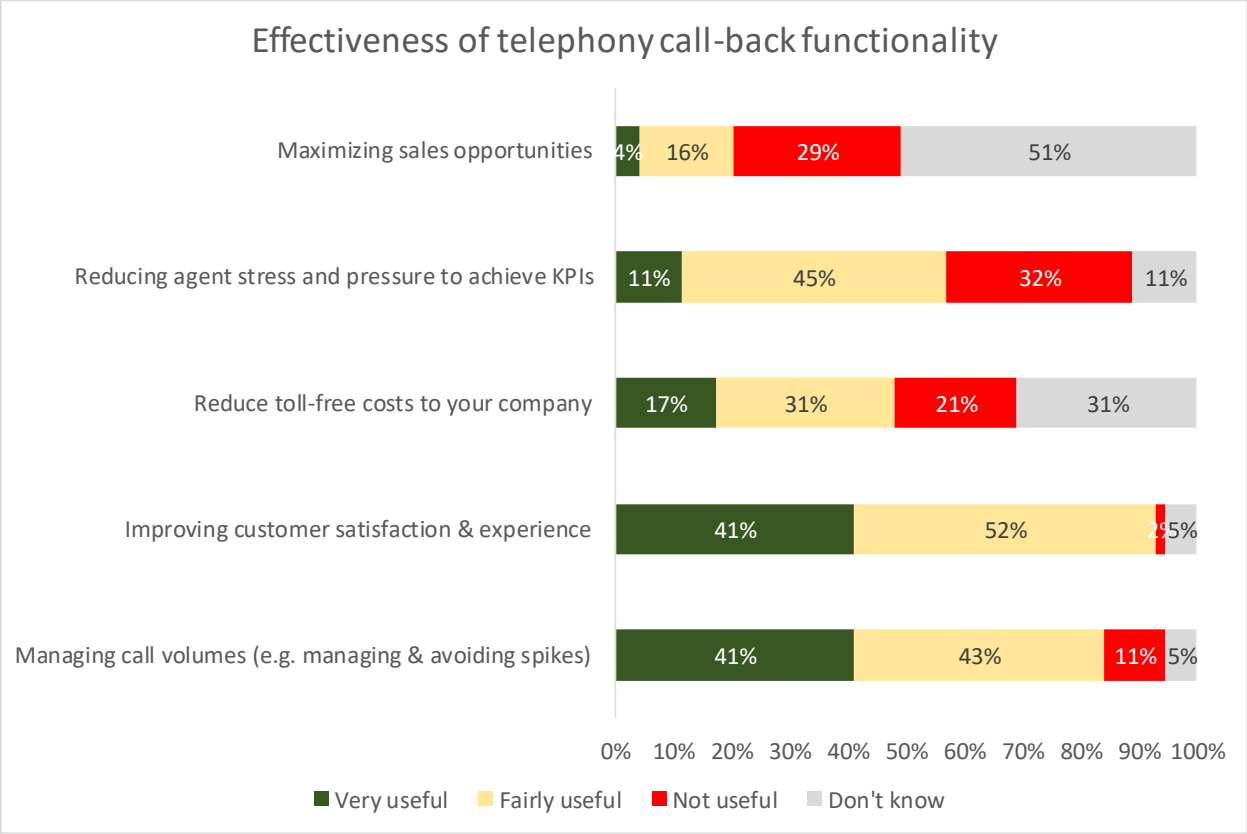
- Increasing customer satisfaction and experience by being called back by an agent who already understands the customer's context and identity
- Reducing average speed to answer and call abandonment rates
- Reducing call lengths as customers should spend less time complaining and adding-on unnecessary queries "while they're on...", pressuring agents trying to meet targets
- Reducing toll-free/freephone costs, as virtual queuing time does not incur telephone charges borne by the business.

Respondents offering telephony call-back functionality stated clearly that is was most useful for managing call volumes and spikes in busy periods, 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.

Telephony call-back is not seen by businesses as having a positive effect upon reducing agent stress and pressure to achieve key metrics, neither is it viewed as maximizing sales opportunities from customers who would otherwise go elsewhere.

Few respondents considered it particularly useful in reducing their toll-free costs from customers who were queueing at the businesses' expense from considerable amount of time. It is not to say that telephony call-back does not provide these benefits, only that respondents do not implement call-back with these benefits in mind.

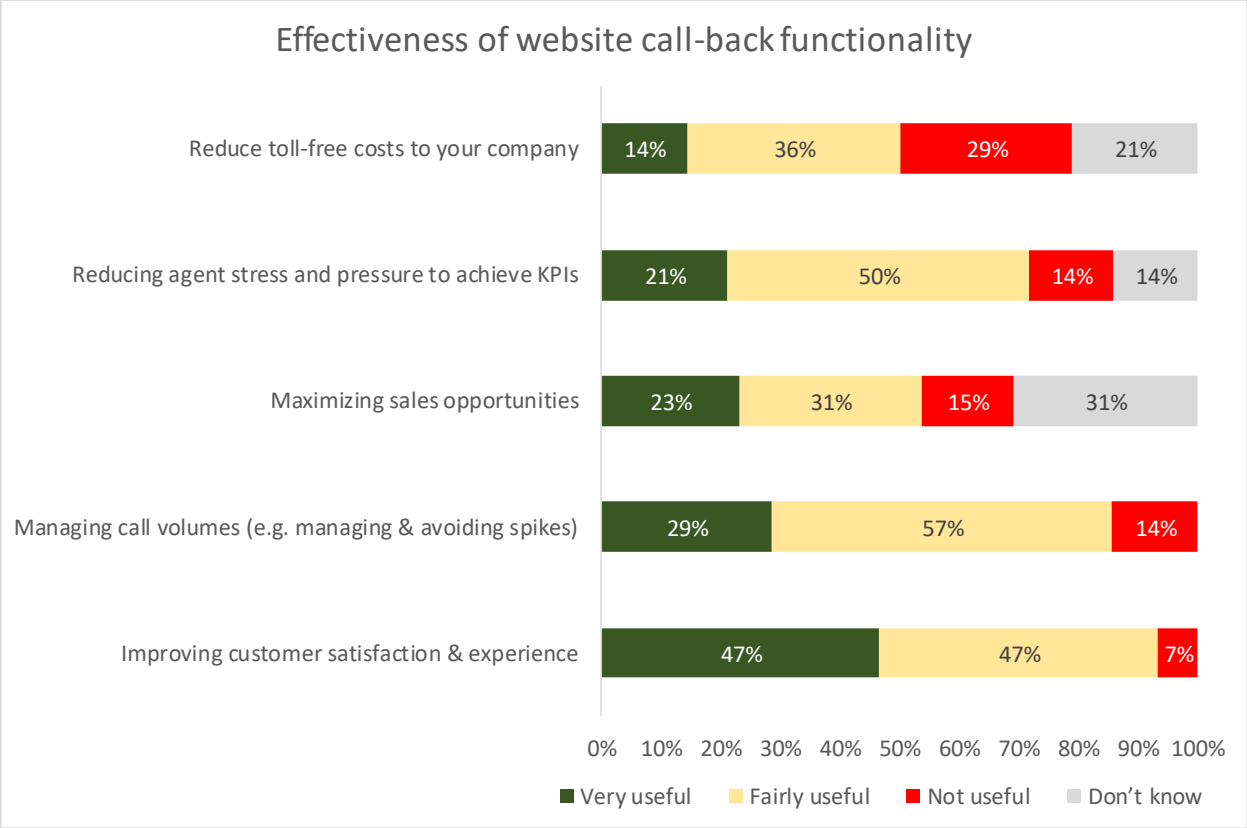
Figure 75: Effectiveness of telephony call-back functionality



Looking at the perceived effectiveness of website call-back functionality, it is worth noting that respondents believed web call-back was less beneficial than telephony call-back for providing relief from call-spikes, although around the same proportion believed that it improved the customer experience.

However, there was much more positivity that website call-back was useful in maximizing sales opportunities, allowing the customer to be contacted at the point of purchase.

Figure 76: Effectiveness of website call-back functionality



VIRTUAL CONTACT CENTERS & THE CONNECTED ENTERPRISE

Although many contact centers still operate as a single, centralized site, there have been increasing commercial pressures and technical opportunities allowing businesses to look at alternative ways of working, such as using virtual contact centers, encouraging homeworking or bringing in knowledge workers from elsewhere in the enterprise.

Recent events have meant that homeworking / remote working has become vital to the business continuity plans of many contact center operations. After the crisis has passed, businesses may well find that reverting to the previous centralized contact center model is no longer optimal and that remote working can bring greater flexibility and performance, augmenting the traditional way of operating.

Apart from the pandemic-driven requirement for business continuity, the drivers for decentralization 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 economics 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 increasing the average level of interaction complexity that an agent now handles
- 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. For many organizations, the offshore experiment has not been as successful as they had hoped, and they are now required to offer UK-based service to their customers rather than offshore service outside core UK hours
- homeworking is more environmentally friendly and supports a flexible lifestyle and corporate green aims
- 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.

VIRTUAL CONTACT CENTERS

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 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 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 to 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 77: Virtual contact center commercial and operational benefits

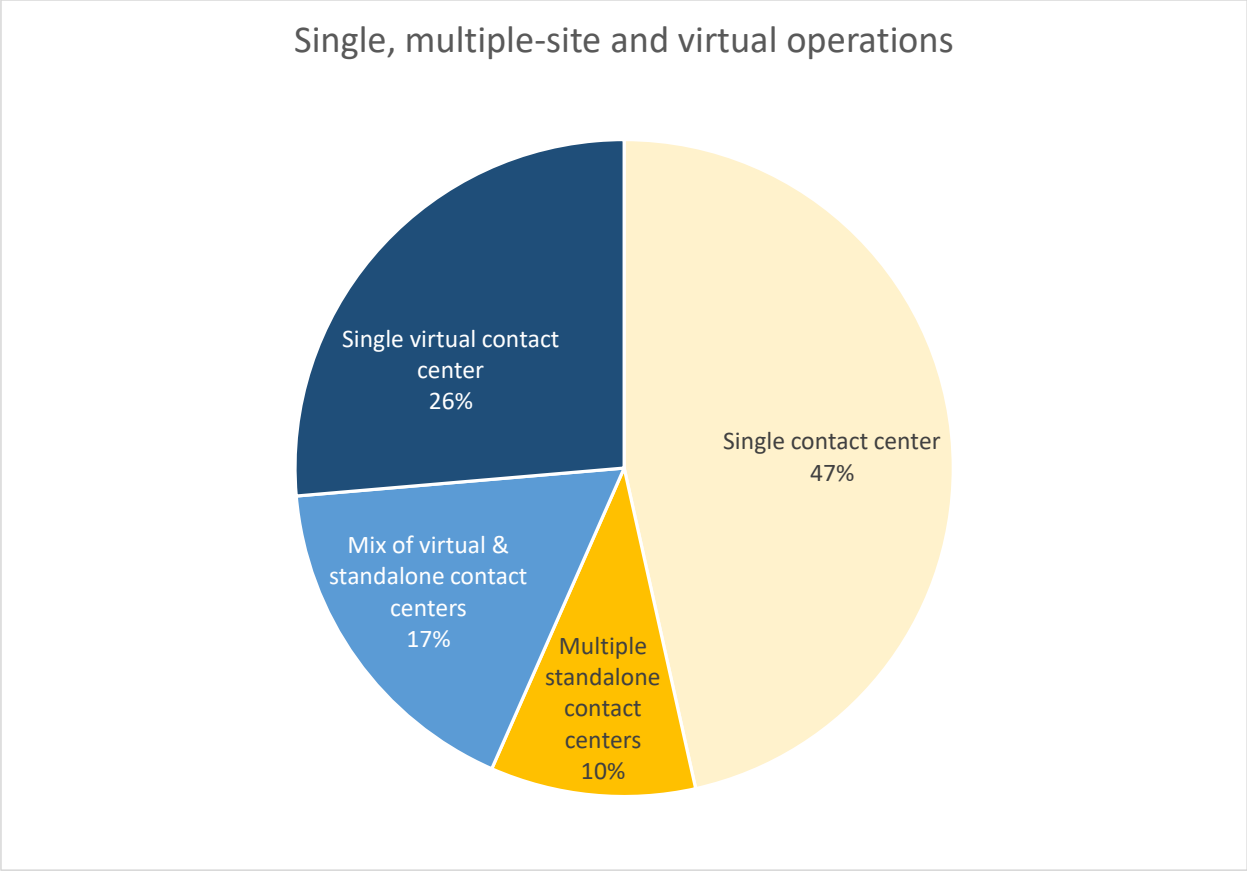
Effect of virtual contact center	Commercial advantage
Larger pool of skills available	More likely to be able to match the call to the customer effectively, improving first-call resolution, customer satisfaction and agent morale, as they are able to help more customers first-time. Businesses can route calls based on detailed criteria, 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 becomes feasible to offer this as a routable skill after a virtual language team is created)
More balanced work across contact center locations	In a stand-alone multiple contact center environment, there is a 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 an advantage of virtual contact centers, which can improve both customer and agent experience
Widely deployed and managed skills	Virtual contact centers can look at agent skills and competencies to schedule 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 means that 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 and agent experience can be achieved
Offer 24/7 availability, more flexible 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 main 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 much 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.

53% 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.

Almost half of survey respondents in these multi-site contact centers act as part of a single integrated virtual contact center operation, with a further 32% 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).

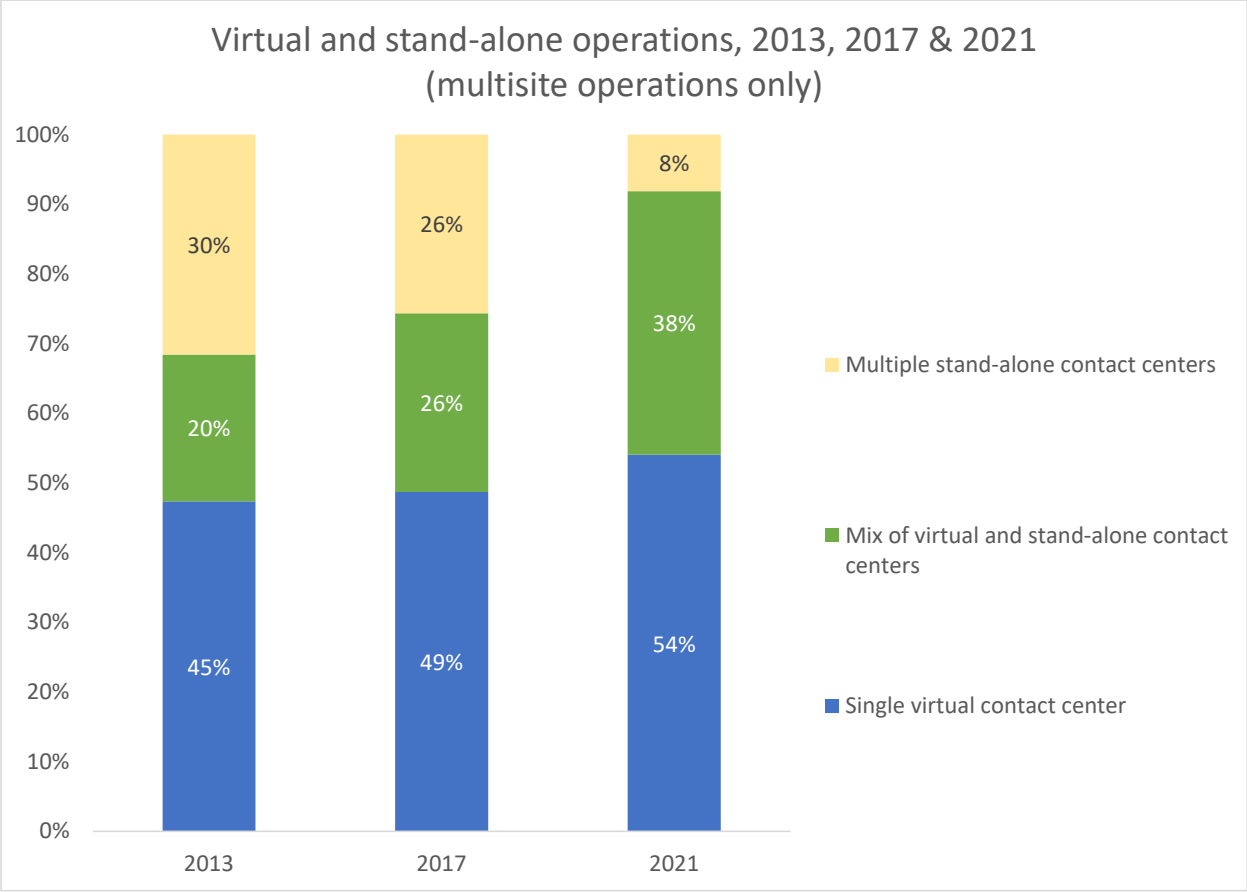
Figure 78: Single, multiple-site and virtual operations



The following chart shows the current and historical status of multiple-site virtual US contact center operations in 2013, 2017 and 2021.

54% of multi-site contact centers currently act as part of a full virtual contact center operation (the highest figure on record), with a further 38% acting as a part of a partial virtual operation (e.g. in cases where only a few of the overall number of US operations are linked together).

Figure 79: Virtual and stand-alone operations, 2013, 2017 & 2021 (multisite operations only)

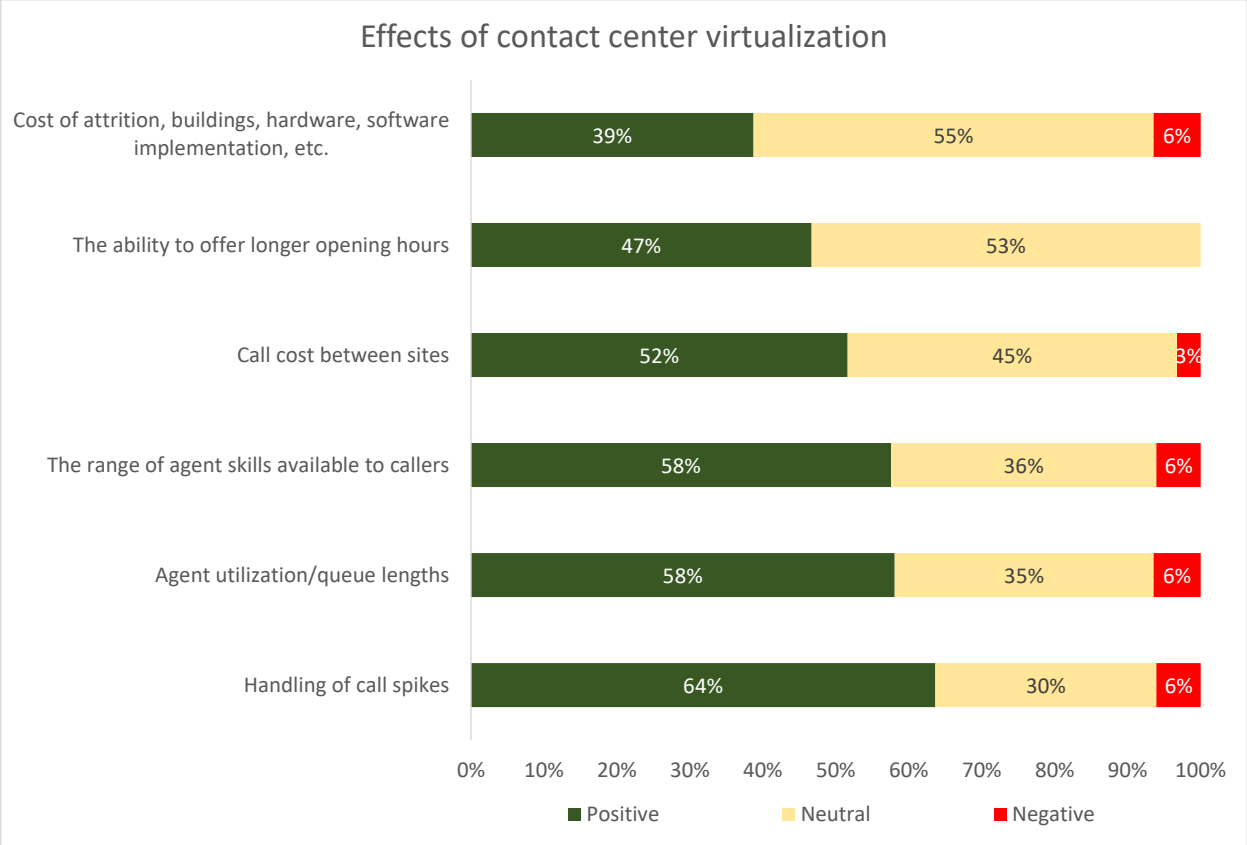


There has been a significant drop in the proportion of organizations with standalone-only operations in recent years, and a corresponding increase in the proportion of organizations with some sort of virtual contact center.

While the reasons for this cannot be proven, it could be that organizations with multiple standalone operations have at least tried to become more virtual, although there may have been technical, operational or budgetary issues preventing them achieving a virtual site, which have now been resolved to some extent, allowing more companies to use at least partially virtual operations.

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 increase in the number of agent skills available to callers 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. There has in the past been a slight lack of unanimity amongst respondents about the effect of virtualization on the net cost effect, but much less than in previous years.

Figure 80: 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.

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 has come 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.

Those respondents in the medical, manufacturing and insurance sectors report the greatest levels call handling in non-contact center staff, with outsourcing, transport & travel and retail reporting the least.

Smaller operations (40%) are much more likely than mid-sized (11%) and large operations (13%) to have non-contact center staff available to handle customer requests.

Figure 81: Non-contact center staff handling substantial numbers of requests, by vertical market

Vertical market	% respondents using non-contact center staff to handle requests
Manufacturing	40%
Medical	38%
Insurance	36%
Services	33%
Finance	25%
TMT	24%
Public Sector	17%
Outsourcing & Telemarketing	10%
Retail & Distribution	9%
Transport & Travel	5%
Average	**24%**

Knowledge workers can be incorporated into the contact center on a part-time basis, without actually becoming a customer service agent. Although only used by a minority of the respondents who use non-contact center staff to handle calls, '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 multi-channel 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, and not choosing to 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, although this is used by only 15% of these respondents.

90% of knowledge workers outside the physical contact center have access to the same level of customer information as an agent within the contact center and 45% allow the contact center to view the presence and availability of the resource.

Figure 82: Integration of non-contact center staff with systems and processes (only respondents using non-contact center staff)

Level of integration with contact center systems and processes	Non-contact center staff capability
Same access to customer information as a contact center agent	90%
Can be viewed in real-time as being available or unavailable	45%
Rota / schedule for on-call experts	15%

REMOTE WORKING

Up until very recently, the majority of US contact centers worked as a traditional, centralized model, with a small minority of agents working remotely at home on a permanent basis.

Faced with the challenges of continuing to run contact centers in an environment decimated by coronavirus, many businesses urgently implemented business continuity plans which usually involved remote working.

Apart from this, homeworking / remote working promises contact centers significant benefits, including:

- the environmental benefits of working at home, reducing carbon emissions and decreasing congestion on the roads
- achieving cost reductions without having to use offshore contact centers through targeted working hours and reduced office space rent
- increased flexibility in working hours means rapid response to call spikes and reduced idle time
- increasing costs of recruiting and retaining staff allow agents outside the commutable distance to be employed at times that suit them and the business.

Remote working opens the door to 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 the 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.

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.

The recent ContactBabel report, "The Inner Circle Guide to Contact Centre Remote Working Solutions" looks in depth at the technology and working practices required to operate a successful remote working operation.

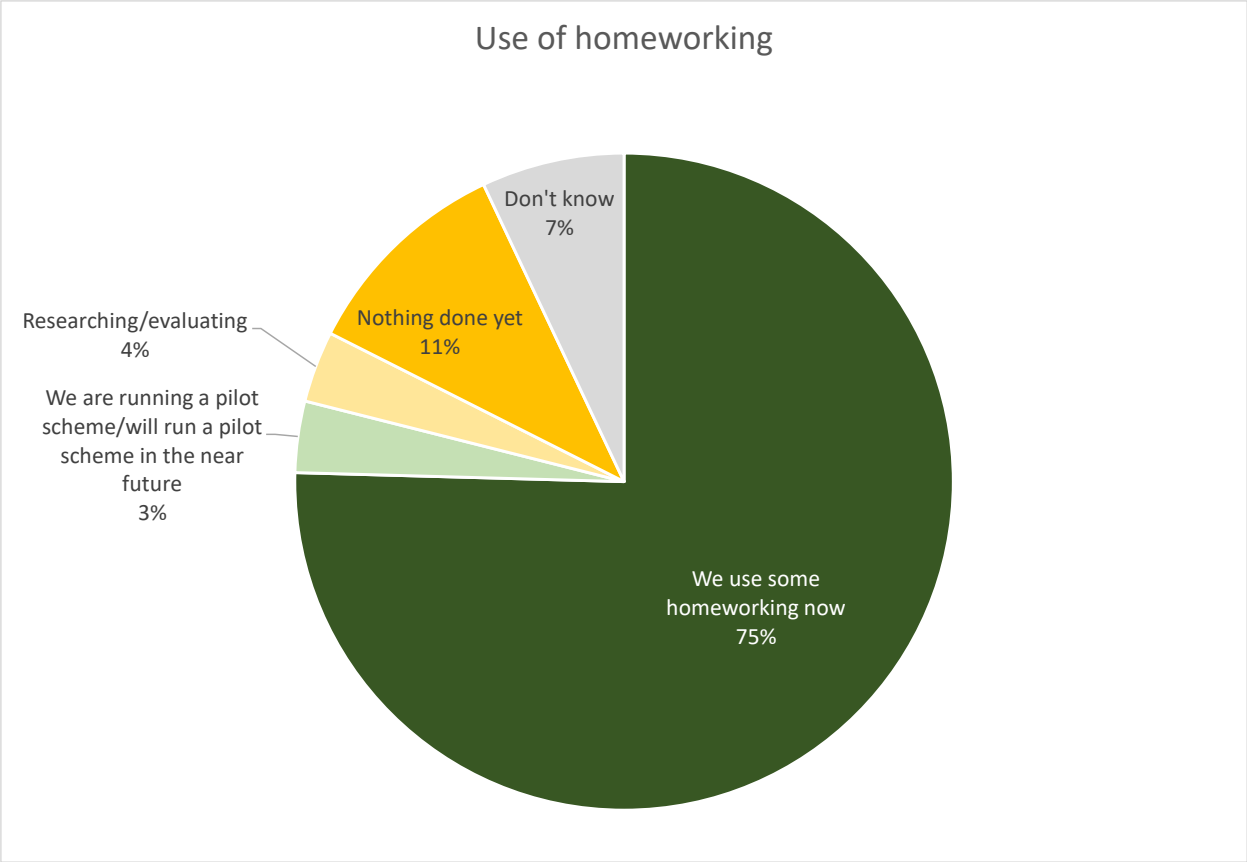
USE OF HOMEWORKING

Last year, 43% of survey respondents were using homeworking, with 5% running a pilot scheme or about to set one up.

This year, driven by the need to react to the pandemic, these figures are now 75% and 3% respectively.

In 2019, 34% of respondents had not acted on homeworking, and 18% stated that they had made a firm decision that homeworking is not for them. For many of these operations, the decision had been taken away from them, and no respondents now state that they will never use remote working.

Figure 83: Use of homeworking



The following table looks at the historical use of homeworking / remote working.

By 2015, the proportion of contact centers using homeworkers had more than doubled since 2007, and the proportion of homeworking agents had almost quintupled. Yet since then, the proportion of operations using remote working had barely changed, and the actual number of homeworkers amongst the survey respondents seemed to have declined very slightly.

The snapshot survey carried out at the beginning of lockdown in April 2020 showed a massive increase in the proportion of contact centers using remote working. November 2020's survey showed that despite a relaxation in lockdown, almost 4 in 5 contact centers were still using full or partial remote working, and that two-thirds of agents in the survey were based at home.

2021's figure is even higher, suggesting that many operations are using a hybrid office / remote working model, as these figures include both full-time remote working and the hybrid model.

However, 37% of survey respondents state that all of their agents are currently still working at home. While this is a decline on last year's figure of 47%, it suggests that a permanent remote working model is possible for some businesses moving forward.

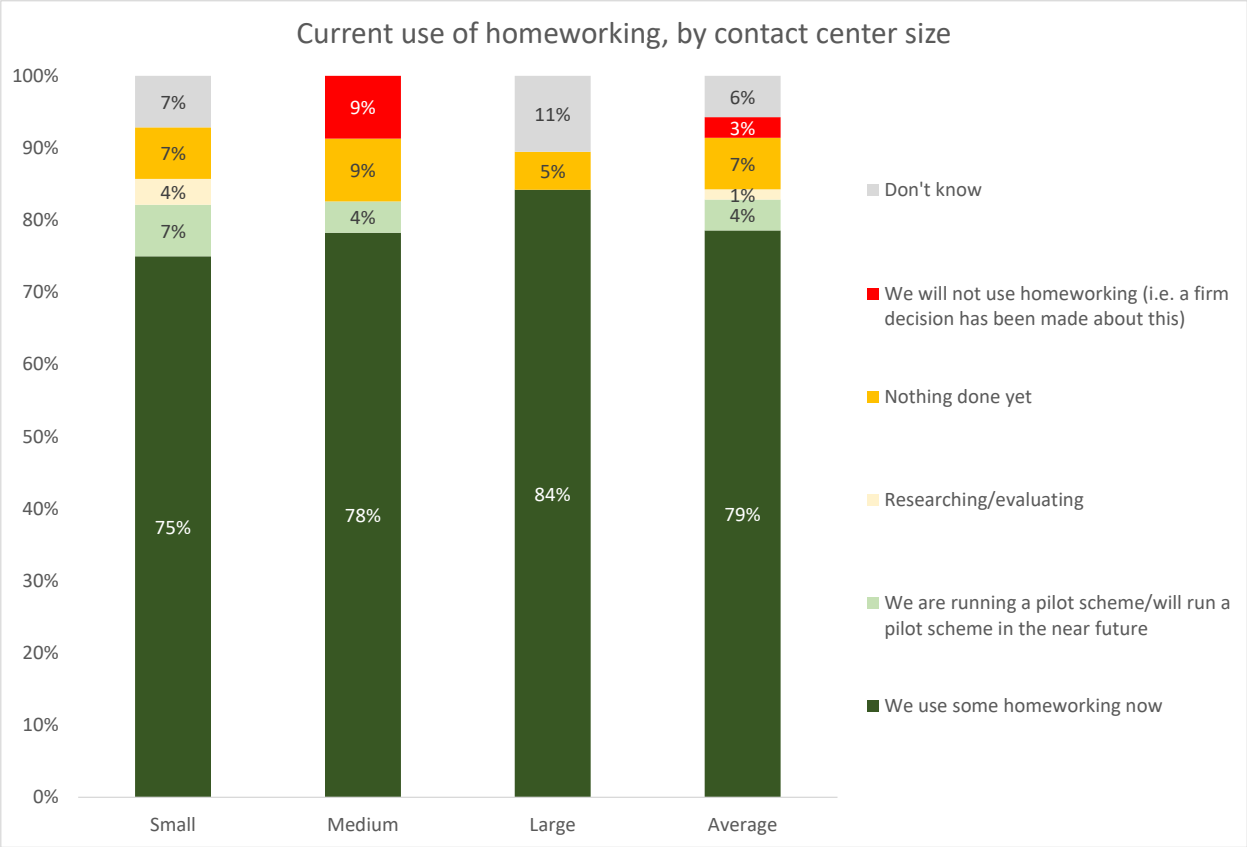
Figure 84: Changes in use of homeworkers, 2007-Q4 2022

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%
Q2 2017	52%	15%
Q2 2018	47%	13%
Q3 2019	48%	13%
Q2 2020	92%	71%
Q4 2020	78%	66%
Q4 2021	83%	82%

There is little real difference in the use of contact center remote working when considering the size of the operation.

9% of mid-sized operations claim that they will not use remote working.

Figure 85: Current use of homeworking, by contact center size



Survey respondents were asked what their expectations of remote working are for 2022.

The proportion of agents working at home (either full-time or in a hybrid model) is expected to be 68% (down from 82% in 2021).

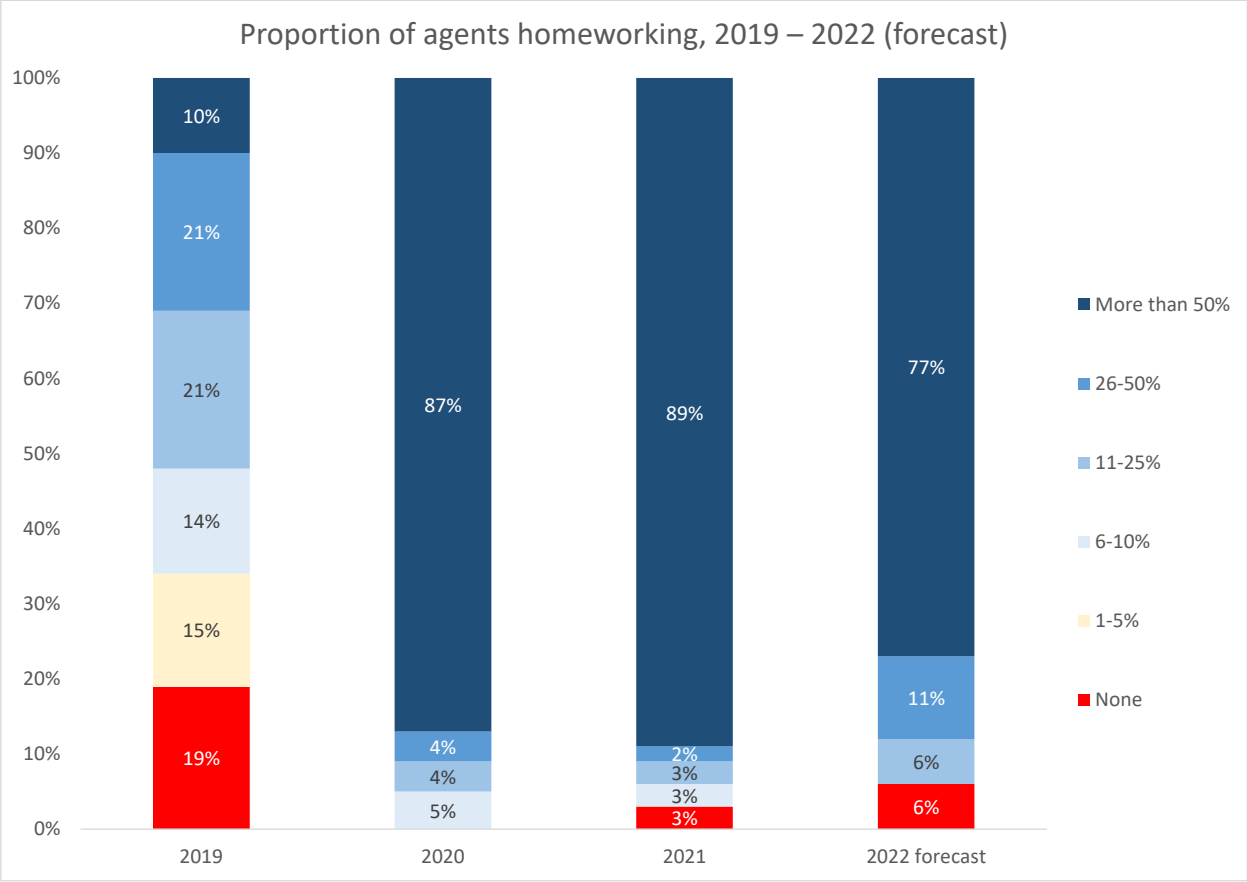
44% of contact centers expect no real change to their remote working model, 39% expect a decrease and 17% expect an increase.

The massive growth in remote working can be seen in the following chart: in 2019, 19% of respondents did not use any homeworking, a figure which was zero in 2020 and 3% in 2021.

89% of operations surveyed have more than half of their agents working at home, and it is interesting to see that there is expected to be only a very gradual decline in remote working over the next 12 months.

Of course, this is likely to be a factor of the uncertainty surrounding the future and may well change significantly once confidence in public health is re-established.

Figure 86: Proportion of agents homeworking, 2019 – 2022 (forecast)



The main homeworking benefits are usually reported to be around improved staffing flexibility and improved ability to handle overflow or unexpected volumes of traffic: 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.

This is certainly still the case, but of course the opportunity for business continuity that remote working provides is very clearly top of the agenda at the moment.

Figure 87: Most important benefits of homeworking, (respondents using homeworking now)

Benefit	Score from 10	% scoring 9 or 10
Disaster recovery / business continuity	9.5	96%
Staffing flexibility	8.1	62%
Reduce staff attrition	6.9	45%
Incentives for staff	6.7	50%
Overflow / call spikes	6.5	37%
Scarce skills	5.2	11%
Seasonal demand	5.1	20%
Organizational environment goals	4.0	7%
Reduced equipment and building costs	3.8	5%

To some extent, homeworking is also credited with reducing agent attrition, as 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.

When considering the inhibitors to homeworking, concerns over security and fraud were stated by 1 in 3 respondents to be the greatest hurdle, especially in the financial services sector, which is noticeably less enthusiastic in general about homeworking.

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 payment card application, such as a cloud-based solution, 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.

There is also some concern that it would be difficult to manage homeworkers effectively from a remote location, which 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 parents 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.

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.

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 – possibly 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.

One of the previous greatest inhibitors to homeworking was that there was not seen to be a need to change the status quo: many respondents did not believe that homeworking would help with any business issue that they face. Clearly, the events of 2020 have reversed this opinion.

MANAGING REMOTE WORKERS

Having the correct technology in place to handle customer locations is only the first step in remote working, with success also dependent upon:

- the supervision and measurement of performance and quality
- effective intra-team communication
- targeted and effective coaching and training
- accurate workforce management, if possible including the flexibility to alter scheduling on an ongoing real-time basis
- motivating staff for whom homeworking is not a desired choice.

In situations where remote working has been forced upon the business rather than being part of its chosen customer communication strategy, processes and policies may not already be in place. Management teams should focus upon delivering simple and easy-to-follow guidelines for new homeworkers, and roll out more granular and complex updates as and when they are agreed upon.

Quite apart from the day-to-day operational guidelines, key policies may include:

- what is expected of staff when they are working from home (i.e. timekeeping, the frequency of virtual team meetings and one-to-one coaching sessions)
- a revision of key performance metrics to reflect the new reality: it may be better in the first instance that performance management is simplified, for example the number of customers handled or sales achieved, rather than a more complex scoreboard with multiple targets
- details on how targets and appraisals will be met and carried out going forward, and how any drop in performance or adherence will be handled
- management and supervisory advice on how to build trust with their teams without over-managing
- clear guidelines for homeworkers on the use of technology must be provided – whether their own or the company's – including detailed guidelines on secure and appropriate use inside and outside of working hours. This should also include direction on infosec, including working from unsecured Wi-Fi networks and making sure that any devices are password-protected and locked whenever the agent is not actively using them, as well as password and phishing policies.

Most contact centers have centralized teams which are physically located in a group that is able to communicate effectively with each other in real-time. Remote working creates an obstacle to this type of communication, but there are numerous methods to overcome this.

Use of an Instant Messenger such as WhatsApp installed on the agent desktop allows agents to see who else is logged on and talk to them or ask for help, including their supervisor and other members of the team. The aim is to replicate the centralized contact center model's quick and informal ability to request assistance or receive support whenever it is needed, rather than waiting for the next official scheduled meeting. However, supervising manager should make sure that they are not virtually hovering over the shoulder of the agent, as if they were waiting for them to make a mistake: it's a fine balance. Agent performance dashboards replicating what they are used to seeing in the centralized contact center can also help motivation.

Posting information to online message boards on the agent's desktop is a good way of communicating up-to-date information, as well as supporting the feeling that the agent is working as part of a larger team. It is important to set expectations on the level and type of communication that agents and supervisors will have on a daily basis while remote working. If remote working is new for employees, it will be helpful if specific communication activities can be scheduled, at least in the early days when people are still finding their feet. It is almost certain that in times of crisis, some of the metrics which are entirely appropriate to use within a centralized contact center structure may be detrimental to the performance and morale of remote agents, so management should concentrate on outcomes rather than other metrics in order to reduce the stress upon agents. It may well be worth considering implementing gamification in order to encourage healthy competition and to make agents feel as though they are still part of a wider group.

Real-time communications are vital to supporting remote workers, in that they:

- deliver key communications about the company
- can be used to address concerns or rumors: a short video message from a C-level executive reassuring agents about the performance of the company and its long-term future can be helpful in reducing anxiety and improving focus. Large 'town hall' meetings can keep everyone up-to-date on the latest developments and make them feel that they are still part of the larger corporate body
- bring agents up-to-date with issues faced by other agents in near real-time, in order to prepare them for upcoming calls
- prevent agents from feeling that nobody cares what they are doing and that they are unsupported by making sure that the tools used offer the opportunity for immediate assistance from supervisors
- alert agents to be ready to move between channels as and when required
- encourage agents to speed up calls in times of extremely high call volumes

- make sure that they are adhering to schedule, and address any outlying performance issues (e.g. a series of extremely long calls).

Many businesses consider it best practice to take a morning meeting over video, involving all members of the team, in order to discuss any issues arising over the past day and discuss the type of work that the coming day is likely to hold. Scheduling a few free minutes at the end of the meeting to discuss personal matters and have a gossip has been highly recommended by contact centers who have only recently been forced into the remote homeworking scenario. Ideally, each meeting should have a fixed agenda which realistically reflects the amount of time each item should take and have a strong chairperson to enforce this, allowing time at the end of the meeting for socializing.

One-to-one video coaching sessions should be considered seriously: agents are likely to be feeling more isolated emotionally as well as physically, and a face-to-face meeting over video can help with this, especially for assessment and feedback where agents may be feeling uncertain about themselves. Recording all or part of the feedback session may also be useful for the agent to review in their own time.

Some agents will require more support than others, and the same remote management techniques do not work for every agent type. For example, the “farmer / hunter” model of salespeople is well-known, and there are other behavioral models for other contact center employee types that take into account their confidence, communication skills, risk-taking, and attention to detail amongst other factors. Some of these character types prefer autonomy, but others thrive upon group interaction, whereas others may become stressed and anxious about not having the support around them with which they feel comfortable.

Consider how experienced agents can become buddies or mentors to less experienced agents. If agents have particular experience of remote working already, they should be encouraged to share their thoughts and tips with the rest of the team.

In a remote working environment, having classroom-based lectures of an hour or more (even virtually) is usually less effective than it is in a shared physical environment. Shorter sessions of live video could certainly be used, but businesses should also consider implementing more computer-based e-learning and cutting training into more manageable, smaller chunks.

Consider implementing a real-time customer feedback application which can show each agent what customers are thinking and where to focus any improvements. Sharing the performance of the team and individual regularly throughout the day provides motivation and feeling of belonging to the team as if they were working in a centralized environment.

REMOTE WORKING SECURITY

Remote working may create some new issues for security, and it is desirable to be able to replicate the existing centralized security measures within the new way of working as far as possible. Since the adoption of chip and PIN cards, many fraudsters have shifted focus onto the contact center, where personal information, card numbers and other sensitive personal data flows.

It has been estimated that more than 70% of agents still require customers to read payment information aloud over the phone, despite available technologies for more secure data transmission. There have also been numerous cases of agents having been approached directly to share customer information.

Security commentators typically report human error as the main cause of data breaches. The Cyber Security Breaches Survey, conducted by Ipsos Mori on behalf of the UK Government, revealed that 72% of reported breaches related to staff receiving fraudulent emails. Security systems and processes rely heavily on having informed, motivated and supportive personnel behind them i.e. creating a human firewall. Without a strategic 'push' to keep employees supported, engaged and aware, staff can turn from being the greatest asset to a serious vulnerability. Remote working increases this risk as agents can feel isolated from their usual way of working, and may not receive the ongoing reminders about following security processes that are required to keep everyone's guard up. Staff can fall prey to phishing attacks due to pressure and lack of training, and in times of crisis – where the 'new normal' is more than just a phrase – they may find themselves taken advantage of.

Businesses should strengthen their existing security, and look for potential weaknesses in the remote working landscape that fraudsters could exploit. If a contact center is only protected with knowledge based authentication, where the answers are readily available from previous data breaches, fraudsters will exploit that unprotected channel. Multifactor antifraud solutions and strong authentication methods should be considered, as well as extra security measures, such as restricting homeworker access to certain customer data. There are also numerous ways of taking card payments without involving the agent in any way.

On the face of it, homeworking presents an increased security risk for businesses, for the simple reason that if card details are being read out within the call, no-one can physically verify whether the homeworker is writing these down, or if the agent is copying down other personal information. It is also impossible to stop homeworkers bringing phones into their home office which could be used to photograph or record sensitive customer information.

There is also a greater risk from the potential use of unsecured, unencrypted data and voice transmissions using the public Internet or low-grade Wi-Fi security protocols. Even if the agent is blameless, it is possible for others in the environment to eavesdrop on the conversation or otherwise have access to records if the agent steps away from the desk for a moment, or even to install keylogging software or hardware.

As such, businesses may wish to use a strongly encrypted virtual private network for the transmission of voice and data traffic, and make sure that personal firewalls, malware and virus protection software are fully operational and up-to-date, without requiring any manual intervention from the agent. Voice and screen recording should be compulsory, and where possible, supplied hardware should not allow the storage of data on unencrypted or removable media such as memory sticks, although this is obviously more difficult to enforce with agent-owned equipment.

Some of the best practices around managing the infosec of homeworking agents include:

- Agent hardware needs to have the same level of malware, antivirus and firewall protection as computers used within the contact center environment, and these need to be automatically updated and security patched without the agent being able to disable or delay any updates. Where possible, agent hardware should not have any capability to move data onto removable hard drives

- Agents should have clearly defined responsibilities regarding the physical security of all equipment in their homes, and understand the importance of keeping the workspace secure (e.g. not using sticky notes to write passwords on)

- Wireless network, VoIP and network encryption protocols used should be up to the current published standards, as these frequently change. Any supporting hardware or infrastructure should be upgraded or changed at the same time as the central contact center's infrastructure. Ideally, the public Internet should not be used for the transmission of voice, with analogue landlines being preferable if encrypted VoIP systems are not available

- Agent user IDs and passwords should be changed frequently, with multi-factor authentication being used, in order to verify that the person typing the password is actually the authorized user (this may be an additional requirement to those normally needed within the contact center, where other employees will be immediately aware of the presence of an unauthorized user)

- Regular on-site visits to the home environment are necessary to identify any other potential risks, where possible.

More information about remote working can be found in ContactBabel's free report, "The Inner Circle Guide to Contact Centre Remote Working".

DIGITAL, CLOUD AND THE CUSTOMER OF THE FUTURE

More choice for customers over the way in which they contact a business should mean a better customer experience. In fact, many times the opposite is true. Having multiple channels can simply offer businesses more opportunities to get things wrong.

If a business doesn't offer a channel that its competitors do, it's a problem. If the channel doesn't meet the required quality, it's a problem. If customers have to change from one channel to the other to get their issue resolved, it's a problem.

This section of the report will investigate the effect of today's omnichannel and cloud environment on the customer experience, and suggest ways in which businesses' and customers' very different requirements can be aligned so that everyone wins.

This section of the report considers:

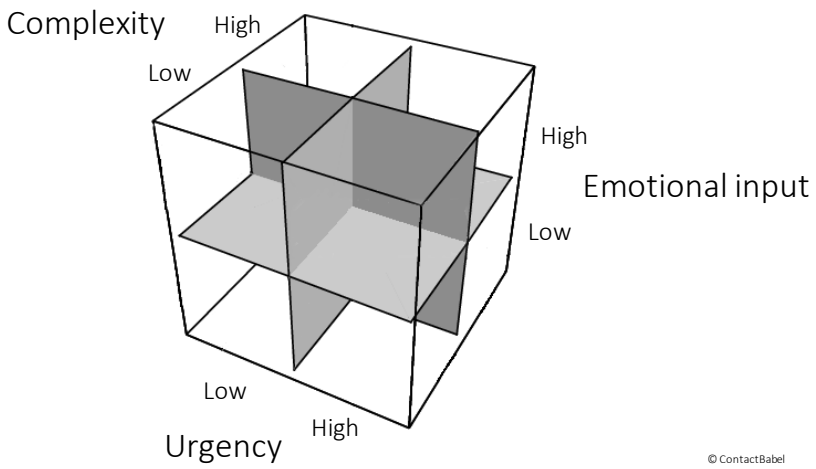
- Omnichannel
- Digital Channels
- Artificial Intelligence and Machine Learning
- Cloud-based Contact Center Solutions.

THE CUSTOMER INTERACTION CUBE: UNDERSTANDING CUSTOMER REQUIREMENTS

There are two main factors that influence contact centers within any vertical market: the commercial activity within that sector, and customers' requirements and preferences for contacting organizations. It is not only the nature of the specific business vertical market that needs to be considered. The urgency, complexity and emotional importance of the interaction is perhaps at least as important as the nature of the business that is being called: for a customer calling a bank, a simple balance request and an urgent call about the progress of the mortgage application are very different types of call, and should be treated as such.

The 'Customer Interaction Cube' is a structure developed to categorize the different types of customer interactions that businesses have to handle, considering the urgency, complexity and emotional input of the interaction from the customer's perspective. Businesses could use this to analyze their volumes of each type of interaction, cross-referencing it with other variables such as the time of day these types of interaction are received, and the customer demographic preferences seen elsewhere in this report in order to support the relevant channels through the promotion of alternatives to live calls, and the correct levels of resourcing. Doing this will not only improve the customer experience, but also reduce the cost of service through anticipating the likely resourcing required and even proactively engaging with the customer on lower cost channels first.

The Customer Interaction Cube



Using this 2x2x2 cube as a structure, there are eight types of interaction, a combination of either low or high urgency, complexity and emotional input. Our hypothesis is that each of these eight interaction types may best be suited to specific channels, and that both business and customer could benefit from matching channel with interaction type.

The examples shown below of various scenarios and the channels most suitable for these are suggestions, and will differ between customer types, businesses and vertical markets, but may offer a framework for readers to build their own scenarios.

Figure 88: The Customer Interaction Cube and suggested associated channels

Emotional importance	Urgency	Complexity	Examples of interaction	Primary channel	Secondary channel
Low	Low	Low	Meter reading; casual product research	Self-service	Web chat
Low	Low	High	Instructions on how to program a TV remote; find out about proposed planning / house building	Self-service	Email
Low	High	Low	Top up mobile credit; check payment has been made	Self-service	Phone
Low	High	High	Details of how to make an insurance claim; understand mobile roaming charges before imminent trip abroad	Web chat / self-service	Phone
High	Low	Low	Book train tickets for important engagement	Self-service	Phone
High	Low	High	Complaint about incorrect billing	Phone	Email
High	High	Low	Simple question about imminent desired purchase (e.g. delivery, personalization, return policy)	Web chat	Phone / social
High	High	High	Household emergency advice; 911	Phone	Web chat

There are many other variables that could be considered alongside these that will impact upon the suitability of channels:

- Demographics
- Ownership of smartphone / broadband impacts upon channel availability
- Time of day (i.e. is this an out-of-hours inquiry? Is the customer at home, at work, or travelling?)
- Whether the request is specific to an account, or a generic issue (i.e. is it necessary to pass through security first?).

While the 2x2x2 cube can help businesses to estimate the current and potential volumes and resourcing required to serve the customer base, it is important to remember that similar types of customer interaction may require very different handling depending on circumstances. For example, a query about product delivery may be a small part of a wide-ranging research process carried out by a particularly thorough prospective customer, or may be asked by a customer who has just realized he's forgotten about an important birthday and needs immediate, accurate information.

"The US Customer Experience Decision-Makers' Guide" contains primary research on customer channel preferences in cases of high emotion, urgency or complexity, and can be downloaded free of charge from www.contactbabel.com.

McKinsey talks about the 'moment of truth' in customer interactions[10], often occurring when the customer has an unexpected problem or has a high emotional stake, when long-term loyalty and customer advocacy can be won or lost depending on the outcome and the way in which it is handled. Businesses and their representatives should be aware that these relatively rare occurrences offer great opportunities. Recognizing and handling these moments of truth appropriately – moments which are defined as such by the customer, not the business – will have a far greater long-term impact on customer satisfaction and loyalty than the dozens of competently-handled, forgettable interactions that may have happened previously.

Although the 2x2x2 cube gives some indication of the types of interaction that are more likely to be 'moments of truth', which businesses may choose to be handled by their more experienced and empathetic agents, they are by their nature difficult to predict. Current real-time speech analytics solutions can indicate a measure of stress in the customer's voice, flagging this up to the agent within the call, but agents should be in any case capable of recognizing this without technology. In any case, if the customer has already tried two or three other channels without success, even the most competent and empathetic agent will find it difficult to turn the moment of truth around positively.

[10] http://www.mckinsey.com/business-functions/organization/our-insights/the-moment-of-truth-in-customer-service

For this reason, a true omnichannel approach is vital which offers the same high level of service and knowledge through each channel. Equally important is the freedom for agents to act in way appropriate to the situation – for example, if a 'high-emotion' interaction happens on social media, which can't be handled on that channel (e.g. it needs to go through security, or is too complex and lengthy for a non-voice channel), the agent should be given the license to place an outbound call to that customer in real-time, rather than advise them to call the contact center. While this will impact upon the social media channel's service levels while the agent is away from it, the moment of truth offers the opportunity to lock-in that customer's loyalty. For contact center operations traditionally run on a structured command-and-control basis, this may sound chaotic, but businesses have to decide if the occasional relaxation of their own procedures is an acceptable trade-off for providing the customer with something that they truly value. Agents need to be given carte blanche to deliver in 'moments of truth', and the training and support to recognize when this is happening.

This is not to say that 'moments of truth' necessarily have to be handled by a live agent. The popularity of self-service runs deep in the customer base, and the only reason that many customers abandon self-service at the point of crisis in order to ring the contact center is because self-service cannot deliver what they need. If companies focused their efforts on providing more sophisticated and reliable self-service applications, there is no reason why these could not deliver at least as much customer benefit at these moments of truth.

For example, if a passenger misses their plane, they are then likely to engage in a long and complicated discussion with a live agent (either at the airport or in a contact center), involving alternatives, connections and payments. If, on missing the last call for the plane, the customer were immediately provided with an SMS or email detailing the various options available to them, which they could then select and rebook at once, this would be more convenient for the customer and significantly reduce the cost of service to the business. Perhaps more importantly, the customer would feel that the airline is looking out for them, creating long-term loyalty out of the negative experience of missing a plane.

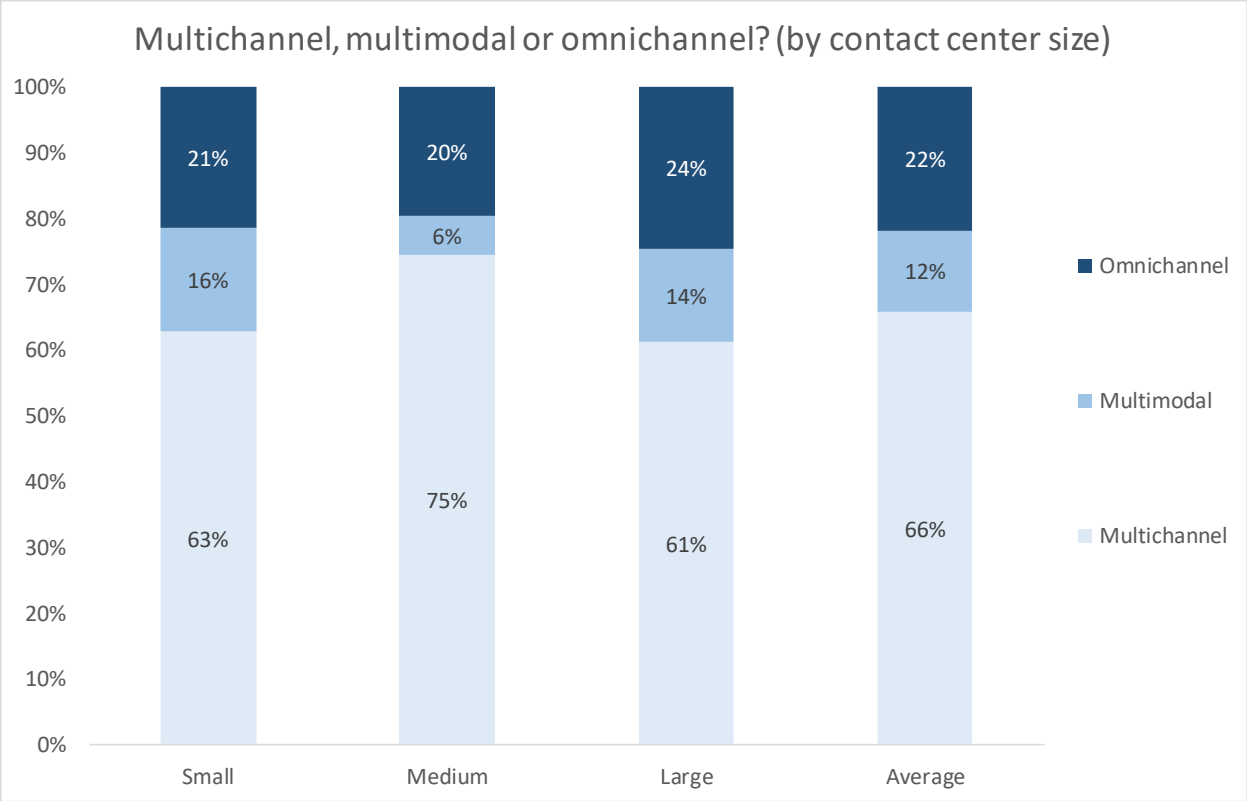
OMNICHANNEL, MULTICHANNEL OR MULTIMODAL?

Omnichannel refers to the goal of customers being able to contact a business (and be contacted) through any channel – switching channels 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 inquiry. Relevant information follows the customer across channels and interactions".

Figure 89: Multichannel, multimodal or omnichannel? (by contact center size)

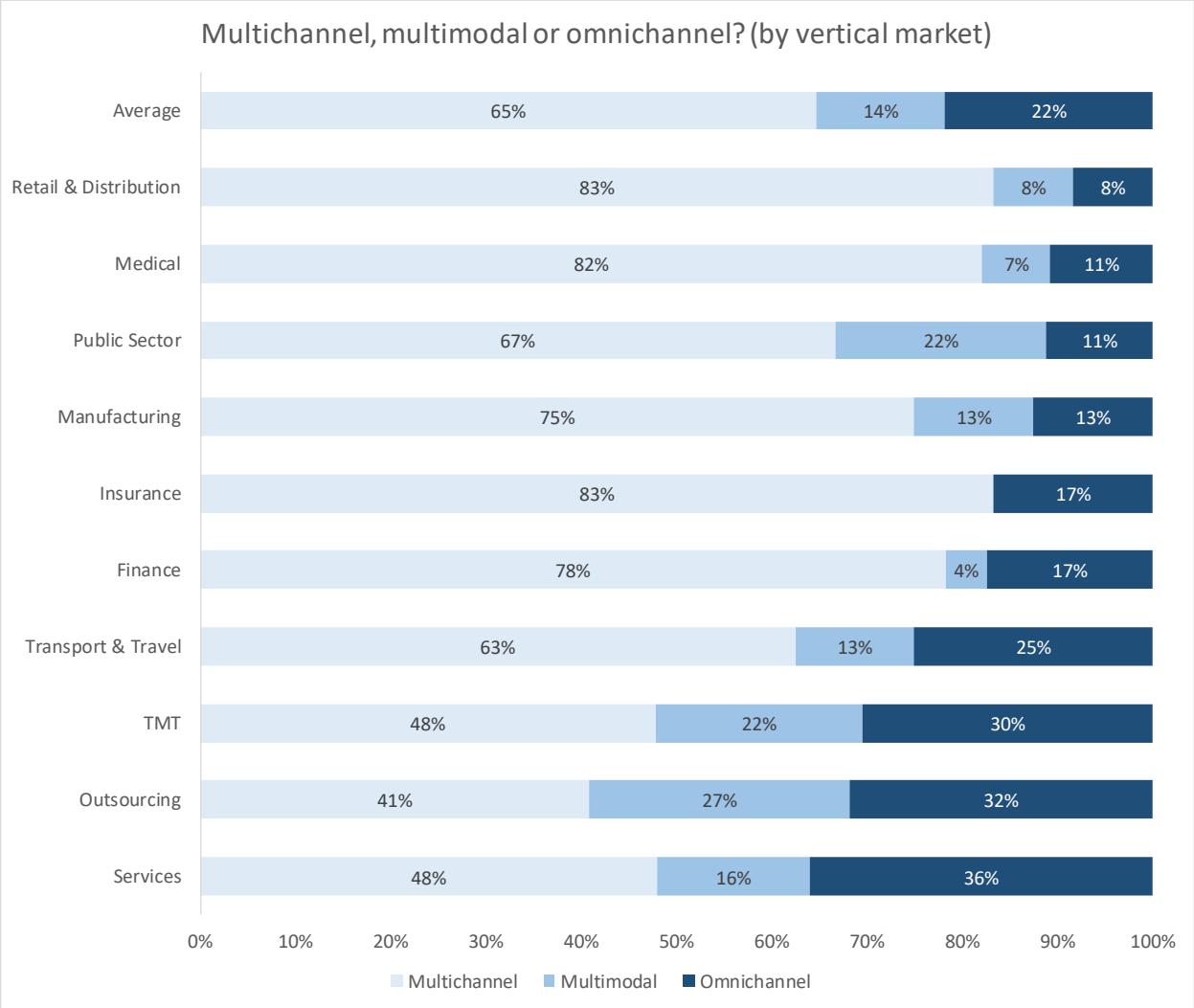


22% of respondents described themselves as omnichannel, with 14% assessing themselves as multimodal and 65% multichannel (compared to last year's figures of 23%, 16% and 61% respectively).

Mid-sized operations were less likely to describe themselves as either omnichannel or multimodal: smaller operations tend to have a higher proportion of digital interactions than larger operations and can often move more nimbly than large contact centers, whereas the largest operations will tend to have greater levels of investment in technology and business processes.

At a vertical market level, outsourcing and services respondents were most likely to describe their operations as omnichannel. Few respondents from retail & distribution, medical or public sector describe themselves as omnichannel.

Figure 90: Multichannel, multimodal or omnichannel? (by vertical market)



FROM MULTICHANNEL TO OMNICHANNEL

Without a single platform or customer interaction hub, the complexity of handling multiple channels increases greatly each time 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 (often, voice) to the permanent detriment of others.

The universal queue approach – which has been around for many years – can set priority levels to incoming calls, e-mails and chats, and offers the 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.

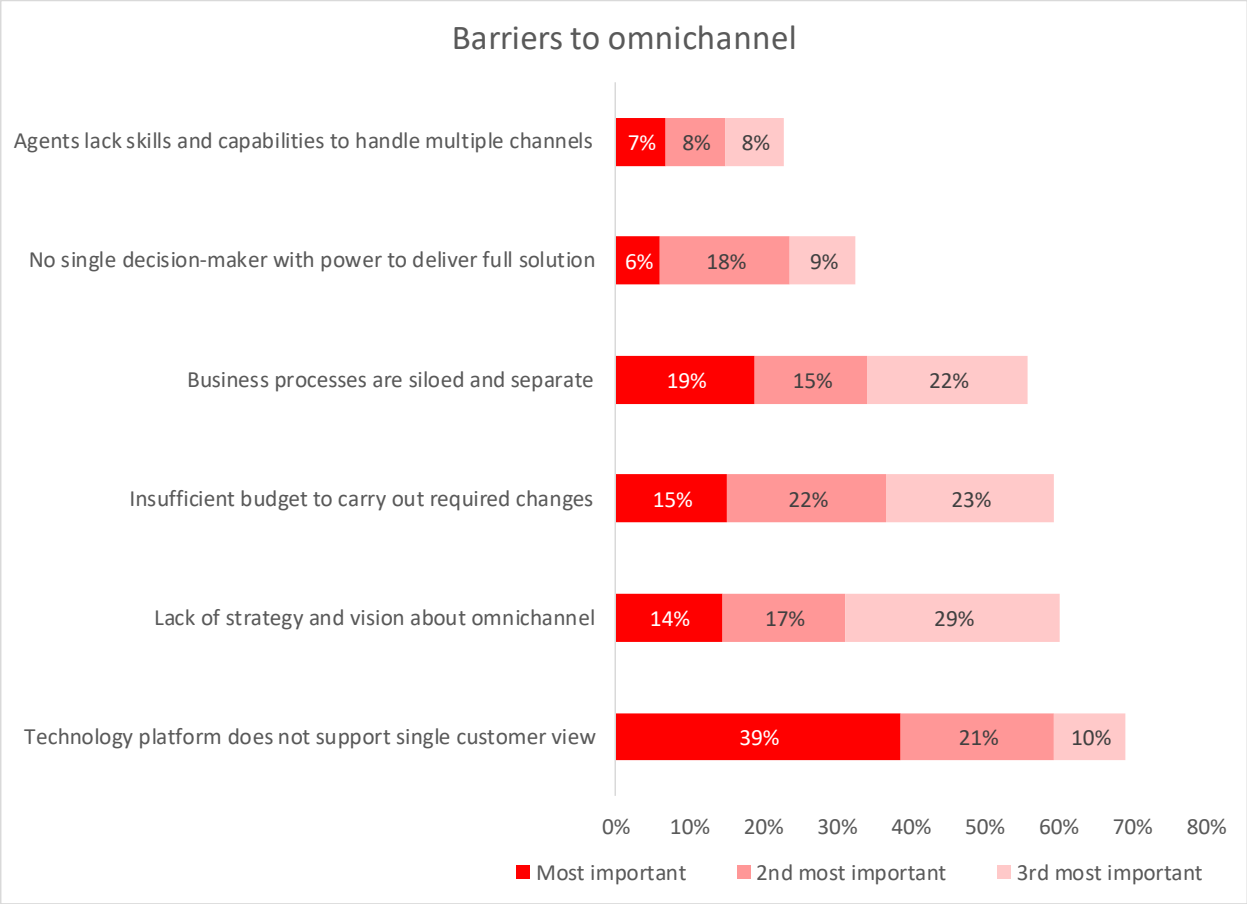
Such is the theory. The reality for most businesses is that the requirements of their customer base, along with the opportunity to cut service costs have thrust numerous new channels into the customer service mix, leaving them with the headache of deciding how to implement and integrate new technology, recruit and train agents appropriately, and forecast and schedule the right staff to handle these new types of interaction. The easiest and quickest option has been to treat each channel separately, having agent silos 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.

The "omni" element to omnichannel (meaning "all") can be understood as reflecting the customer's experience of interacting with the business: to them, an organization's separate internal workflow and siloed systems are not just irrelevant, they are unseen. Omnichannel requires the breaking down of boundaries, not only between channels but also the ownership and management of the various relevant business processes and departments affected by customer interactions. This is why successful omnichannel implementations will require a senior management sponsor, with the authority and remit to make changes in any and all appropriate business units.

Respondents believe that there are four 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
- there is a lack of strategy and vision about what omnichannel can deliver.

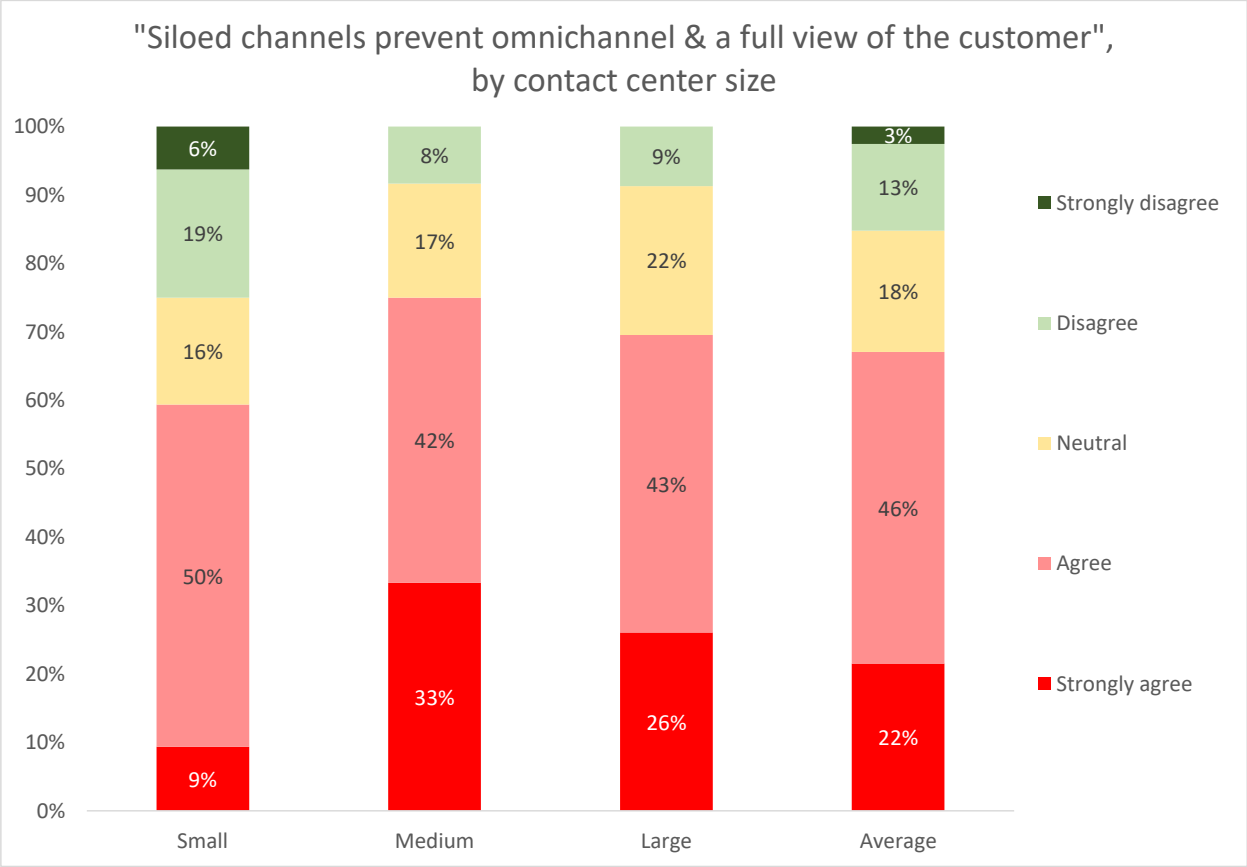
Figure 91: Barriers to omnichannel



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.

Figure 92: "Siloed channels prevent omnichannel & a full view of the customer", by contact center size



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.

Concern that agents lack the skills and capabilities to handle multiple channels is not seen as one of the major inhibitors, as the majority of respondents do not feel that this holds them back from offering customers a full omnichannel experience.

33% of respondents state that not having anyone with enough power to deliver a full omnichannel solution is a top 3 concern for them. One of the major omnichannel issues to overcome 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, and the path to true omnichannel even more fraught.

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 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, headed by someone senior enough to cut across boundaries.

APPROACHING THE OMNICHANNEL CHALLENGE

- Gather as much information as possible from customers, through analytics, customer surveys or preferably both: many businesses are doing this through a voice of the customer program. The aim is to understand which business processes are working, which are suboptimal and perhaps most importantly, which are most valued by the customer. Omnichannel is a journey, so focusing upon those areas which are most obviously broken will make sense, both from the customer's perspective and also in proving the concept to stakeholders within the business

- While the vision and strategy should be distinct and all-encompassing, the implementation can be done in phases that immediately impact upon the customer experience and prove ROI

- Set measurable objectives, using metrics that are directly related to the desired outcome. For example, if one of the aims of the omnichannel project is to reduce customer effort, it would make sense to consider first contact resolution rates, rather than agent occupancy rates, for example. Metrics that are able to demonstrate ROI should be chosen wherever possible, in order to demonstrate to and reassure stakeholders elsewhere in the business that the project is achieving financial success. As elements of the omnichannel journey go live, behaviors and outcomes that support these metrics should be tangibly rewarded

- As with any large, cross-departmental project that may need to alter the culture of the organization, omnichannel will require a project champion at a senior level, with the authority and vision to influence and create change wherever required, backed by and reporting to a sponsor at the highest level of the organization. Create a cross-functional organizational overlay that represents the interests of each interested party

- Identify as many of the customer journeys as possible (and their business owners), tracking them across channel, into the back office, financial and distribution systems, and back out towards the customer. If some channels are owned by different departments (e.g. social media is often run by marketing), pitch the benefits of having the contact center deal with customer interactions, allowing the marketing department to concentrate on their core job

- Using a tool such as the 2x2x2 cube matrix shown earlier, identify volumes and uses associated with each customer channel, segmented by variables such as customer demographics and intent if possible. Identify the potential moments of truth and the knowledge and data required at each stage in the journey to identify gaps

- Make a point of learning from the people who have actually been handling interactions over different channels, and have the contact center agents work alongside them to understand what's different in these channels

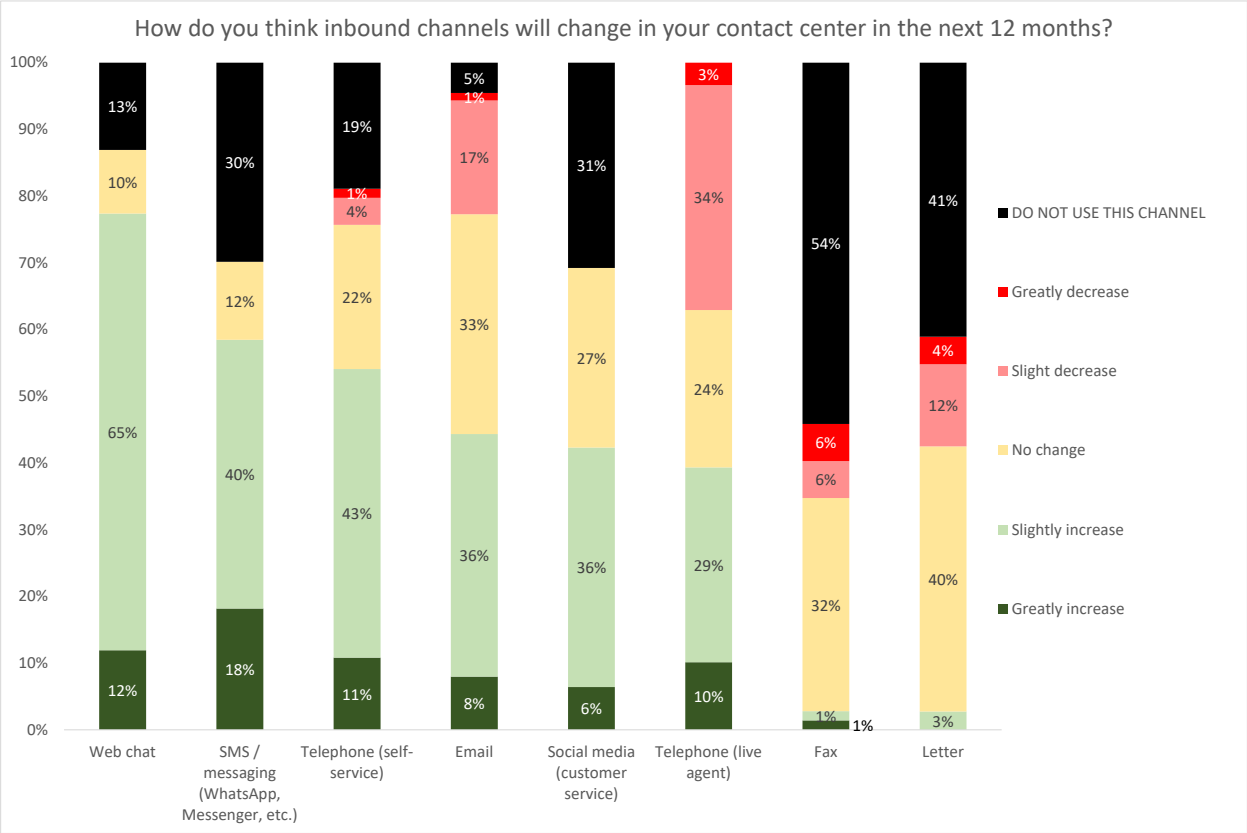
- A platform or hub will be required that allows every channel to access and update the customer's master record as and when required, with real-time synchronization being of vital importance. Within each individual channel, consider the potential use of further automation: for many businesses, non-voice channels still rely upon manual input and there are considerable opportunities to reduce cost and improve data consistency

- Accept that omnichannel customer contact is an ongoing process, to be revisited and continually improved as the nature of business, customer preferences and new channels further evolve.

CHANGING CHANNELS

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 93: 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 slight net decline in our respondents' eyes, although still have their place in the likes of the insurance, medical and manufacturing industries.

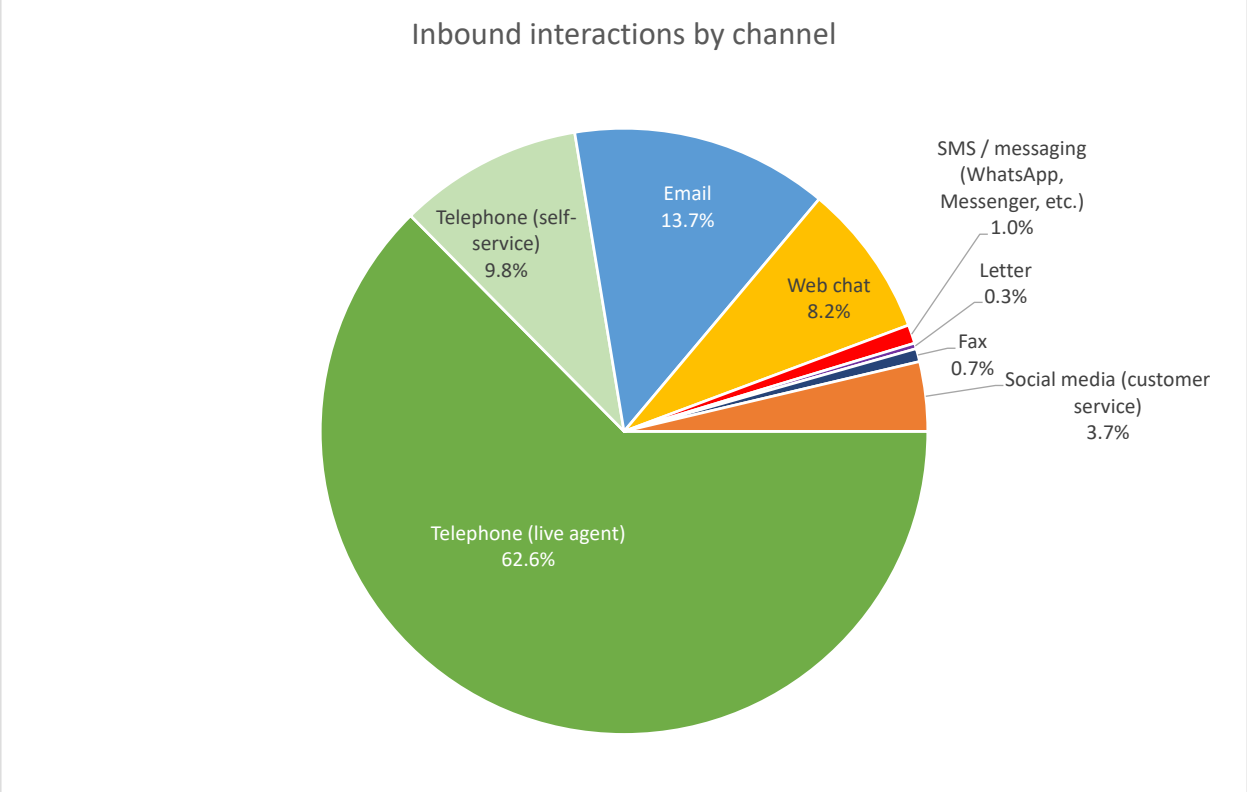
More respondents believed the live telephony channel volumes would increase (39%) than thought they would decrease (37%), which is a reverse on recent years' findings, and suggests that the telephony channel still has a great deal to offer.

Strong growth is once again expected in web chat customer service interactions, with email volumes still predicted to grow although at a lower rate than previous years. Messaging – which includes SMS but which will mainly be driven by WhatsApp and Messenger – is expected to show rapid growth.

Telephony self-service is expected to grow once again this year, 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, around half of respondents offer an app or mobile service option for customer service.

The previous chart's real message is that channels aren't being replaced – even letters and fax will continue to be supported in some operations – 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.

Figure 94: Inbound interactions by channel



The proportion of live inbound interactions by telephone continues to drop slowly. Telephony self-service interactions rises back close to its long-term historical figure of 10%.

After growth over the past two years, the email channel has dropped a little back to under 14%.

Web chat showed very strong growth, up from 4.7% in 2019 to 6.8% in 2020, and 8.2% in 2021.

Social media also rises from 1.7% in 2019, to 2.5% in 2020 and up to its highest figure of 3,7% in 2021. As 61% of respondents using this channel expect growth next year, it would be a surprise if social media did not continue to grow in volume to some extent.

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 transport & travel sectors, with respondents in manufacturing, TMT and retail & distribution once more this year being significantly under the average with their levels of telephony, as they often deal with higher levels of email, and increasingly, web chat.

Figure 95: Inbound interactions that are telephone (agent), by vertical market

Vertical market	Mean average	Median average
Public Sector	89%	75%
Insurance	81%	81%
Outsourcing & Telemarketing	66%	75%
Medical	66%	65%
Technology, Media & Telecoms	63%	70%
Retail & Distribution	61%	60%
Services	58%	60%
Transport & Travel	58%	58%
Finance	52%	65%
Manufacturing	41%	48%
Average	**62.6%**	**65%**

WHY AREN'T CHEAPER CHANNELS ACTUALLY (MUCH) CHEAPER?

In terms of customer contact, one of the traditional main rationales for any business investment has been cost reduction, assuming that any change does not have a negative impact on the quality of service. This has certainly been the case for self-service – whether through IVR or website – where after the initial investment has been made, cost per interaction is extremely low.

When emails started to be used as a customer service channel in the late 1990s, the expectation from businesses was that this would be a low-cost alternative to voice. In fact, the reality for most businesses and customers was that it was a low-quality alternative to voice, and that it took just as much time and effort (and thus, expense) to answer an email as it did a phone call.

Looking at figures from hundreds of US contact centers, it seems fair to say that although there is some cost differential between telephony and the digital channels, it is by no means dramatic. One of the main reasons for this is that there is still a relatively low level of automation being used in many businesses. For emails, it is also the case that if the query is not answered satisfactorily within a single response, the time and cost associated with multiple replies and possibly phone calls is soon greater than if the customer had simply called in the first instance.

Figure 96: Cost per inbound interaction (phone, social media, email & web chat)

Channel	Mean	1st quartile	Median	3rd quartile
Phone	$7.29	$8.47	$5.50	$3.50
Email	$6.35	$8.00	$4.50	$3.00
Web chat	$6.03	$9.00	$5.00	$2.00
Social media	$6.97	$12.50	$6.00	$2.50

Even if, inexplicably, businesses did not increase the level of automation and sophistication with which they answer web chats and emails, customers' appetite for choosing to communicate with the business in the way in which they wish (often, a non-voice method) would make any reversal of the multichannel/omnichannel strategy impossible.

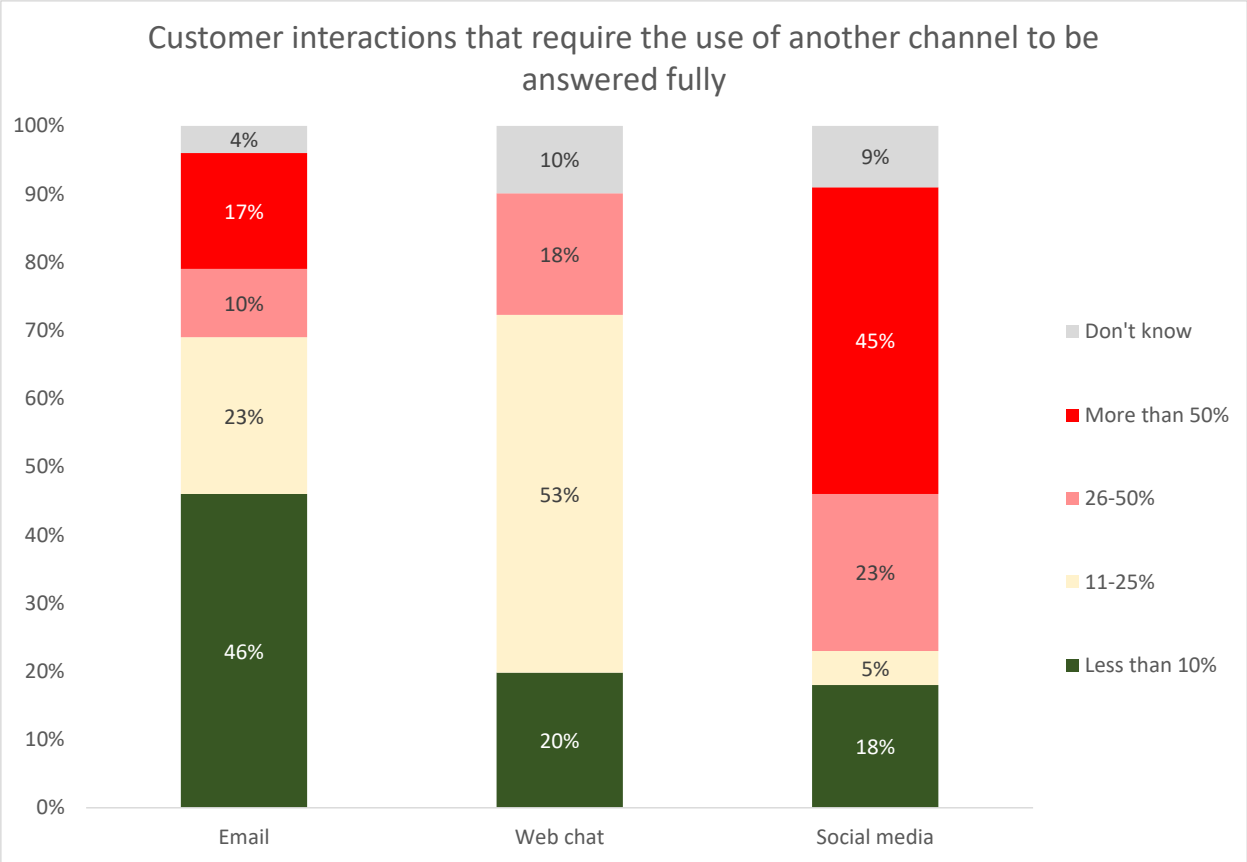
The next chapter, "Digital Channels", looks in-depth at social media, email and web chat. Within this Omnichannel chapter, the focus is upon these channels working together seamlessly to give a closed-loop customer experience, where at all stages, the relevant information is available to whatever system of agent needs it.

Customers place value upon not having to re-explain issues or re-enter information if they have to move between channels to complete an interaction with a business, and although a seamless transition between channels is of growing importance to the customer experience, the chart below shows that using multiple channels is still a very likely requirement for many customers and interactions.

46% of respondents state that more than 90% of emails can be handled over that specific channel, with a figure of only 20% for web chat, and 18% for social media, the latter two being lower than usual.

In fact, 45% of survey respondents state that more than half of the social media requests they receive require another channel to resolve them effectively, highlighting the previous finding that customer satisfaction is increasingly affected by whether the customer has to repeat issues across different channels. Omnichannel aims to provide a seamless transition between channels, and is ever more necessary to provide a superior customer experience.

Figure 97: Customer interactions that require the use of another channel to be answered fully



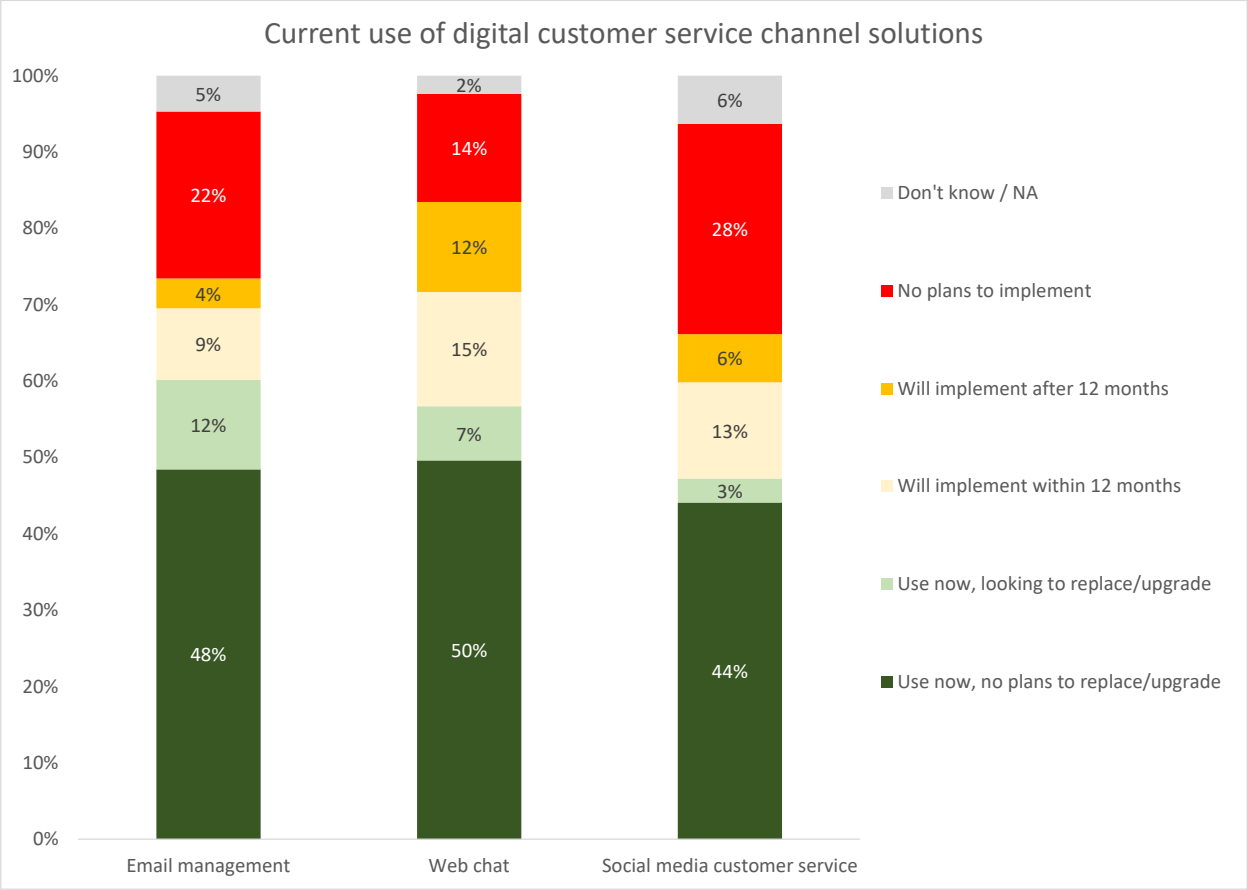
DIGITAL CHANNELS

The 'Digital Channels' chapter looks in-depth at the widely-used digital channels – email, web chat and social media – to understand their prevalence and how they are being handled, along with the service levels provided and how they compare with more traditional channels.

The following chart shows the solutions that are being used to support digital channels, with at least half of respondents using automation or agent-supporting solutions for email and web chat as a customer service channel, with social media being used by 47% of respondents.

Interest in these solutions from those not already using them remains strong, particularly for web chat.

Figure 98: Current use of digital customer service channel solutions



EMAIL

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 a decade.

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.

Email as a channel has decreased from 15.0% of inbound interactions in 2019 to 13.7% this year.

Usually, it is the B2B-focused manufacturing sector that reports the highest levels of email, and this is the case again this year, with transport & travel and retail also experiencing high usage of inbound email.

Figure 99: Inbound interactions that are email, by vertical market

Vertical market	% of inbound interactions that are email
Manufacturing	45%
Transport & Travel	33%
Retail & Distribution	17%
Services	16%
TMT	14%
Outsourcing & Telemarketing	11%
Public Sector	9%
Insurance	6%
Finance	6%
Medical	4%
Average	**13.7%**

As with previous years, emails are proportionally less important for large contact centers.

Figure 100: Inbound interactions that are email, by contact center size

Contact center size	% of inbound interactions that are email
Small	16.0%
Medium	19.5%
Large	6.7%
Average	**13.7%**

The cost of email has risen slightly compared to last year, and while it is historically a little lower than live telephony (which is around $7-8), it is considerably more expensive than a self-service session.

This may indicate that emails – in a similar way to live phone calls – are getting longer and more complex, as the easier work is handled through self-service.

Figure 101: Estimated cost per email

	Email cost
Mean	$6.35
1st quartile	$8.00
Median	$4.50
3rd quartile	$3.00

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?

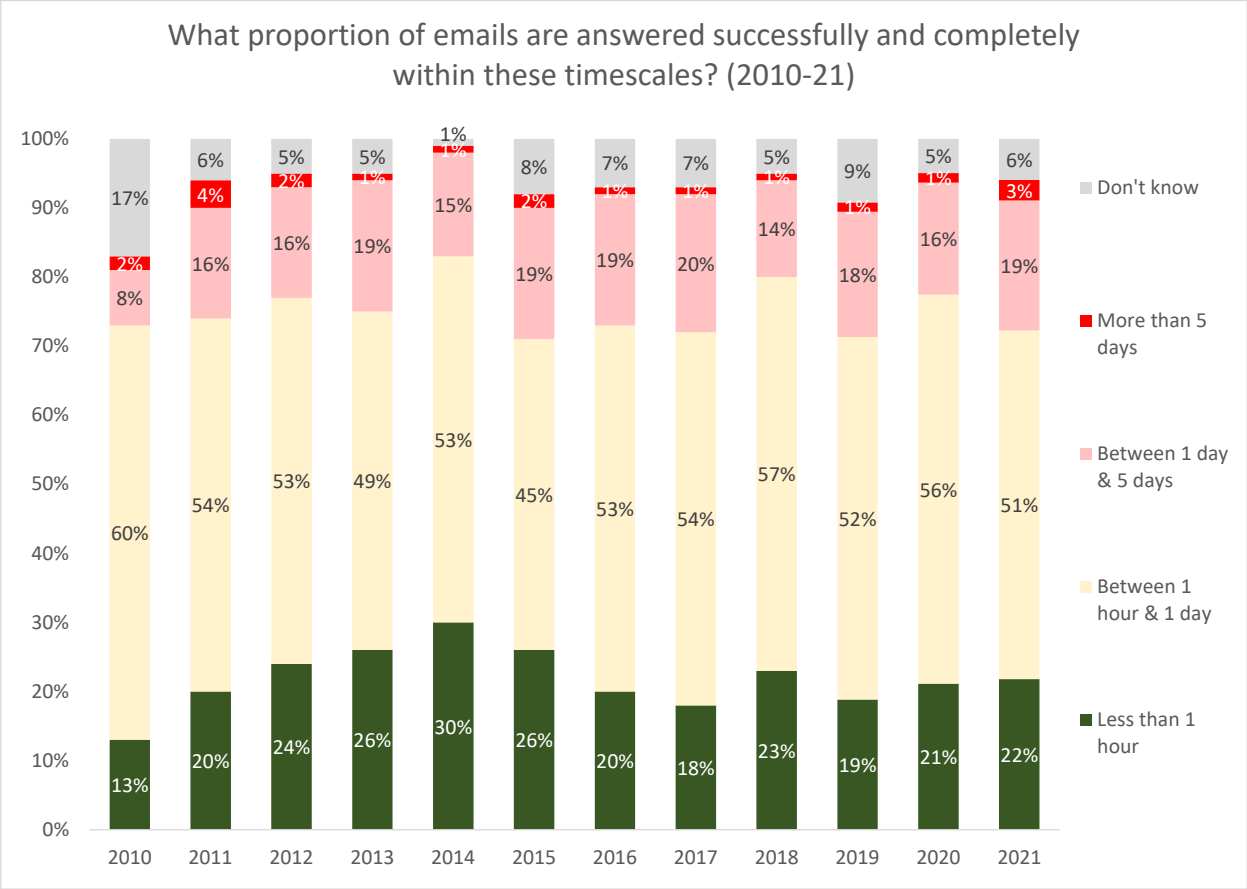
- While there is no fixed figure for email volume, as it will depend on the complexity and time required to handle each one, organizations receiving greater than 100 emails per day are likely to have issues handling and tracking them
- There are a significant number of customer telephone calls that refer 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, and although there have been steady and significant improvements in the response rates between 2010 and 2014, recent years saw email response times deteriorating, perhaps as a result of email now being used more for complex enquiries, with simple service requests being handled by self-service.

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.

2021's figure of 73% answered within one day is a slight decline on last year's figure of 77%, and the reported 22% of emails taking more than a day to respond to is the highest figure recorded.

Figure 102: What proportion of emails are answered successfully and completely within these timescales? (2010-21)



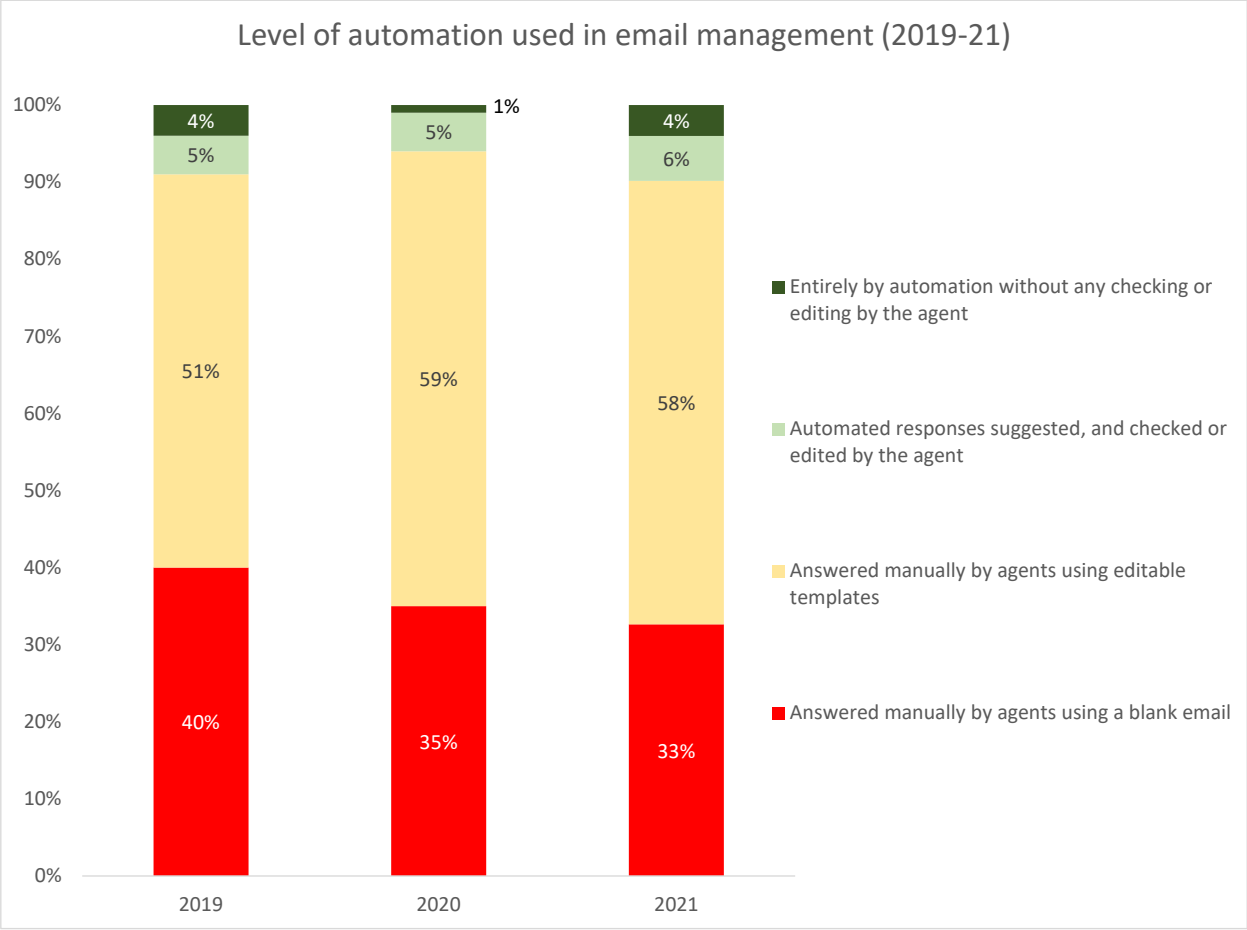
The most popular method of answering inbound email is to use agents, who start with templated, editable responses and change them accordingly, thus not having to compose every email from scratch, but also being able to draw from a common pool of knowledge.

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 10% 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.

There has been a small but noticeable movement from using blank emails to templatized responses since 2019, and there may also be signs that automation is becoming used more, but future years will make this clearer.

Figure 103: Level of automation used in email management (2019-21)

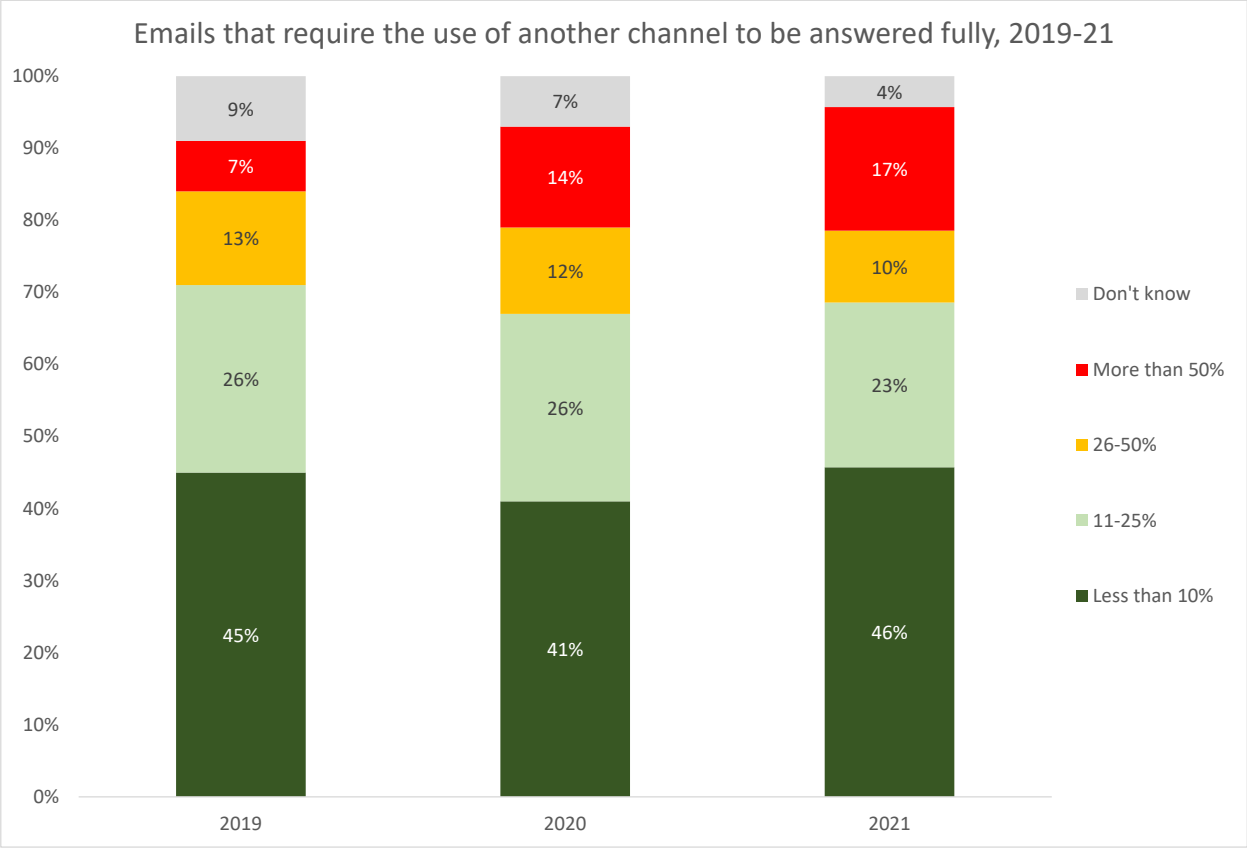


Respondents were asked to estimate the proportion of emails that required the use of another channel to be answered fully.

46% of respondents stated that fewer than 10% of their emails needed supplementary channel assistance, which is an improvement on last year.

However, 17% of respondents said that more than half of their emails had to be followed up using an alternate channel, which is more than double the proportion of 2019. This may indicate that the subjects of emails are becoming more complex, perhaps as customers are choosing to use email more frequently for topics that are better suited to telephony as a result of telephony queue times becoming longer.

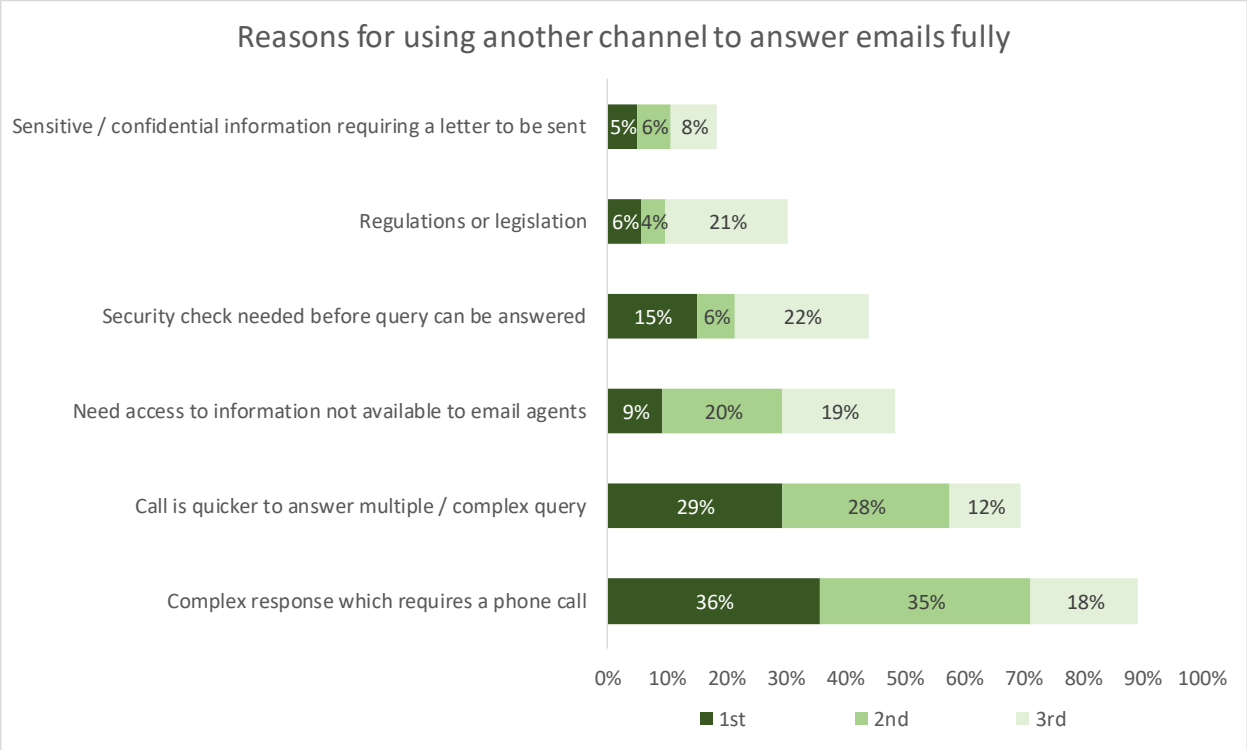
Figure 104: Emails that require the use of another channel to be answered fully, 2019-21



There were two clear, interlinked reasons for requiring other channels to answer an email request fully: 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 43% of respondents, and 48% considered that email agents do not always have access to the sources of information that they need to answer the question fully.

Figure 105: Reasons for using another channel to answer emails fully



WEB CHAT

Most web chat (or instant messaging / IM) sessions act by offering a live assistance option to the process of web browsing. Like email, it has been around for many years, but only very recently has started to grow volumes to the extent where it has become a mainstream channel for customer-business interactions.

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. Some solution providers have stated that an agent can deal with 4 or more web chat 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 (and one that is answered below). Agents can respond to frequently-asked questions by using 'hot-keys', which provide templated answers and can escalate queries if required, but current levels of automation are low.

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 in providing web 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.

Many customers – and not just 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 many users aren't taken through security processes, meaning the agent can't help with specific account queries; the same usually applying to email. Using a mobile device's biometric capabilities (such as a thumbprint reader or facial recognition) 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.

VIRTUAL AGENTS

One form of value-added web chat functionality is a Virtual Agent, which may appear 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 may then 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.

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), customers must be encouraged and educated to use natural language queries in order for virtual agents to be able to deliver to their full potential.

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.

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 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.

Web chat is experiencing strong growth in its availability in the US, although volumes on average are still in single figure percentages of all customer/business interactions. There is no reason why the user uptake of web chat 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, although cost differential between phone and web chat are not dramatically different, as so much of the web chat work carried out is still non-automated. Solution providers report that web chat is currently being trialed by numerous businesses, often for limited use cases, so they can assess the suitability of the channel and measure the effectiveness before a wider rollout, understanding what needs to be done to ensure implementation is a success.

The cost of a web chat is again found this year to be higher than usual, at $6.03 compared to $3.82 in 2017. As with email, this may indicate that web chat is being used for longer and more complex matters more suited to telephony.

As the median (midpoint) value remains at $5.00, this suggests that the cost rise may be structural rather than simply a one-off data anomaly.

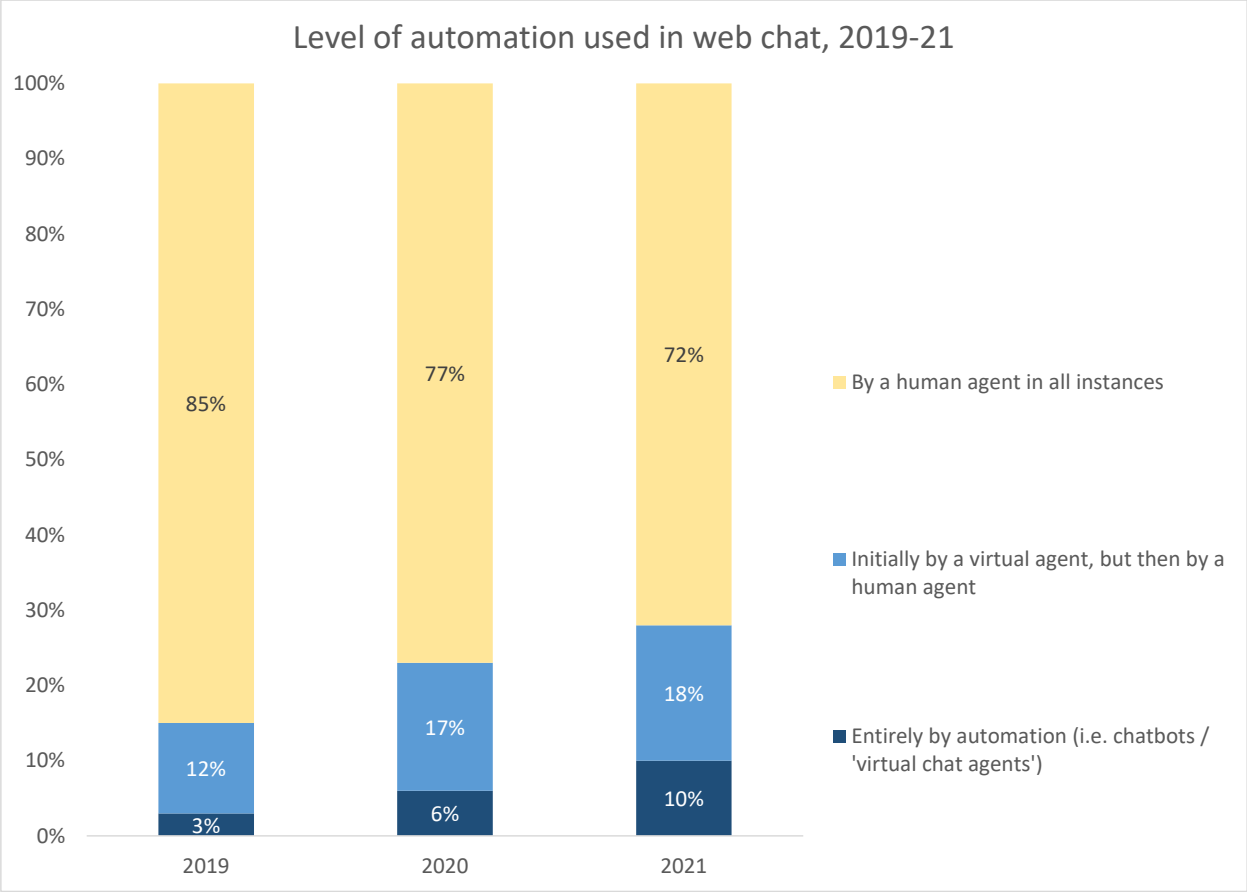
Figure 106: Estimated cost per web chat

	Web chat cost
Mean	$6.03
1st quartile	$9.00
Median	$5.00
3rd quartile	$2.00

As the cost of web chat is broadly similar to other channels such as email, voice and social media, there is considerable room for increasing efficiencies and lowering costs.

Web chat automation has grown considerably in the past two years, both as a result of initial handling by automated chat bots which may then hand off to live agents where appropriate, and also through the growing use of AI-enabled virtual agents that handle web chats on their own.

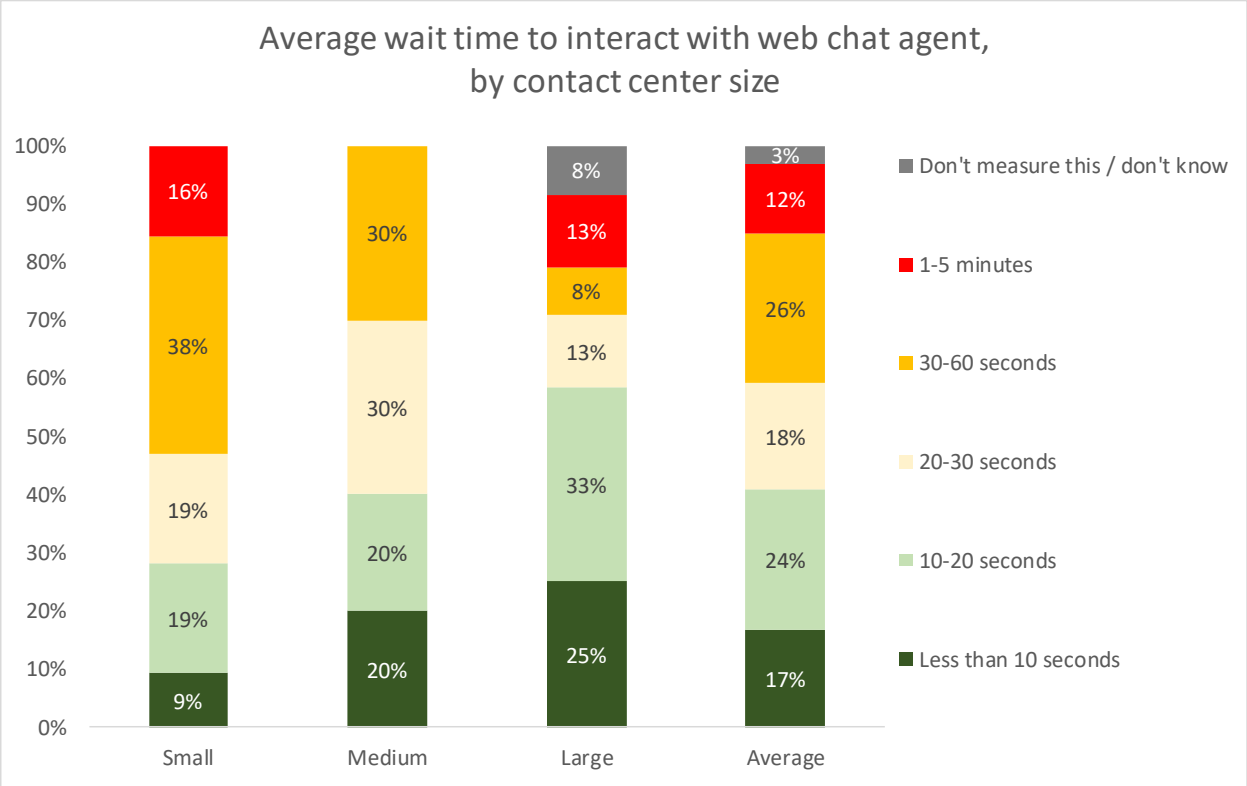
Figure 107: Level of automation used in web chat, 2019-21



17% of respondents have a wait time for web chat of lower than 10 seconds, with a further 42% stating that the average wait time is less than 30 seconds, which is around the average speed to answer for telephony.

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 12% of web chats take longer than 1 minute before the customer is 'talking' with an agent, 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.

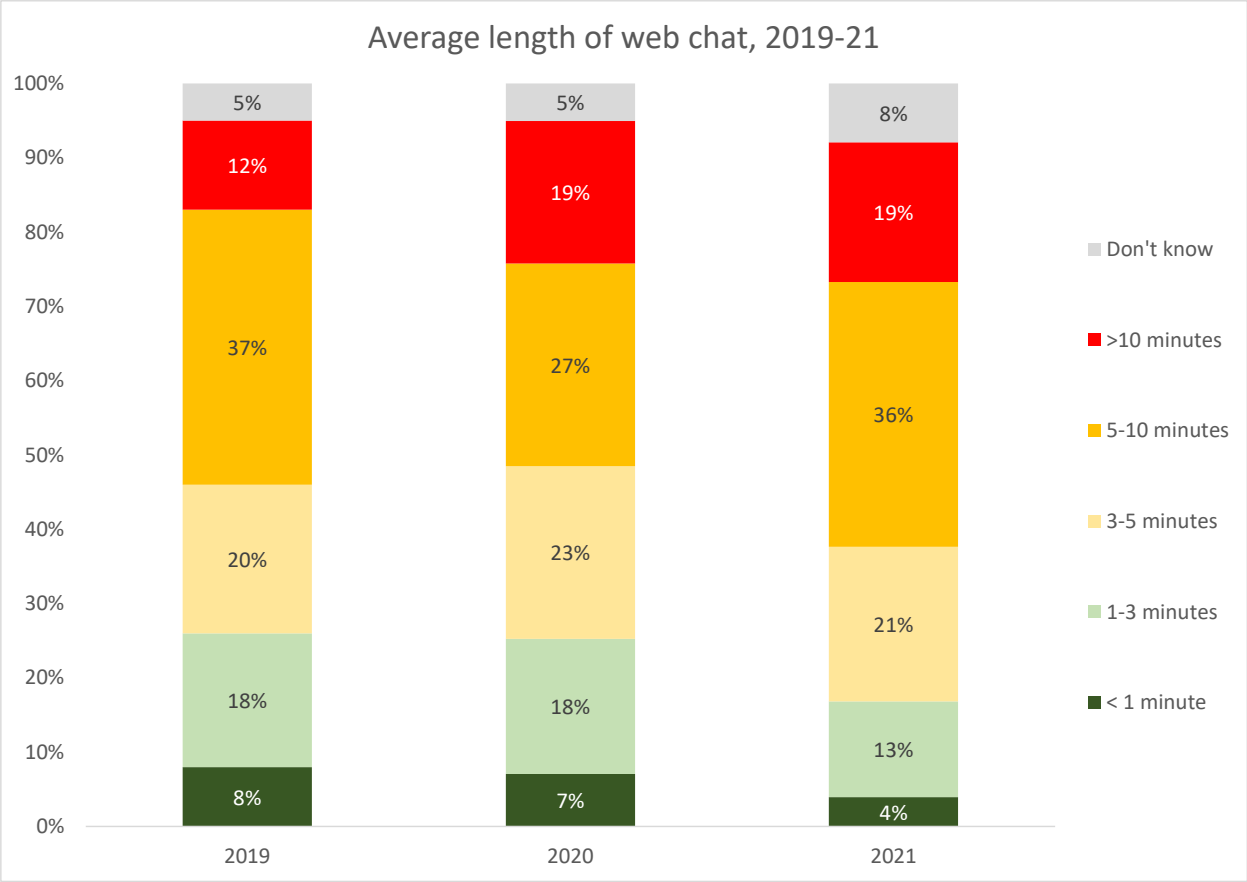
Figure 108: Average wait time to interact with web chat agent, by contact center size



However, the average length of a web chat can often be longer than the same phone call would take, as multiple chats may be being carried out, and typing takes longer than talking.

The suggestion earlier in this section that web chats were getting more complex seems to be supported by the following chart, which shows that the proportion of web chats taking less than three minutes has declined since 2019 (from 26% to 17%), and that those taking more than 10 minutes has increased from 12% to 19%.

Figure 109: Average length of web chat, 2019-21

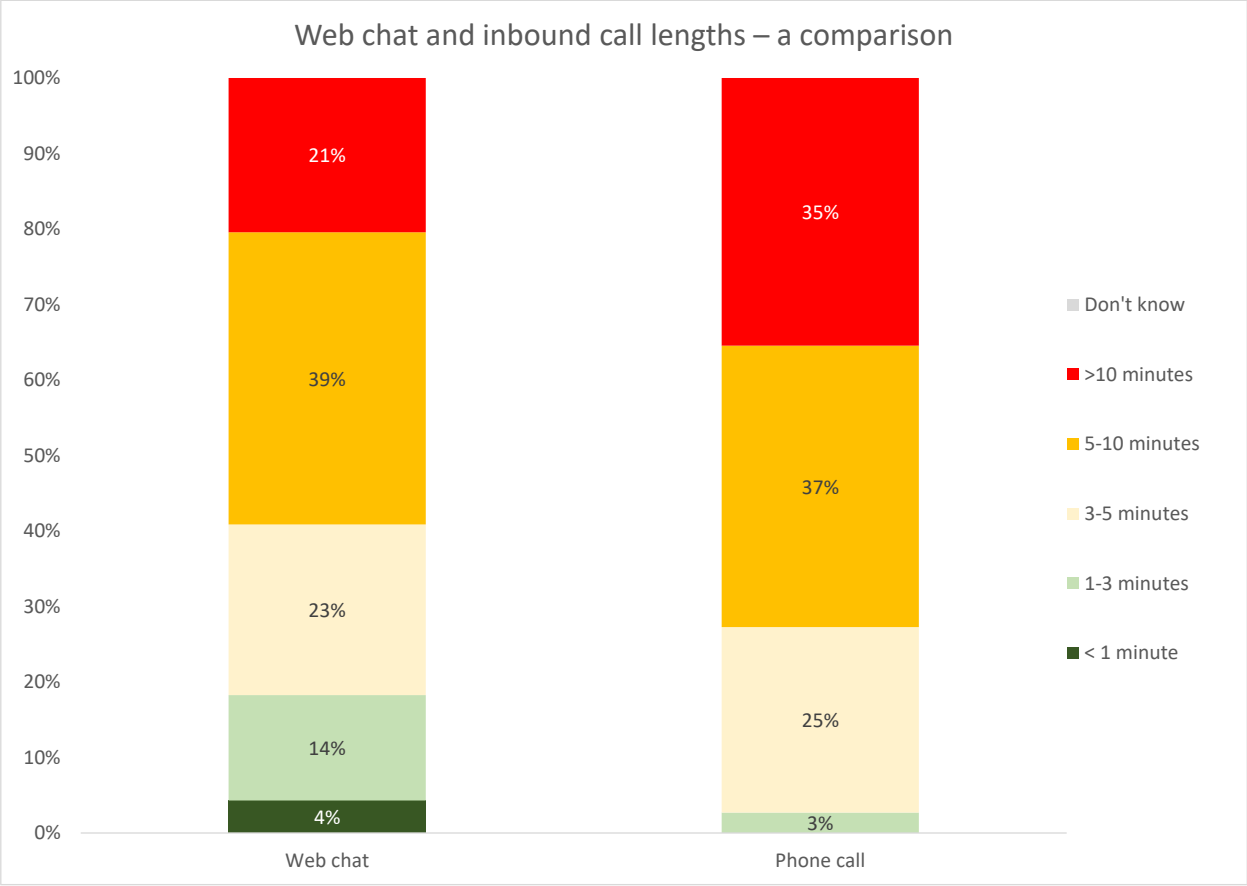


Comparing the experience of web chats with telephone calls, the survey finds that 82% of web chats take longer than 3 minutes to complete fully, as agent multi-tasking and the time taken to type differs from the experience of handling a phone call.

Comparing web chat and telephone side-by-side, the customer will usually experience a shorter overall length of interaction over web chat: 18% of web chats are handled in less than 3 minutes, compared to only 3% of phone calls, almost certainly due to the average complexity of phone queries being greater than other channels.

However, it is noticeable that web chats are becoming longer, and it may be that – as with phone calls – the average complexity is rising.

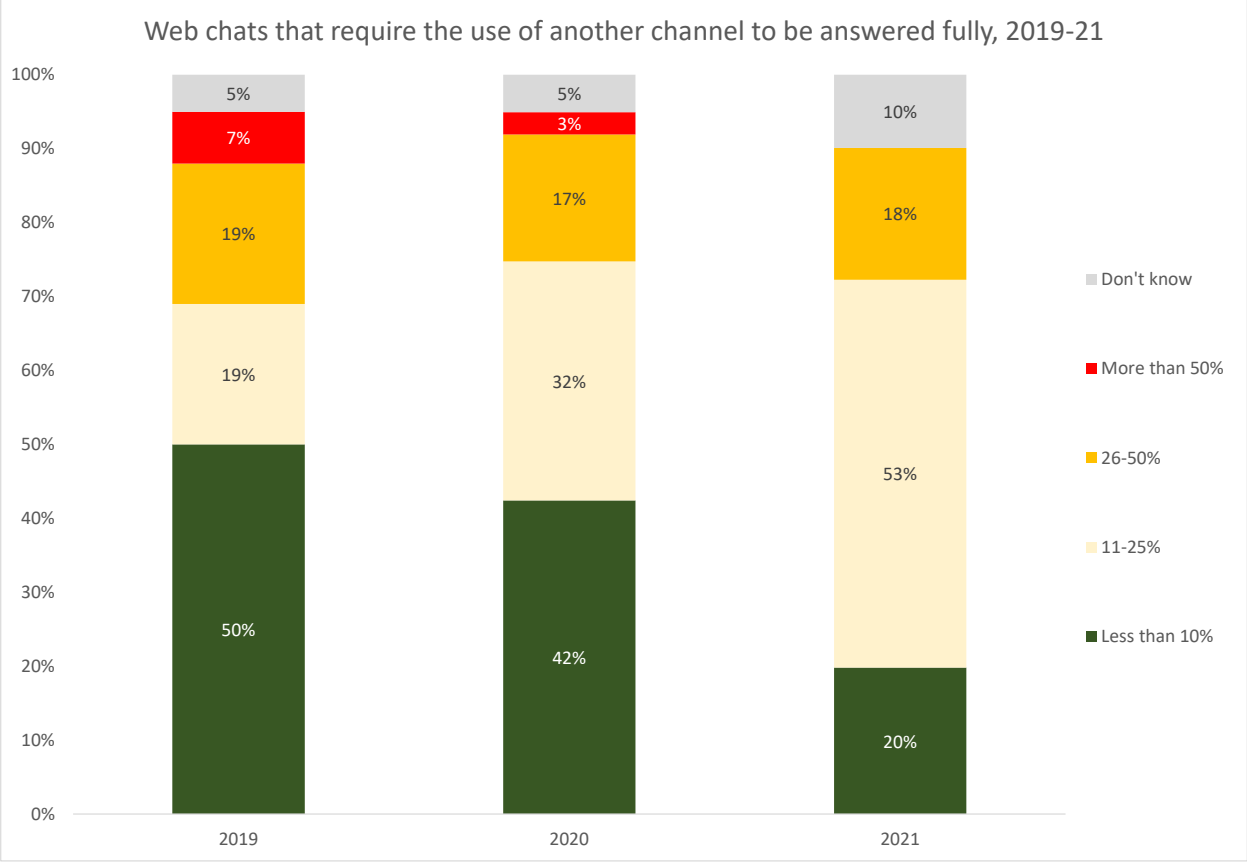
Figure 110: Web chat and inbound call lengths – a comparison



Since 2019, there has been a significant drop in the proportion of web chats that can be handled without using another channel, with only 1 in 5 respondents now reporting that fewer than 10% of web chats require alternative channels, compared to half in 2019.

This provides further evidence that web chats are becoming more complex to handle.

Figure 111: Web chats that require the use of another channel to be answered fully, 2019-21



Tips for using chat and co-browsing 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 co-browsing 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, or to send relevant documents and videos.

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 four or more 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 two or 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.

While web chat is an increasingly popular channel to offer to customers, the current reality is that it is being used as a direct replacement for live telephone calls, with very limited use of automation or value-added features. Although customers are increasingly comfortable with initiating chat sessions, the visual nature of this channel and the increasing use of smartphones means that opportunities exist for businesses to leverage customers' increasing acceptance of web-based communication to provide deep functionality, a richer customer experience and improve their own profitability.

Co-browsing (or web collaboration), which sometimes includes form-filling and page-pushing as a sub-set 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, co-browsing, 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.

WebRTC or 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 plugins[11].

It 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.

[11] https://en.wikipedia.org/wiki/WebRTC

Natural Language Processing

While some knowledge base solution providers state that 80% of questions can be answered by 20% of content, it is each business's decision to decide how the remaining 20% of queries will be handled (but of course, even these 20% of documents will change over time as customers' requirements and the businesses' products will not stay static). Some will consider that this is a reasonable proportion to be handled by more traditional means, such as the contact center, whereas others will leverage expert internal resource, as well as customer communities and forums to fill these knowledge gaps. It is not just the publishing of information that is vital: it is feedback on its accuracy and success from the wider user community and any automated systems which will help the business to fine-tune the knowledge base. Processes to gather this feedback should be put in place, and continually revisited to check their effectiveness, and it is possible to add successful answers to the knowledge base very quickly if a response from an agent (for example, via email or web chat) has been marked to be successful.

In all cases however, one of the keys to successful knowledge management is continually monitoring, updating and publishing the most accurate and in-demand information. Businesses should consider setting internal service levels for the knowledge base, for example only returning documents and suggested answers that have over a specific score for relevancy, and no more than a small number of answers per inquiry. If customers are trained to expect a self-service or virtual agent experience that returns pages and pages of documents that bear little relevance to their original query, they will very soon abandon self-service entirely. It is also vital that the information contained in the knowledge base is available consistently across all channels, whether through a virtual agent or human agent.

One of the keys to successful automated service, with a via telephony or website, is for the user to be able to describe their issue in their own words, rather than feeling that they have to use specific terms or a stilted, incomplete account of the issue. Natural language processing-based systems encourage users to describe their issue more fully, asking follow-up questions if there is any degree of ambiguity in the initial request. One of the obstacles to overcome for NLP-based systems (whether through speech recognition or text recognition) is that many Internet users have been trained to use keywords, believing that simplifying the description of their issue will lead to greater levels of accurate response. In fact, NLP works best with longer and more detailed requests, and it is a challenge for businesses and solution providers to encourage and support users of the system in using the solution in an optimal way.

Many current self-service systems are inflexible and structured rigidly in their information flow, so as to handle simple, unambiguous service requests by customers (such as account balances). Generally speaking, these are very successful at delivering this information, and customers will often choose a familiar and effective method of handling the simplest enquiries. However, historical interaction volume information shows that the number of live calls received by contact center remains steady: although the contact center is the primary channel choice for a minority of customers, around two-thirds of interactions with the business still come via live telephony. This suggests that the various methods of using self-service and the supporting knowledge base still have a very long way to go before customers rate them as highly for effectiveness and timeliness as they do the traditional contact center.

New channels such as social media, email and web chat have grown rapidly in popularity, yet the vast majority of interactions involving all of these channels are still along same lines as the traditional contact center telephony model: that is, a customer making a request to a live agent. Although web chats and emails tend to have slightly lower costs than telephone calls, the differential between these is far smaller than between a live phone call and a self-service phone call. Of course, not only are businesses missing out on huge potential cost savings, but one of the main customer experience problems still exist: that of having to wait until an agent is available to answer the query.

Expanding the boundaries of self-service outside the simplest and least ambiguous requests will be one of the main challenges over the next few years. Success in this will mean not only greatly reduced costs for businesses, but also improved customer experience through higher real first contact resolution rates through the customer's channel of choice.

THE SOCIAL CUSTOMER

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. For foreseeable future, ContactBabel expects social media to remain a relatively 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 relatively 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.

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. 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.

SOCIAL MEDIA MANAGEMENT AND OWNERSHIP

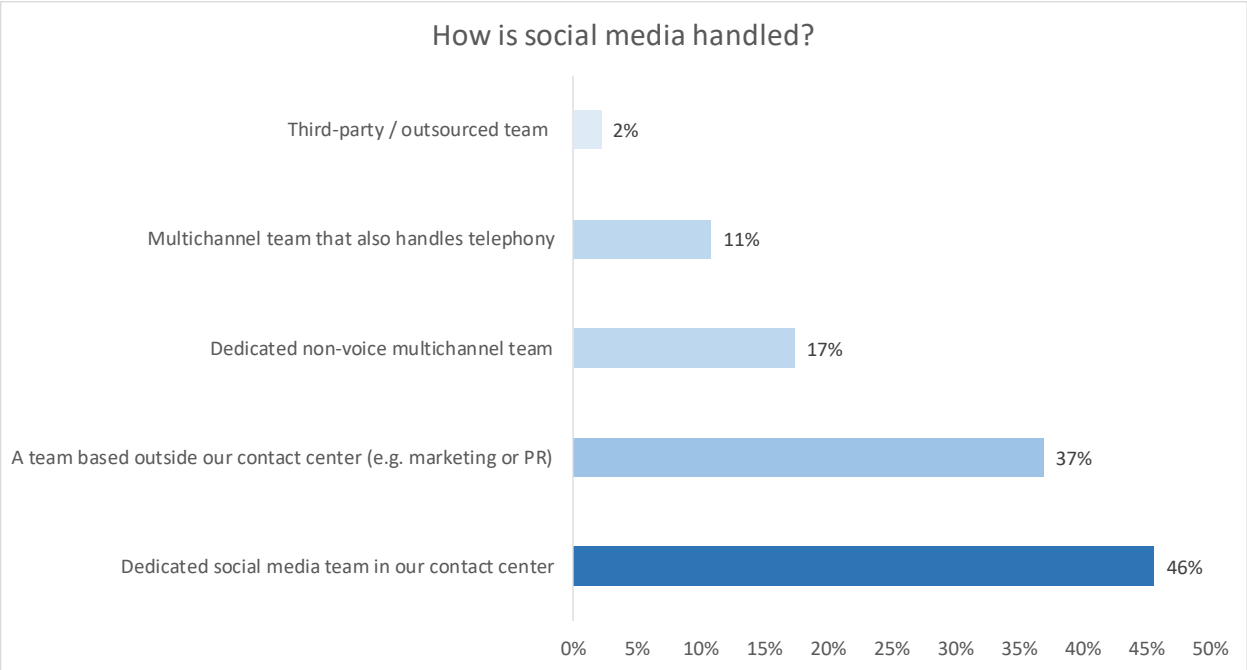
The role of social media, and how it is managed, is heavily influenced by who holds the budget. For the majority of respondents, it has been the marketing department that held the money for social media, with the customer contact department only responsible for this channel's investment and finances in a small minority of cases. As social media continues its move away from being primarily a marketing channel towards being a key part of the customer contact mix, it makes sense for the contact center and customer support operation to take more responsibility for the strategy and budget of this channel, and there is some evidence of this now happening.

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, 37% 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 2% letting an outsourcer handle it.

46% 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%).

However, these figures show a movement away from the original marketing-led nature of social media, as this is the first year that more respondents have stated that the contact center 'owns' social media, rather than the marketing department.

Figure 112: How is social media handled?

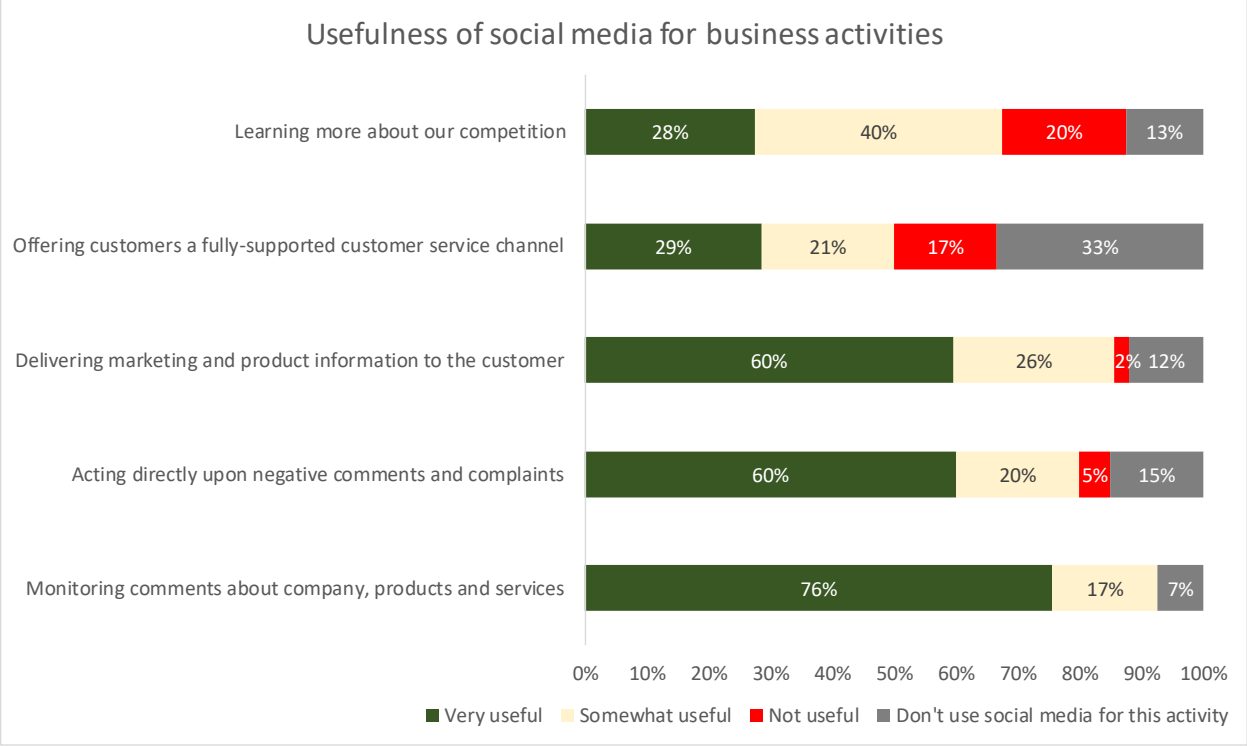


When considering the management of social media by contact center size, larger operations are far more likely to have a dedicated social media team within the contact center. Small and medium operations may well rely on a non-contact center-based corporate team to handle their social media, with around a quarter of large operations handling social media as part of a digital, non-voice interaction mix. Smaller operations are more likely to have a multichannel, telephony-inclusive team handling social media.

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. 60% 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. In fact, this ability to address unhappy customers immediately is second only to monitoring what is being said about the company, a widely-used method for social media.

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. While 29% feel strongly that they are doing so, 17% feel that they are not.

Figure 113: Usefulness of social media for business activities

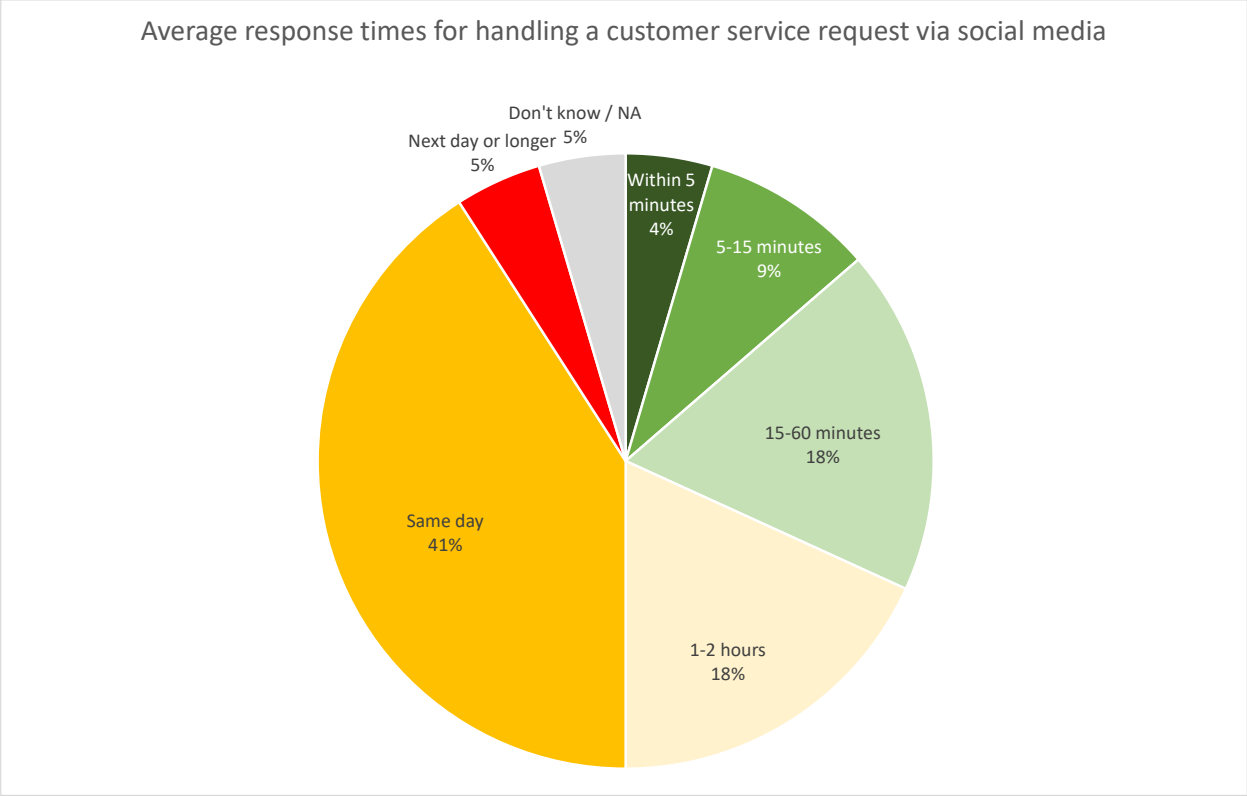


Earlier in the report, respondents stated that speech analytics was not felt to support the business in learning more about its competitors, and there is little sense here that social media is providing this information either. It may be that businesses are focusing their efforts upon learning what their 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.

Response times for handling a social media customer service request are somewhere between a phone call / web chat on the one hand (i.e. a maximum of a few minutes), and an email on the other (i.e. the same working day).

31% of respondents answer within the hour on average, 59% state that will take longer than an hour but less than a day, and 5% take longer than a day.

Figure 114: Average response times for handling a customer service request via social media



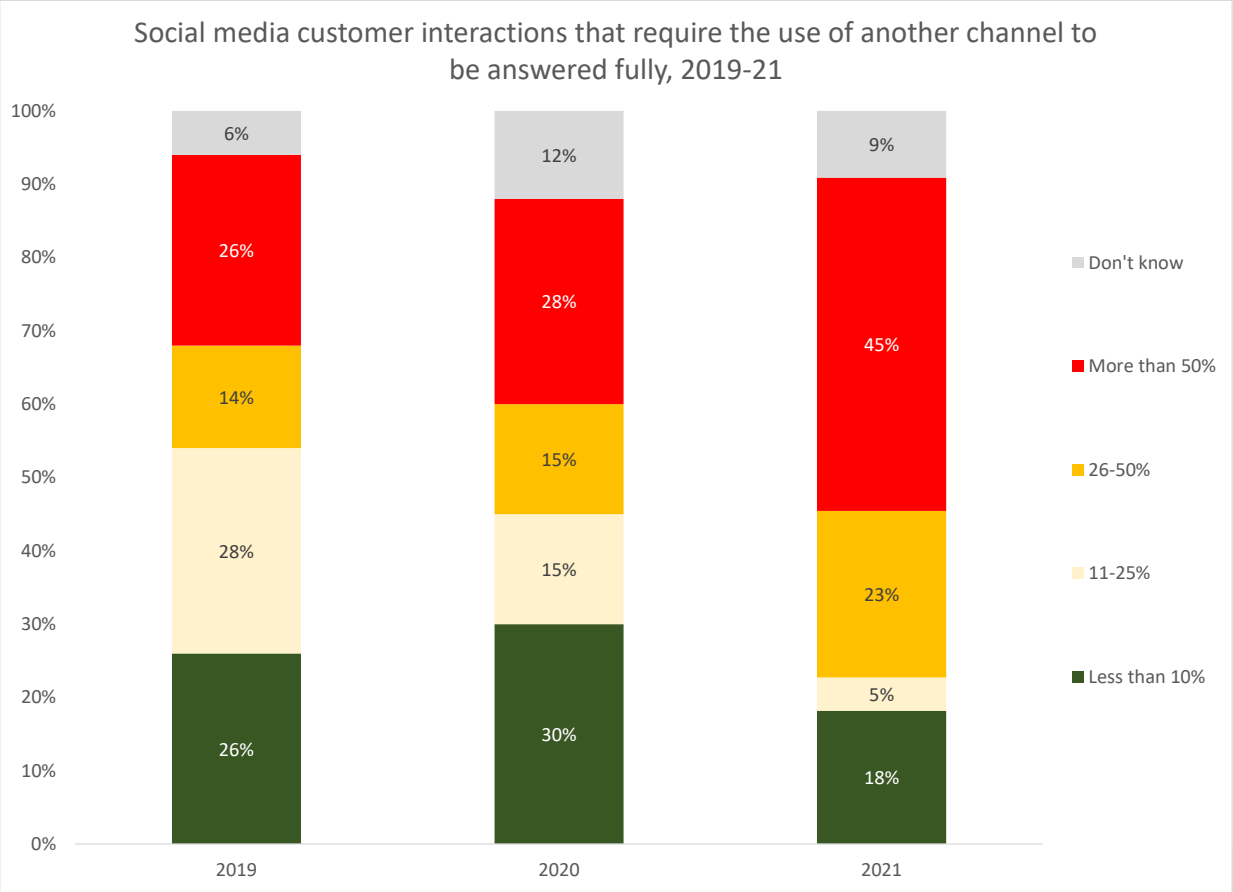
A social media interaction has historically been a little less expensive than an email or web chat, although there is little to choose between them, perhaps as so many digital channel interactions are still handled with a high level of manual input. The level of complexity for all live channels is rising as well, as customer familiarity with self-service means that fewer simple queries are handled by human agents.

Figure 115: Estimated cost per social media customer contact

	Social media customer contact cost
Mean	$6.97
1st quartile	$12.50
Median	$6.00
3rd quartile	$2.50

45% of respondents state that more than half of social media requests have to be completed via another channel, perhaps because of the public nature of the channel, that customer identity verification is not as straightforward as with voice, as well as increasing levels of complexity.

Figure 116: Social media customer interactions that require the use of another channel to be answered fully, 2019-21



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.

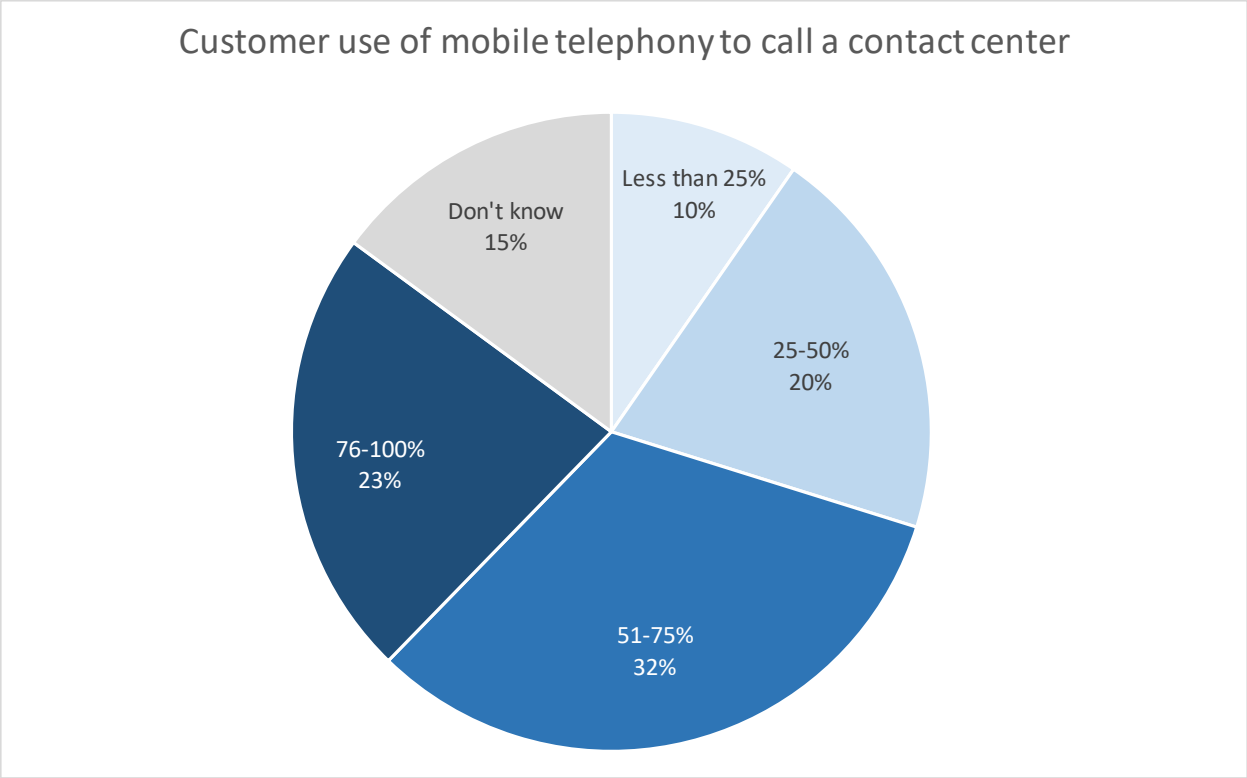
- Just because the customer has initiated a social media interaction does not mean that a business has to stay on that channel to resolve it successfully. Customers may like to receive an outbound call from the agent, as this may provide the opportunity to go into further detail, and to resolve the issue entirely.

MOBILE CUSTOMER CONTACT

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 means that businesses can be ambitious in what they are attempting within this channel, having an opportunity to build presence and functionality in an area that is growing rapidly.

65% of respondents that gave an answer to this question state that more than half of the calls made to their operation are done through mobile phones rather than landlines, offering huge potential for value-add services such as video, visual IVR and other mobile-related functionality.

Figure 117: Customer use of mobile telephony to call a contact center



Research 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.

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/5G and cheaper data become 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 almost all of the market, so businesses could decide to produce only two flavors of app, which would actually support the vast 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 app 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.

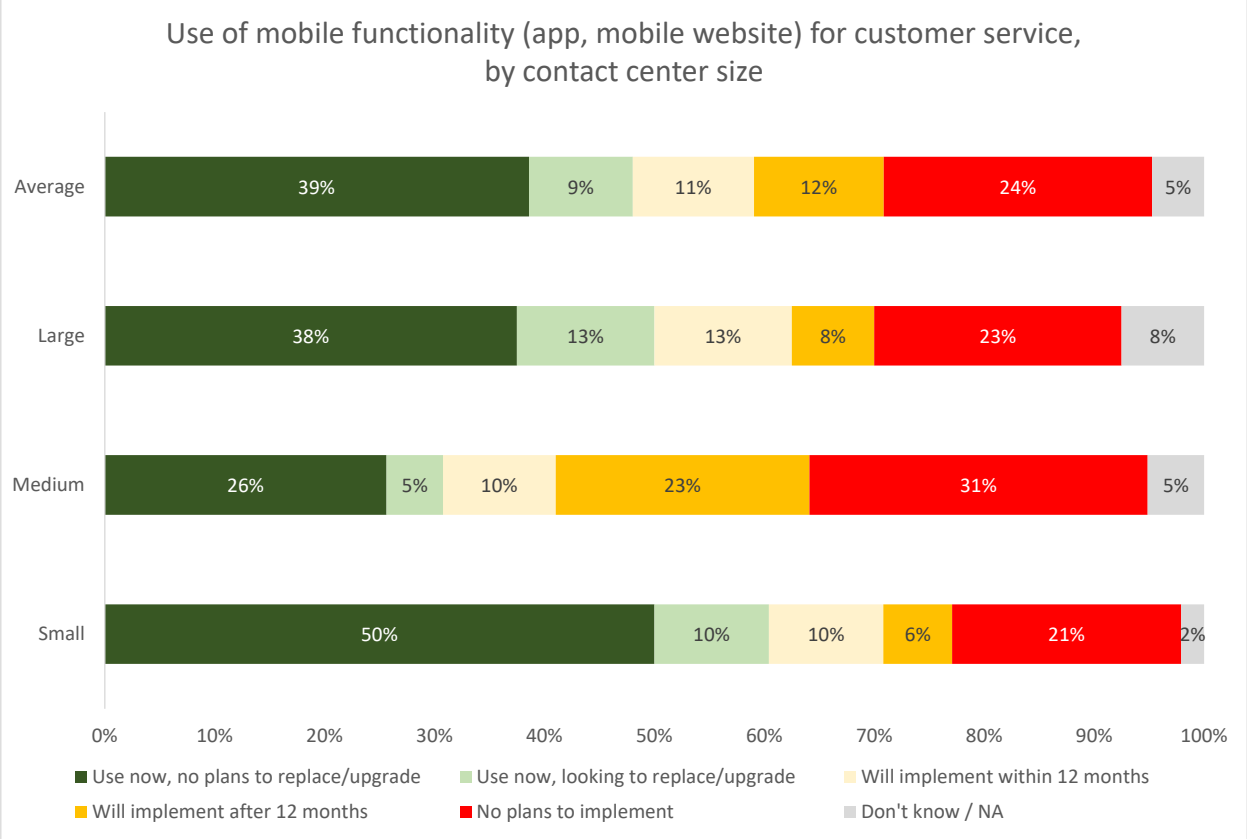
Industry estimates for building an app vary considerably depending on what they are trying to do, but many sources indicate that a cost of $30,000 upwards (per platform) is very feasible. The cost of developing a mobile website is less, and only needs to be done once. Whether an app is suitable for a 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.

USE OF MOBILE SERVICE FUNCTIONALITY

48% of this year's survey respondents stated that they offer mobile functionality for customer service, with a further 23% having definite plans to do so.

Respondents from smaller operations report the greatest use of mobile service functionality.

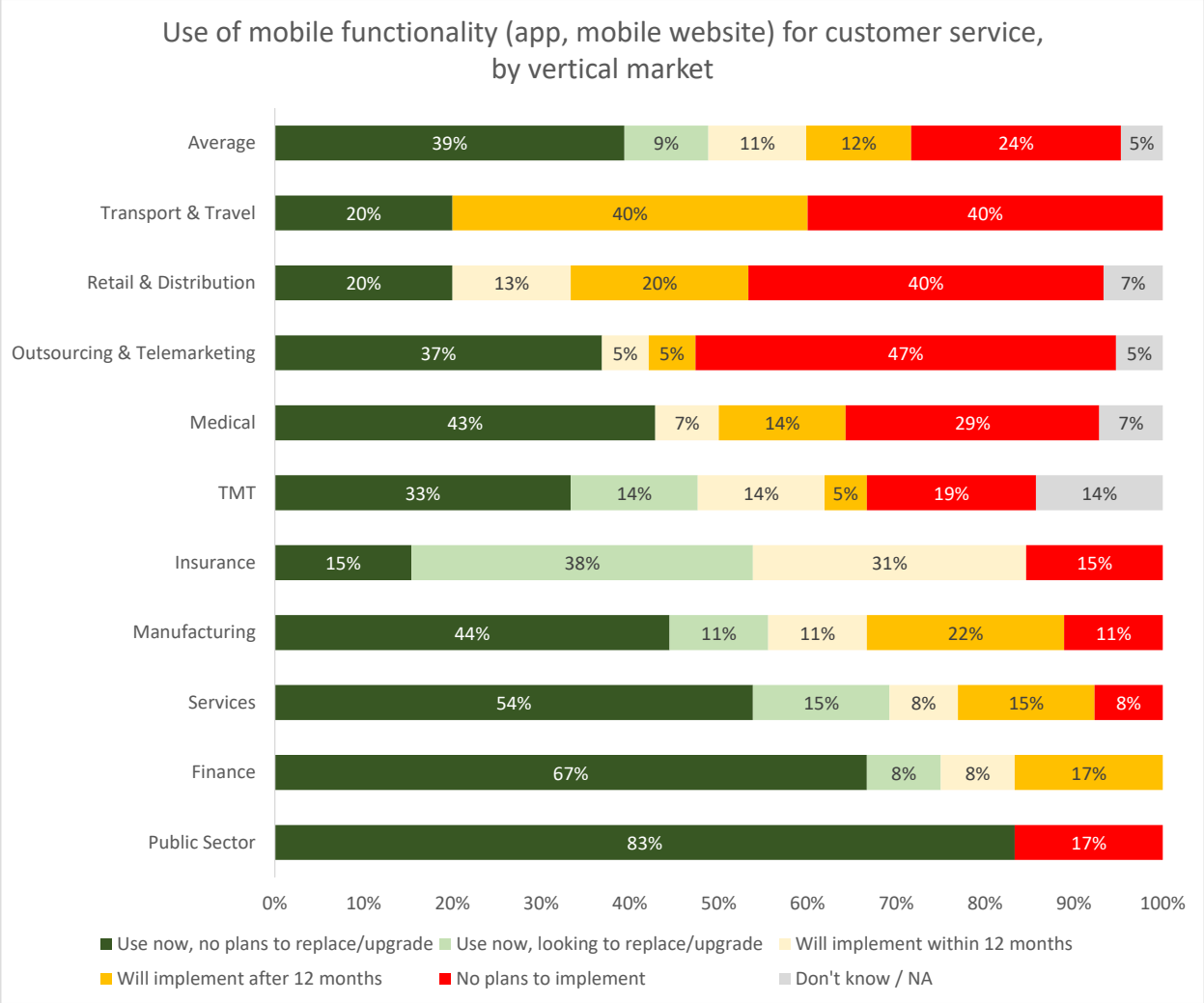
Figure 118: Use of mobile functionality (app, mobile website) for customer service, by contact center size



Looking at the use of mobile service applications by vertical market, the finance and public sector respondents are most likely to be using apps or mobile websites.

Manufacturing survey respondents, along with those in the retail, transport & travel and insurance sectors are very interested in implementing solutions.

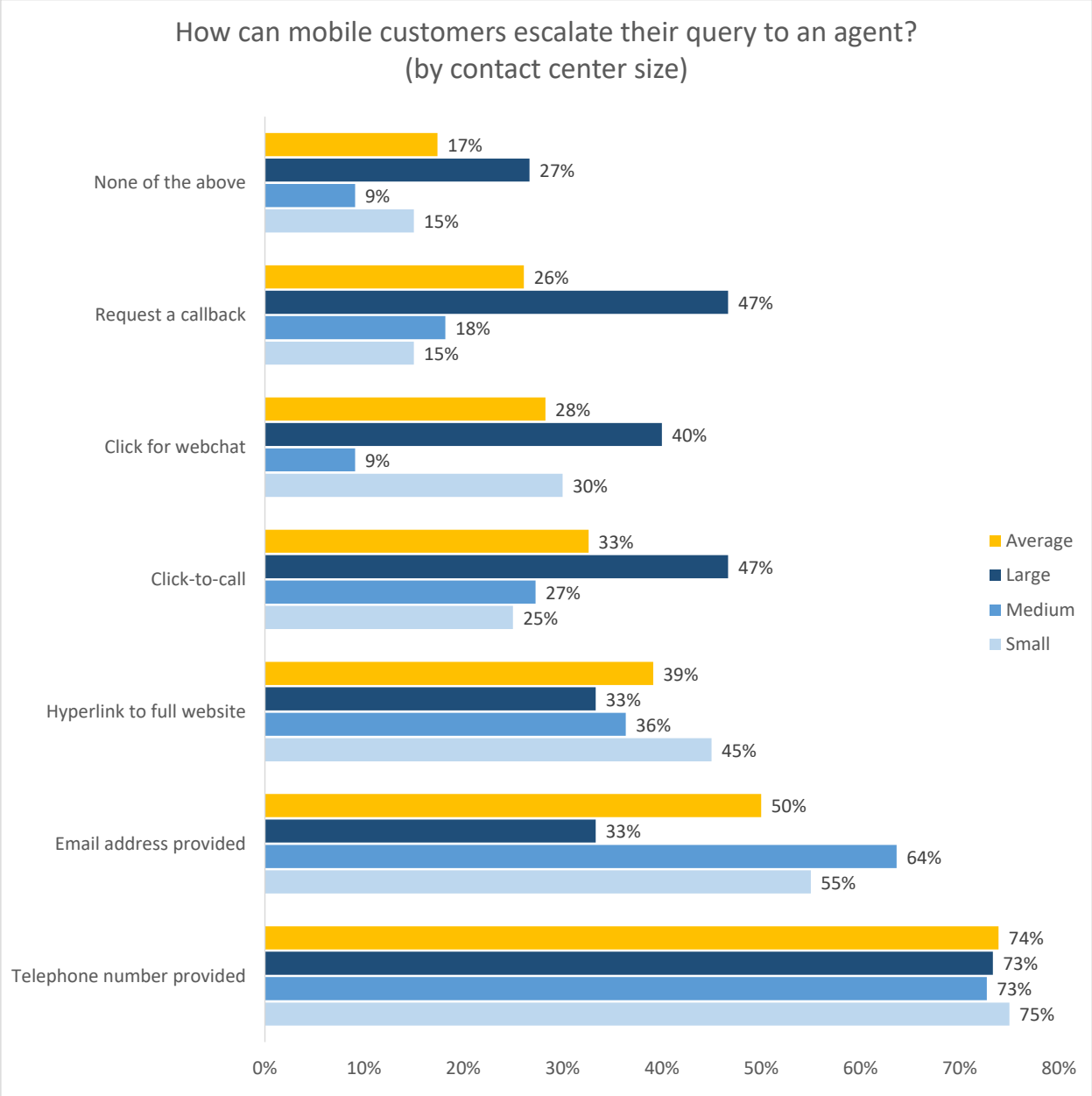
Figure 119: Use of mobile functionality (app, mobile website) for customer service, by vertical market



CROSS-CHANNEL ESCALATION

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. No business where this occurs can describe itself as being 'omnichannel'.

Figure 120: How can mobile customers escalate their query to an agent? (by contact center size)



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.

The easiest way to support cross-channel contact is to offer a telephone number on the mobile website or inside the app, and 74% of respondents do so, with 33% offering a click-to-call shortcut. However, the 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, 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 go as far as 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.

26% 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.

28% of respondents 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 if the issue is complex and requires a lot of explanation.

A minority of respondents state that upon escalation, an agent is provided with some information about the customer, most often only the customer's name, rather than anything more closely linked and relevant to what the customer was trying to do, their account details, or where they are currently located. This means that an escalation from the mobile channel will rarely 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).

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.

ONGOING 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.

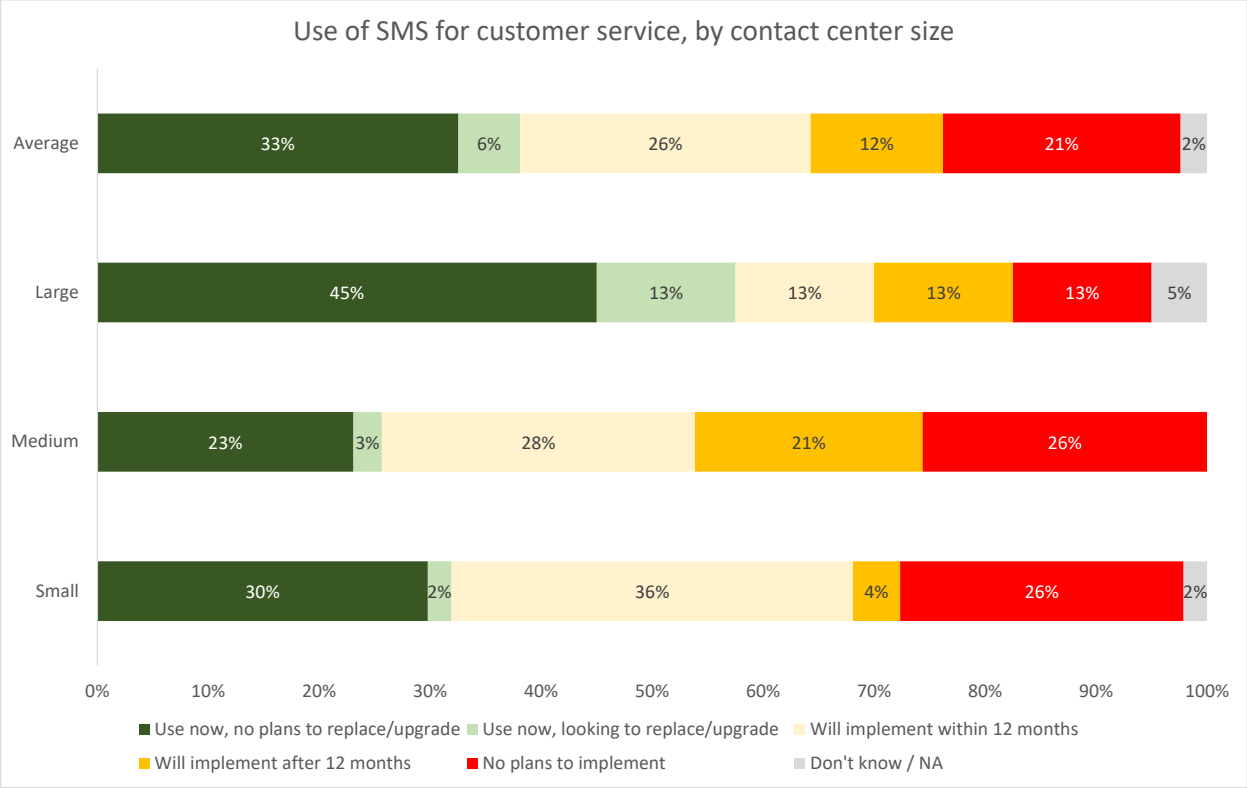
On moving from self-service to assisted service, mobile service applications should gather the browsing history, customer information and the context of the session in order to pass this to a live agent. Smartphones are enabled with GPS tracking, so businesses should look to leverage this capability 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.

SMS and messaging (e.g. WhatsApp) are growing in importance as a customer service tool, particularly for reminders, notifications and for customer surveys.

There is little pattern across contact center sizes, as SMS solutions do not have to be expensive, and their use are more a factor of business use rather than investment capability, although larger contact centers do seem to be more likely to use SMS / messaging in this year's survey. There is considerable interest in implementing SMS in the short-term across all size bands.

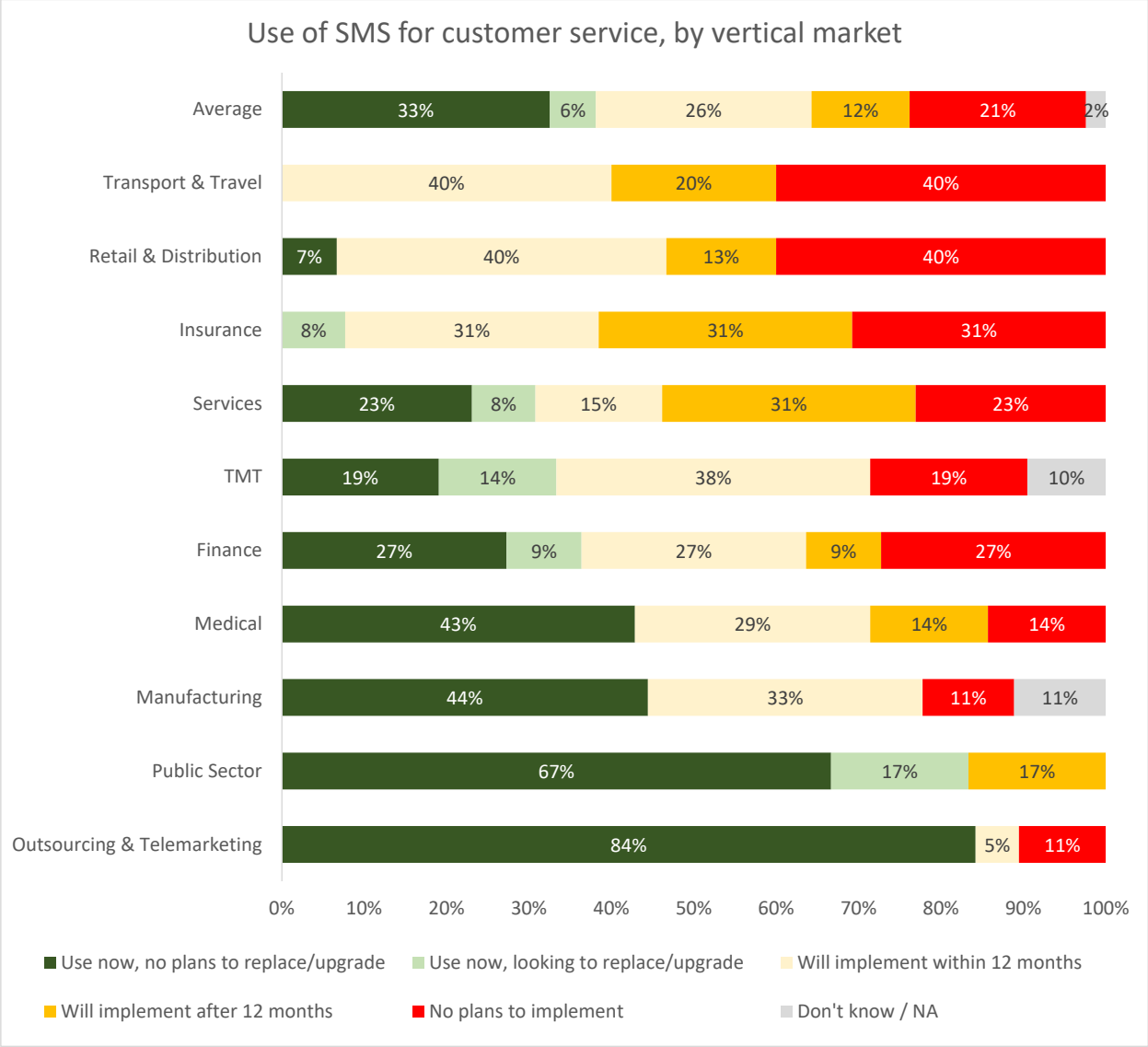
Figure 121: Use of SMS for customer service, by contact center size



The public sector (for notifications and reminders) and outsourcers (for customer surveys and to support their clients) are the larger users of SMS for customer service.

Even where current use is low, such as in retail and transport & travel, there is interest being shown in implementing this solution.

Figure 122: Use of SMS for customer service, by vertical market



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 plugins[12].

The announcement[13] that Apple would support WebRTC within its WebKit engine that runs the Safari browser was seen as 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 as 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.

[12] https://en.wikipedia.org/wiki/WebRTC
[13] https://webrtc.ventures/2017/06/webrtc-support-in-safari-11/

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 AND INSTAGRAM

With well over 1bn active users of Facebook Messenger and WhatsApp, 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 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.

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.

There is more information about the use of social media for customer contact in the 'Digital Channels' section of this report.

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Artificial intelligence (AI) is a wide-ranging term for technology solutions which appears to emulate human cognitive capabilities through the 'understanding' of complex, natural language requirements, in order to reach its own conclusions and develop itself based on what works and what doesn't. Machine learning refers to the ability of software to evolve based on measuring its performance and success, without input from humans.

Within the customer contact space, there is a great deal of interest in how AI can work to deliver a superior customer experience at every hour of the day, across channels, leveraging the vast amounts of data that are available to many large organizations. Supported by the speed and availability of affordable processing power, and the enormous amount of structured and unstructured data available, the opportunity exists for AI to take customer contact far beyond what is feasible now.

Although we are at the beginning of the AI revolution, there are already numerous well-known examples widely used by the public, including Amazon's Alexa and Apple's Siri. These virtual assistants 'understand' unstructured natural language requests and deliver the solutions in a manner similar to a live personal assistant.

As AI can be given access to all of the relevant data a company holds on its customers, as well as unstructured data held elsewhere (for example, forums or social media channels), it has a far wider source of knowledge from which to draw, compared to human agents. In theory, an AI with sufficient sophistication could make human agents all but unnecessary, but for the foreseeable future, AI will usually work alongside its human colleagues.

The usage of the term 'AI' in the contact center covers an enormous area, and is often used by solution providers, media and businesses to refer to functionality that may only very tenuously be said to be linked to true AI, which is itself a wide-ranging term for technology solutions which appear to emulate human cognitive capabilities through the 'understanding' of complex, natural language requirements, in order to reach its own conclusions and improve itself.

Rather than arguing about semantics, the umbrella term of AI will be used descriptively rather than prescriptively within this chapter. Its use within the contact center will be linked to three broad types of linked functionality – the "4 A's of AI" – analysis, anticipation, augmentation and automation.

Analysis:

Whereas for humans, enormous, fast-changing datasets make understanding and action more difficult, AI requires extremely large sets of data in order to find patterns and work optimally. Tools such as speech-to-text and optical character recognition (OCR) enable the AI to normalize data and compare like with like, and machine learning allows systems to improve accuracy and the effectiveness of outcomes without constant input and tweaking from human users.

Anticipation:

Based upon the customer's history, the context of the interaction, and the factors influencing successful outcome of similar interactions in the past, AI will be able to predict the best action to take. This may be in the form of an answer taken from the knowledge base, the correct prioritization and routing of a call, or the prompting of an agent to ask a specific question or make a relevant sales offer.

Augmentation:

The AI is able to gather relevant information from numerous sources in real-time in order to provide enhanced information to human agents or the self-service system, increasing the likelihood of a successful outcome. The AI is also tasked with updating relevant systems and initiating the correct business processes.

Automation:

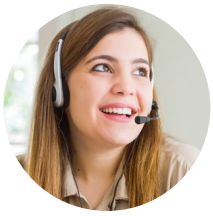
In circumstances where there is a high level of confidence that the solution presented by the AI is correct, human intervention may be circumvented altogether. The AI system may monitor the interaction in real-time, using sentiment analysis to determine whether there is a need for a live agent to collaborate.

Delivering on customer expectations begins with empowered agents

Agents are the beating heart of customer experience. They are the front line to customers throughout their full journey, and handle increasingly complex interactions, remotely, across multiple channels.

According to ContactBabel, *"The digitally transformed contact center requires far more from [agents], and the skills and capabilities they need are only going to increase."* But agents lack the necessary technology and training[1] to deliver on customer expectations for quick, effortless, and personalized experience.

The right tools can help empower agents in this evolved role:



The empowered agent toolkit

- **An easy-to-use knowledge base** puts answers in one place, so agents spend less time searching and more time supporting
- **AI-powered guidance** on changes that impact satisfaction in the most critical moment develops and reinforces agent soft skills and improves CX
- **Agent-invoked robotic process automation** automates routine tasks keeping them focused on helping customers, their no. 1 motivation for becoming agents
- **Unified all-in-one desktop** lets agents handle multiple interactions without switching to and from applications, improving productivity
- **Integrated customer data** keeps agents from asking questions they should already know the answers to
- **Automated and embedded bite-size training** brings the classroom to the agent, increasing productivity, engagement, and retention
- **Dashboard of real-time performance** lets agents see their impact on business outcome for increased engagement

[1]ICMI: State of Agent Experience and Engagement Survey (2019)

NICE CXone

Give your customers and agents what they need.
See how NICE CXone helps you empower agents to build lasting relationships.

Watch demo

There are numerous use cases for AI and machine learning in the contact center, and they are listed in greater detail in ContactBabel's report, "The Inner Circle Guide to AI, Chatbots & Machine Learning", including:

Improve Voice Self-Service

Using AI-enabled natural language recognition can alleviate the high level of self-service abandonment associated with speech recognition and DTMF IVR, as there is no fixed menu to navigate and no limit to the number of options a customer has to explain their issue. The onus is placed upon the system to understand the customer's intent, rather than forcing the customer to shoehorn their request into a format allowed by the predefined rules and format of the business.

Improve Web Self-Service

For most businesses, the customer is given free rein to search through documents, pre-written answers and archives, hoping to stumble across the right answer for themselves. The often proves time-consuming and ultimately frustrating for the customer, who will then go elsewhere or call the contact center in a negative mindset. An AI guide would be a valuable aid in improving CX and deflecting unnecessary calls.

Assisted Service

The use of AI to assist agents in real time within a call offers the chance of a real paradigm change: by the nature of the job, an agent-customer interaction has always necessarily been between two people, and the level of support that an agent can actually receive within a call is very limited. AI can work alongside agents to provide relevant knowledge that may be otherwise take a long time to find, and update the knowledge bases available to humans and AI self-service systems using an automated feedback loop that is constantly improving based on actual outcomes.

Improve Digital Channel Experience and Decrease Cost

Perhaps the currently most popular use of AI in the customer contact environment is in handling digital enquiries, where web chats generally take far longer than phone calls (due to agent multitasking, and typing time) and some email response rates can still be measured in days.

As the cost of web chat is broadly similar to other channels such as email, voice and social media, there is room for increasing efficiencies and lowering costs. Digital channels may work well for customers, but businesses are not generally seeing the cost savings that automation can bring. Very few emails or web chats are handled entirely by AI, although a growing proportion of web chats are dealt with by AIs working alongside agents, suggesting responses which agents can then accept or amend. This way of working is most likely to be the norm in the foreseeable future, with the speed of automation and the emotional intelligence of humans combining to provide superior service at a lower cost.

Real-time Analytics and Support

AI can be trained to understand intent and recognize patterns through immersion in vast quantities of historical data, so that when a call is taking place, it can draw upon this knowledge and provide advice or action that has proven successful previously, moving towards the actual provision of real-time analytics.

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

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

Augmenting RPA

Robotic process automation (RPA) consists of digital software agents that handle repetitive, rules-based tasks at high speed, with great consistency and accuracy. The RPA workforce acts in the same way as human agents, working at the presentation layer level rather than requiring deep integration with systems, replicating the work that live agents or chatbots would be doing, but more quickly and without requiring any rest. RPA agents can input data, trigger processes, pass work onto other robots or humans as rules dictate and replicate data across multiple applications without making any copying mistakes.

AI can work in association with other process automation solutions (which may in themselves not fall under the category of AI). For example, in the case of unstructured data such as customer emails or letters, optical character recognition can assist the entry of the customer requirements into the business system. Using natural language understanding, AI is able to discern the intent of the inquiry, using a knowledge base and assessing the previous best responses to similar enquiries in order to provide an agent with a recommended solution. It is very likely that the agent will be given the option to add or amend this response before sending to a customer. Any feedback from the customer can be assimilated in order to gauge success and fine tune future responses.

Improving the Customer Journey

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

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

Improving Routing Strategies and Outcomes

AI can be applied to IVR interactions, asking a series of questions to customers using natural language processing to understand their intent. Depending on the customer requirements, it may be possible to answer the query without using a live agent, or in those cases where agents are needed, the prioritization and routing of the call can be optimized, decreasing call transfer rates and increasing first contact resolution. Over time, routing strategies will move away from being rules-based and towards cognition, which will also feed forecasting and scheduling processes.

Predictive behavioral routing uses insights gathered from historical calls and the analysis of customer communication types in order to choose the agent whose skills and characteristics are most likely to achieve a positive response from the next caller in the queue. Predictive behavioral routing uses millions of algorithms to decode the language used by agents and customers, in order to understand sentiment, personality type, preferred method of communication, emotional intelligence and transactional attributes (such as ability to overcome objections and willingness to sell.

Each customer can be allocated a specific personality style, and when calling again, are routed through to an agent whose performance when interacting with this specific personality type has generally positive results.

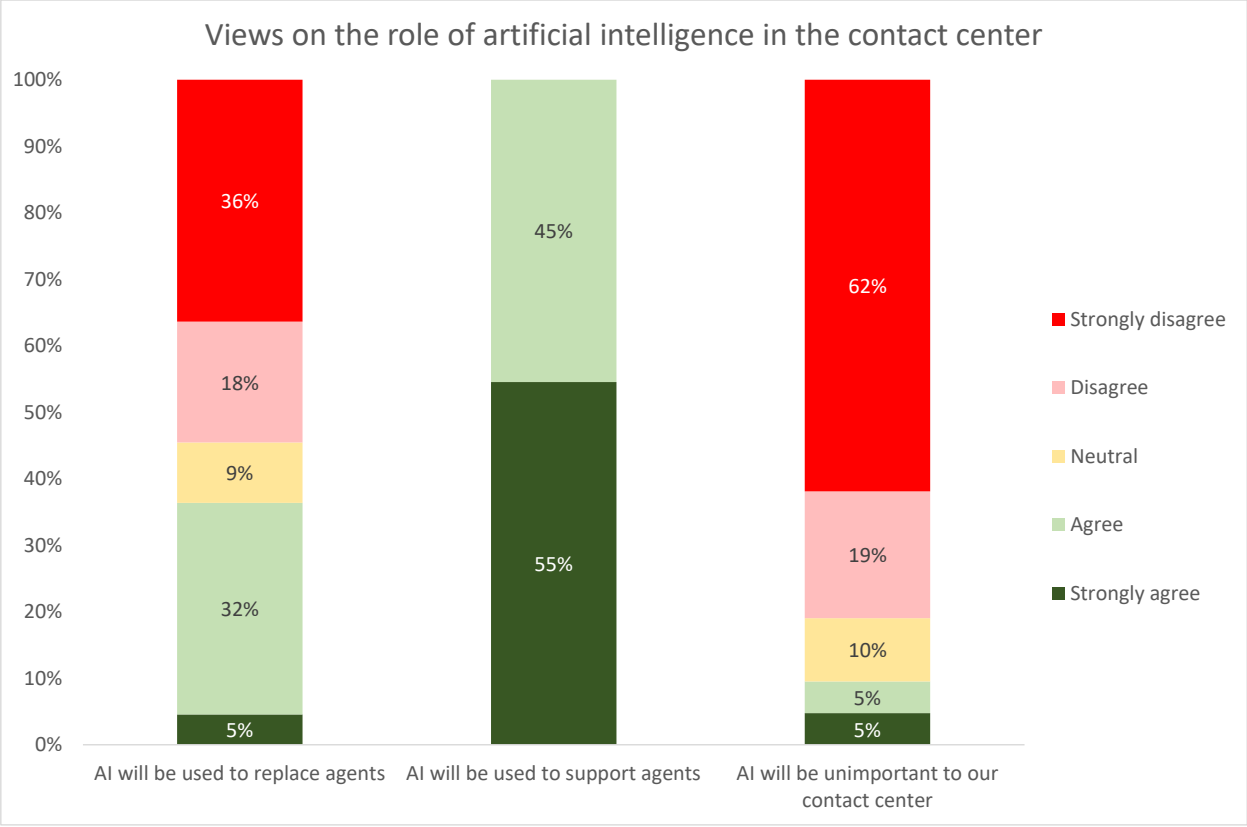
VIEWS ON THE EFFECT OF AI ON THE CONTACT CENTER

Survey respondents were conflicted in the views as to whether AI would replace agents, with 37% agreeing or strongly agreeing that this would be the case, and 54% disagreeing to some extent. Respondents from large 200+ seat contact centers were more likely to feel that AI would replace human agents, with those in small and medium operations tending to believe that this would not be the case. There is a general movement over time towards disagreeing that AI will replace agents.

Unanimity was found when the question was asked as to whether AI would support human agents, with all respondents either agreeing or strongly agreeing. In the foreseeable future, it seems the most likely outcome: reducing risk, speeding up responses and providing customers with higher quality resolutions are all beneficial to both customer and business.

62% strongly disagreed that AI would be irrelevant to their contact center: only respondents from the smallest operations were likely to say that AI would not impact their operations at all.

Figure 123: Views on the role of artificial intelligence in the contact center

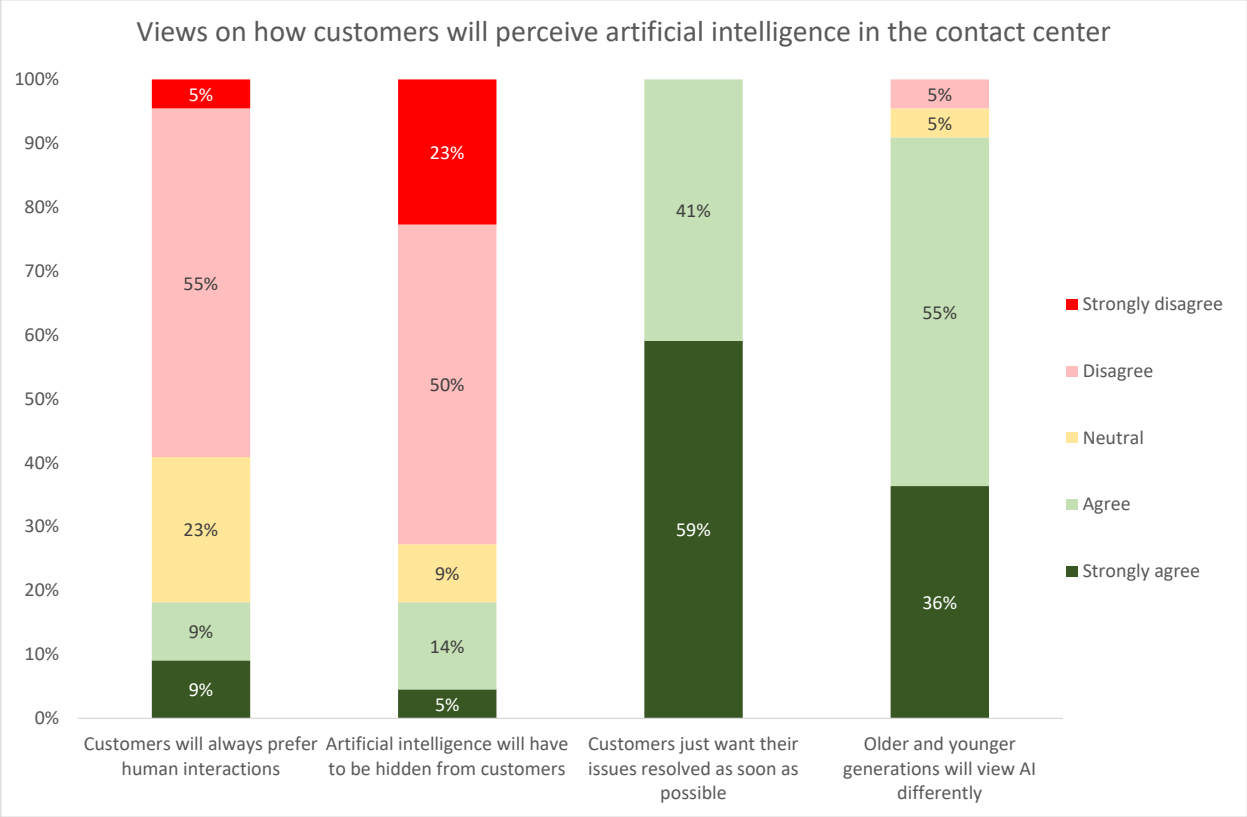


There is a widespread belief that customers will not have a problem with AI if it helps them to resolve their issue as quickly and easily as possible. The uptake in web self-service suggests that customers will accept non-human assistance if it is most convenient for them, although there was something of a disagreement between small and large operations: the former were more likely to think that customers would prefer human interactions, whereas those in large contact centers felt that customers would not be too concerned about being served by AI.

There was general agreement that older generations will take more persuasion to be happy with AI compared to a younger generation that is already used to dealing with AI in their everyday life (e.g. through smartphones or other virtual assistants in the home).

There was also a general feeling that AI would not need to be hidden from customers.

Figure 124: Views on how customers will perceive artificial intelligence in the contact center

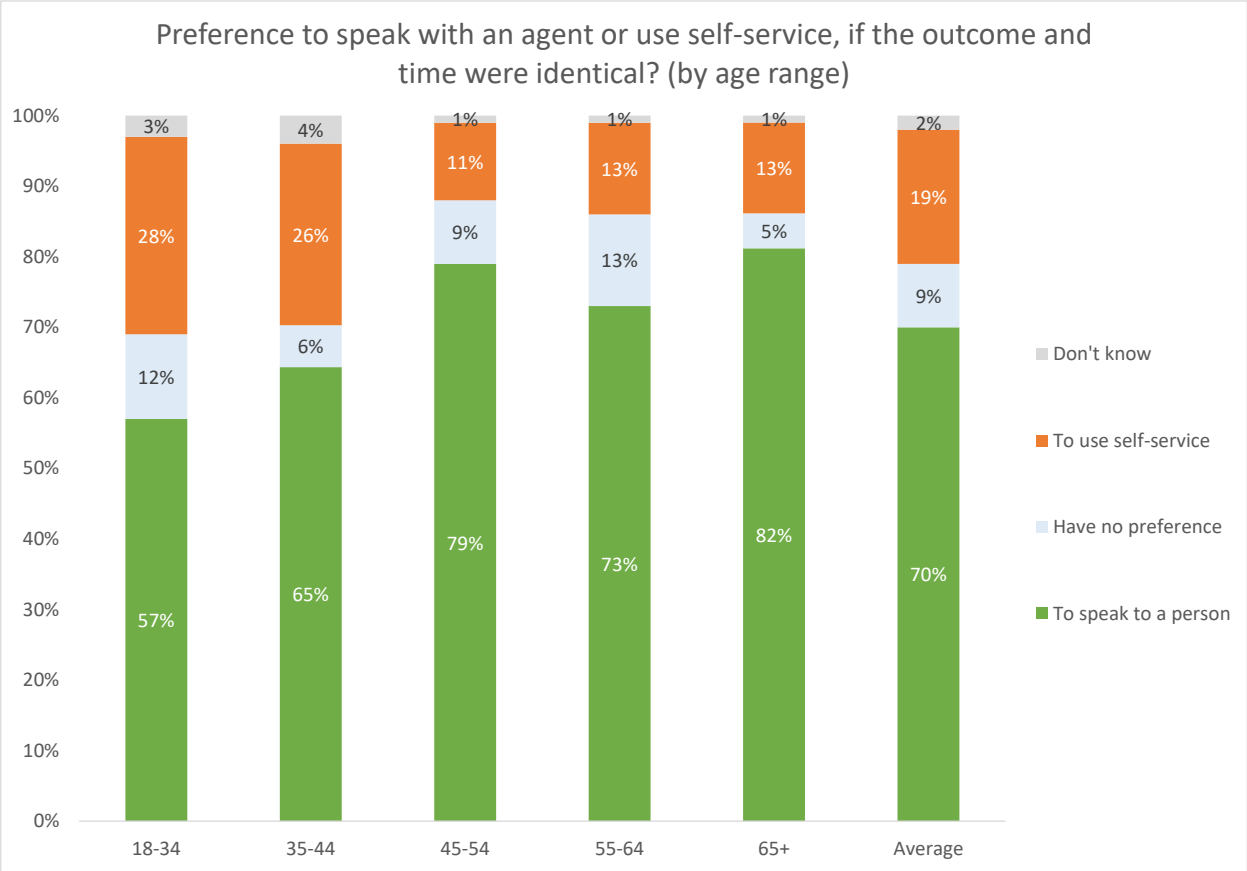


In order to gauge the level of acceptance and expectation around fully-automated customer contact, US consumers were asked whether automation or human assistance would be preferable to the customer base in circumstances where the customer effort, time and outcome were exactly the same. Bearing in mind the rapid advance and uptake in digital channels, the findings were quite surprising, as it was found that the customer base is currently strongly in favor of speaking to a human employee.

Looking at the age group of the customer base, older demographics feel more strongly about human contact, with younger and middle-aged customers are more likely than them to choose to use automation. This fits in with the previous findings that the younger section of the customer base places more value on their time, whereas the older demographic prefers to have their issue resolved first-time by a single employee.

Bearing in mind that this question emphasized that the outcome and customer effort/time **would be identical** in each case, the results show that the customer base at present is not yet at a stage where automation is generally seen as being even on equal terms with human contact, let alone the preferred method of contact with a business, and that the human touch is still very much valued.

Figure 125: Would you prefer to speak with an agent or use automation, if the outcome and time were identical? (by age range)



Further analysis of this data showed that men were a little more likely than women to want to speak with an agent (74% vs 66%). More affluent households ($100k+) chose automation in 28% of cases vs. 16% for sub-$50k households, and there was a similar pattern for college graduates (25%) vs high school graduates (16%).

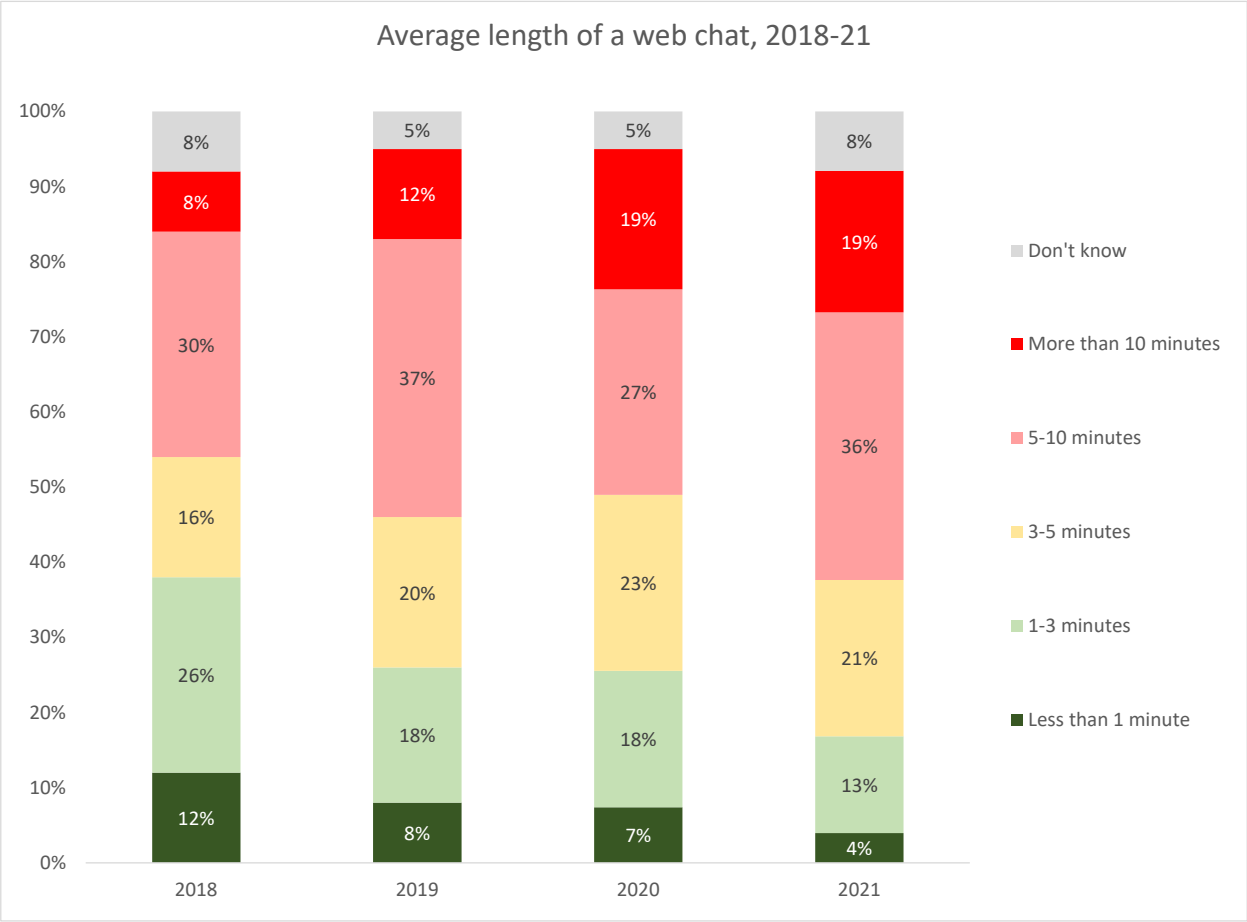
AI FOR WEB CHAT AND EMAIL

Perhaps the most obvious potential use of AI in the customer contact environment is in handling digital enquiries, where the following charts show that web chats generally take far longer than phone calls (due to agent multitasking, and typing time) and that some email response rates can still be measured in days.

The most sophisticated chatbots or 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), customers must be encouraged and educated to use natural language queries in order for virtual agents to be able to deliver to their full potential.

There is something of a rise being seen in the average length of a web chat, as they become more complex and are seen by customers as a genuine alternative to a phone call. This view is supported by the rise in the average cost of a web chat, implying that each interaction is taking longer and costing more. This provides fertile ground for AI to handle many of the simpler web chat requests, freeing up chat agents to focus upon more complex customer issues.

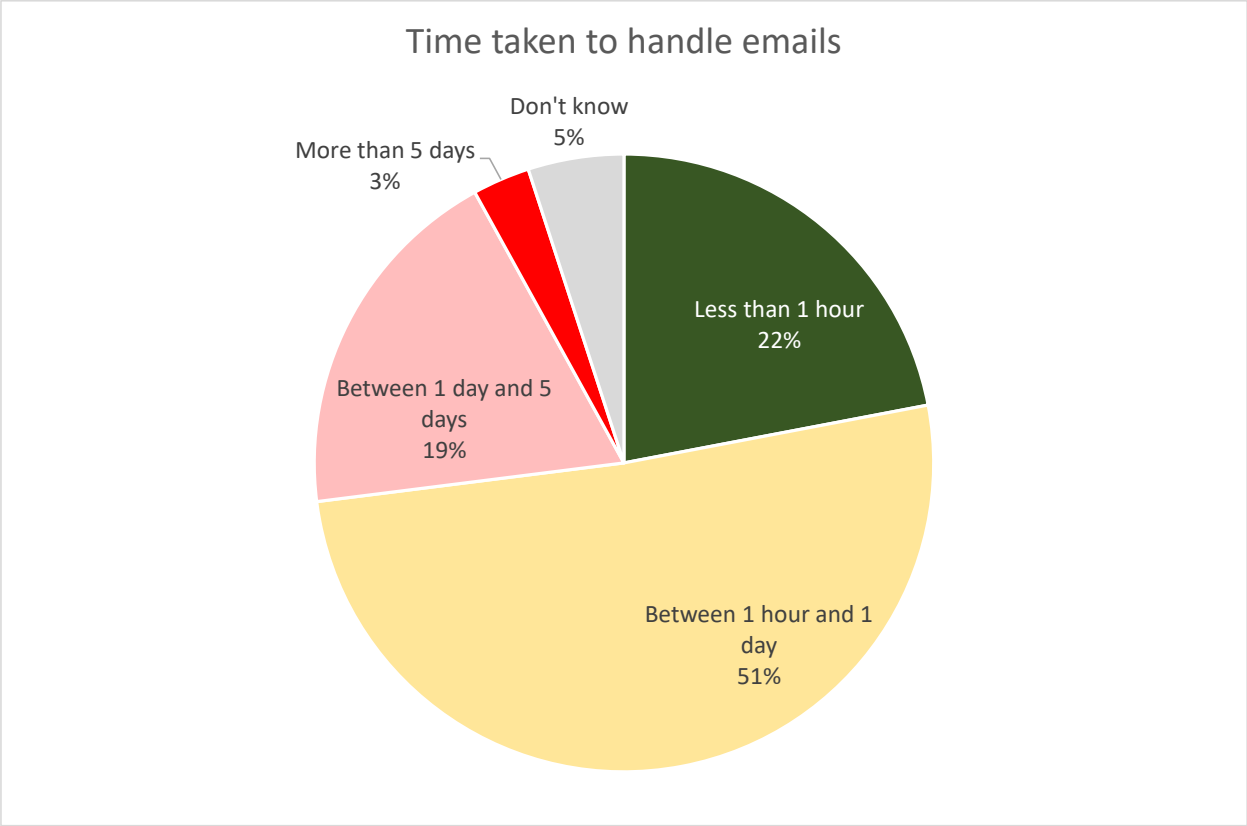
Figure 126: Average length of a web chat, 2018-21



AI can also be used for email to create responses that look as though they have been written by a person rather than a machine, using natural language processing to write content, as well as understand it. Emails can be tailored based on the customer's history and behavior, optimizing marketing messages as well as service, sending emails at a time when they have been calculated that they are most likely to be opened.

Personalized emails can be produced by AI, based on subscribers' past email browsing activities to understand the type of content that they actually care about. This is a way in which AI can outperform human agents, who do not have the opportunity or capability to find patterns or draw conclusions from huge amounts of data.

Figure 127: Time taken to handle emails

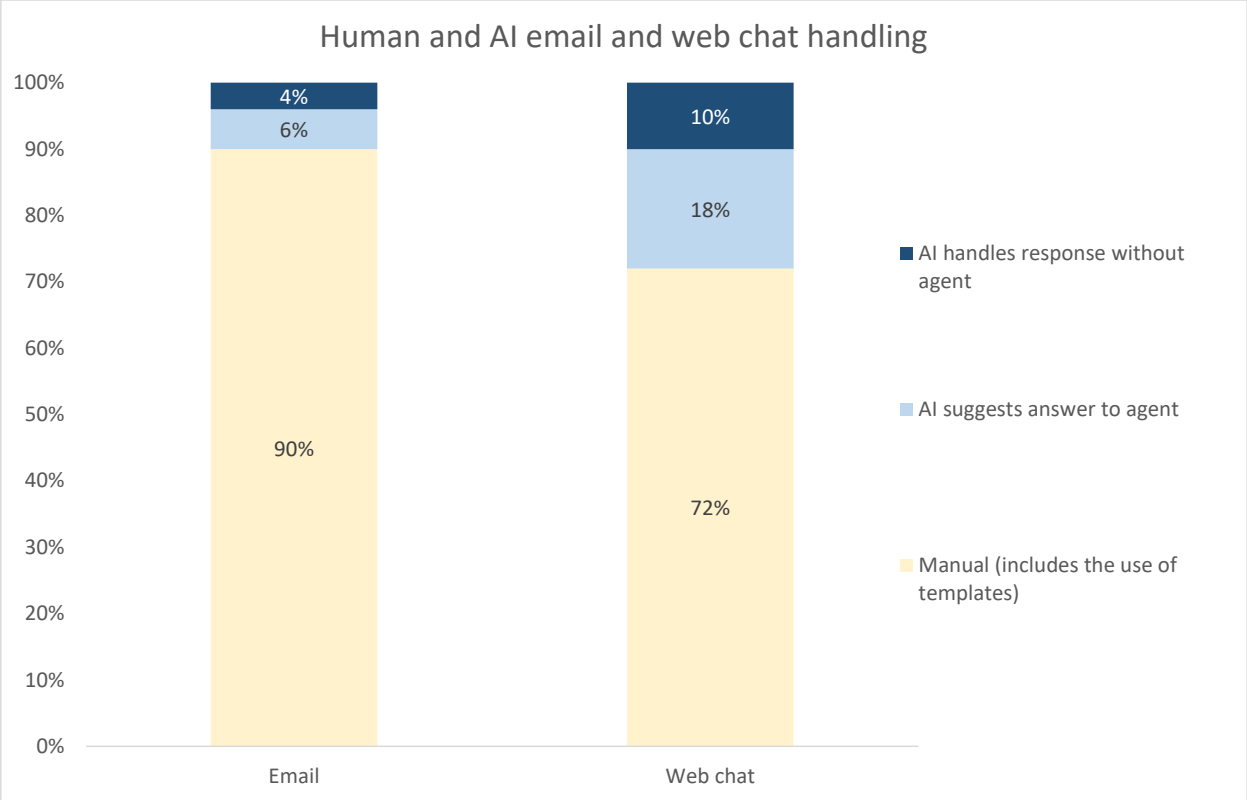


One reason for the slow response rate and growing length of web chats is that there has been little automation used in the US contact center industry, which also means that the cost of an email or web chat has historically been very similar to that of a phone call.

Digital channels may work quite well for customers, but businesses have not yet generally seen the cost savings that automation can bring. Very few emails are handled entirely by AI, although a growing proportion of web chats are dealt with by AIs working alongside agents, suggesting responses which agents can then accept or amend, and 2021 has seen a rise in fully-automated web chat responses.

The hybrid agent/AI way of working is likely to be the norm in the near future, with the speed of automation and the emotional intelligence of humans combining to provide superior service at a lower cost.

Figure 128: Human and AI email and web chat handling



The Virtual Agent or chatbot may appear 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 may then 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 as seen previously, many businesses believe it is best practice to identify clearly between virtual and real agents.

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

CURRENT AND FUTURE USE OF AI

Despite a low current use of AI across industries, there is widespread interest in implementing this solution, with 42% of respondents that do not currently use AI intending to implement it at some point, especially in larger operations and the retail, outsourcing and medical sectors.

Figure 129: Use of AI / Machine Learning, by vertical market

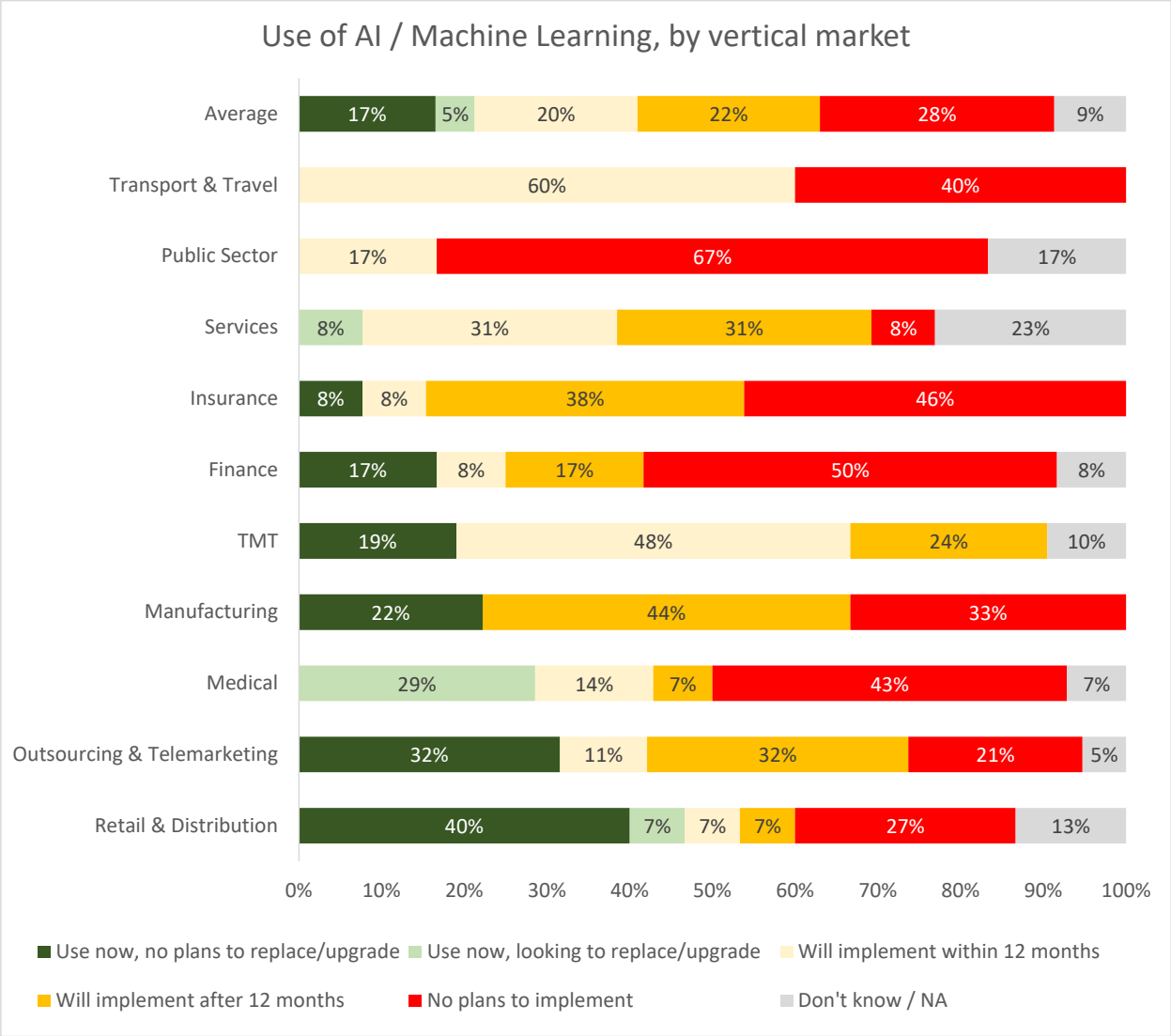
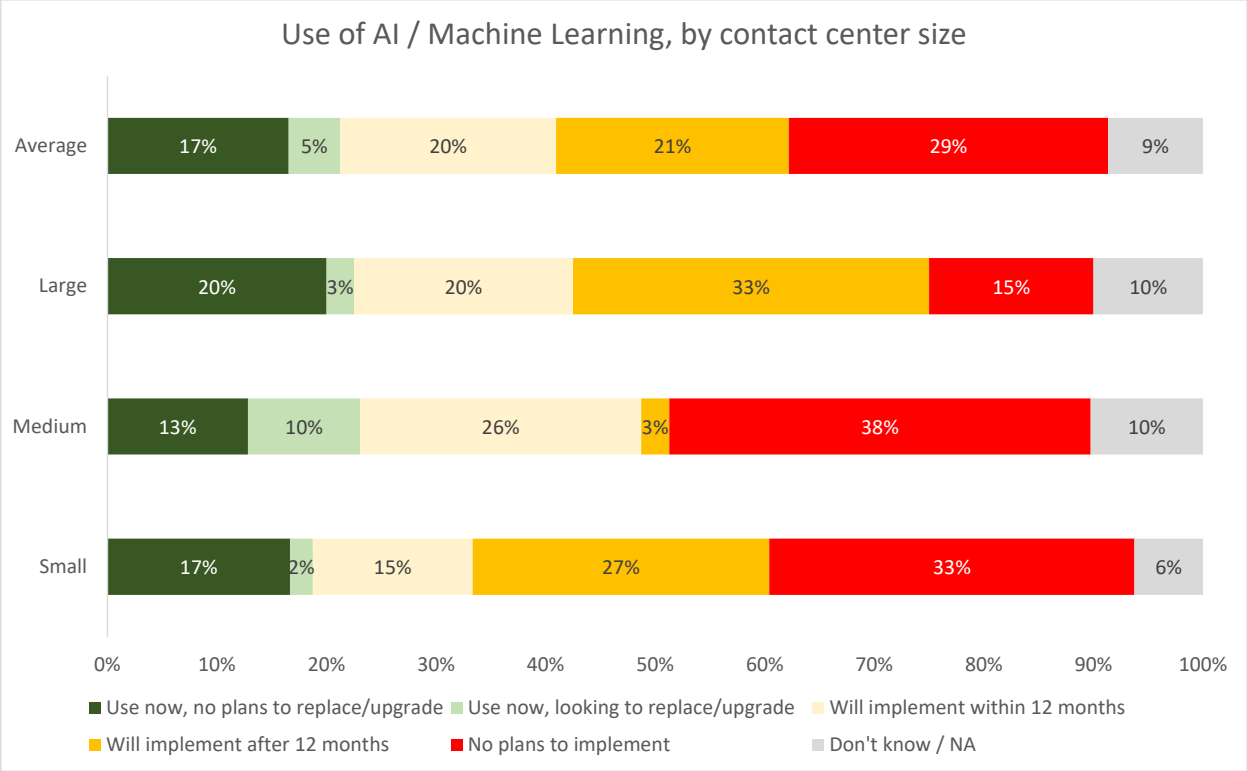


Figure 130: Use of AI / Machine Learning, by contact center size



Potential uses of AI in the customer contact space include:

- Emails that look as though they have been written by a person rather than a machine, using natural language processing to write content, as well as understand it
- Tailor information based on the customer's history and behavior for marketing as well as service, sending emails at a time when they have been calculated that they are most likely to be opened
- Increased opportunities for personalization, as the full customer history can be checked in near real-time, with far more data practically available to the AI than would be for a human agent
- Machine learning will allow AI to go beyond simply what they have been programmed to do, seeking out new opportunities and delivering service beyond what has simply been asked of them
- Use of text analytics to assess not only data held within the company, but also in unstructured, third-party environments, such as social media, comments on websites and public forums, in order to learn and deliver proactive service before it is even requested

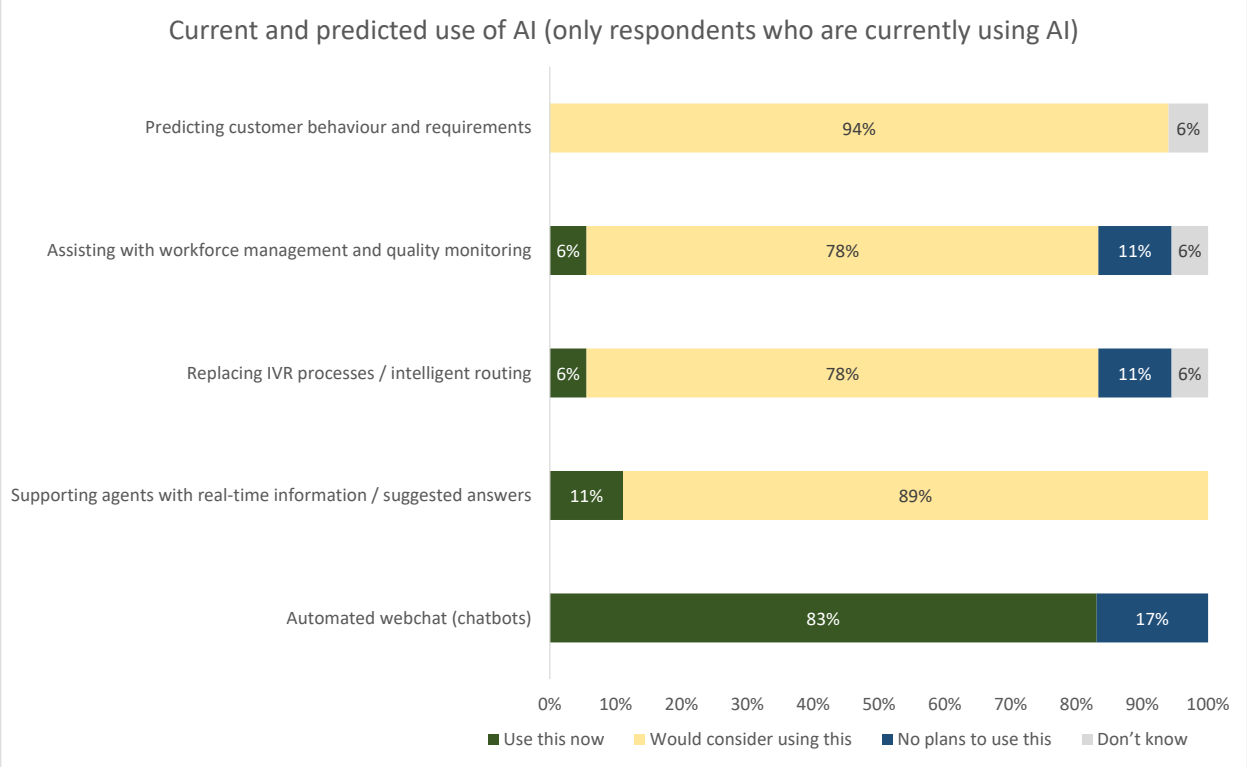
- Text analytics can also be used on inbound interactions such as emails, running an AI triage system to assess the priority and urgency of each request in order to handle these more effectively and in an appropriately timely manner

- Work alongside agents to provide relevant knowledge that may be otherwise take a long time to find, and update the knowledge bases available to humans and AI self-service systems using an automated feedback loop that is constantly improving based on actual outcomes

- Through understanding multiple customer journeys, AIs will be able to predict the next most-likely action of a customer in a particular situation, and proactively engage with them so as to avoid an unnecessary inbound interaction, providing a higher level of customer experience and reducing cost to serve.

Current use of AI is very strongly focused upon chatbots, although is interest amongst AI users to widen usage to support agents in real-time, predict customer behavior, assist with workforce management, quality and performance monitoring and to augment and improve call routing. Few respondents stated that they would not expand their use of AI to provide any of these new capabilities.

Figure 131: Current and predicted use of AI (only respondents who are currently using AI)



Businesses' interactions with customers will become a highly polarized mixture of the automated and the personalized. Moving a large proportion of interactions onto self-service works for businesses, and is increasingly popular with a customer base that is becoming more sophisticated and demanding in what it expects from self-service. AI takes this a step beyond, offering personalized service without the need for a human agent in some cases.

We can expect to see personal technology applications seeking out the best deals on offer, or interacting with a business on behalf of customers without involving the customer at all. 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.

Many self-service scenarios suggest a world in which customers speak directly to 'intelligent' systems, but an e2e world is becoming more possible, in which systems talk to systems. The customer will delegate many of their business interactions to a pseudo-intelligent device, which will store information such as personal preferences, financial details and individuals' physical profiles. Customers will 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 personal AI would 'call' the relevant contact center (which could in fact be either a AI or possibly a live agent in some cases) and even purchase the best deal without having to involve the owner in any way. The same principle applies to customer service: using the 'Internet of things' means that, for example, utilities meters would send their own readings to suppliers on request, and a manufacturer can detect when a part on an appliance is about to fail, and organize a replacement part and engineer visit with the customer's permission.

CLOUD-BASED CONTACT CENTER SOLUTIONS

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' 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

- 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.

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
- Having hardware and software based in the cloud means that ongoing system maintenance is significantly reduced, as it is the job of the cloud provider to handle such matters. This is also the case in terms of implementing new systems, with new users generally stated to be up and running in a matter of weeks
- In a multi-site, cloud-based environment, self-service and call routing scripts can be held centrally to increase the speed to alter these as required, and also to maintain consistency across sites. Infrastructure and processes which are held in the cloud can avoid issues which CPE resources can experience, such as unnecessary duplication across multiple sites and a corresponding increase in management costs for configuration, administration and performance checking
- 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). Some solutions offer a hybrid model, a mixture of CPE and CCaaS, which allows them to instantly access extra capacity on demand, depending upon the needs of the business. This can help to break down traditional barriers around providing cost-effective handling of seasonal volume spikes, peak periods, new campaigns and homeworkers.

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
- Customization in multi-tenancy environments is obviously far more limited than with a CPE delivery model and the cloud provider may not be able or willing to support unique customization requests. This has tended to mean that there has been a balance between functionality, cost and flexibility, although solution providers are still trying hard to offer similar levels to their CPE offerings. Having said that, the majority of functionality that contact centers require will be available through a cloud-based model, and the prevailing opinion is that with the level of competition in this area, cloud providers will be more likely to update and innovate to keep ahead of the game.

Security: does Cloud bring a greater risk to security, or the opposite? In the first market stage, security tended to be the greatest concern expressed around moving to a cloud-based solution, as – naturally – businesses will tend to think that they can look after their precious data better than anyone else, as they have the most to lose through any mistakes. Worries about attacks from outside or within the service providers' organizations, or through poorly-designed security creating potential risks, mean that allowing a third-party to be in control of a businesses' data security is a major cultural and technological change to the way most businesses and IT departments have operated.

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.

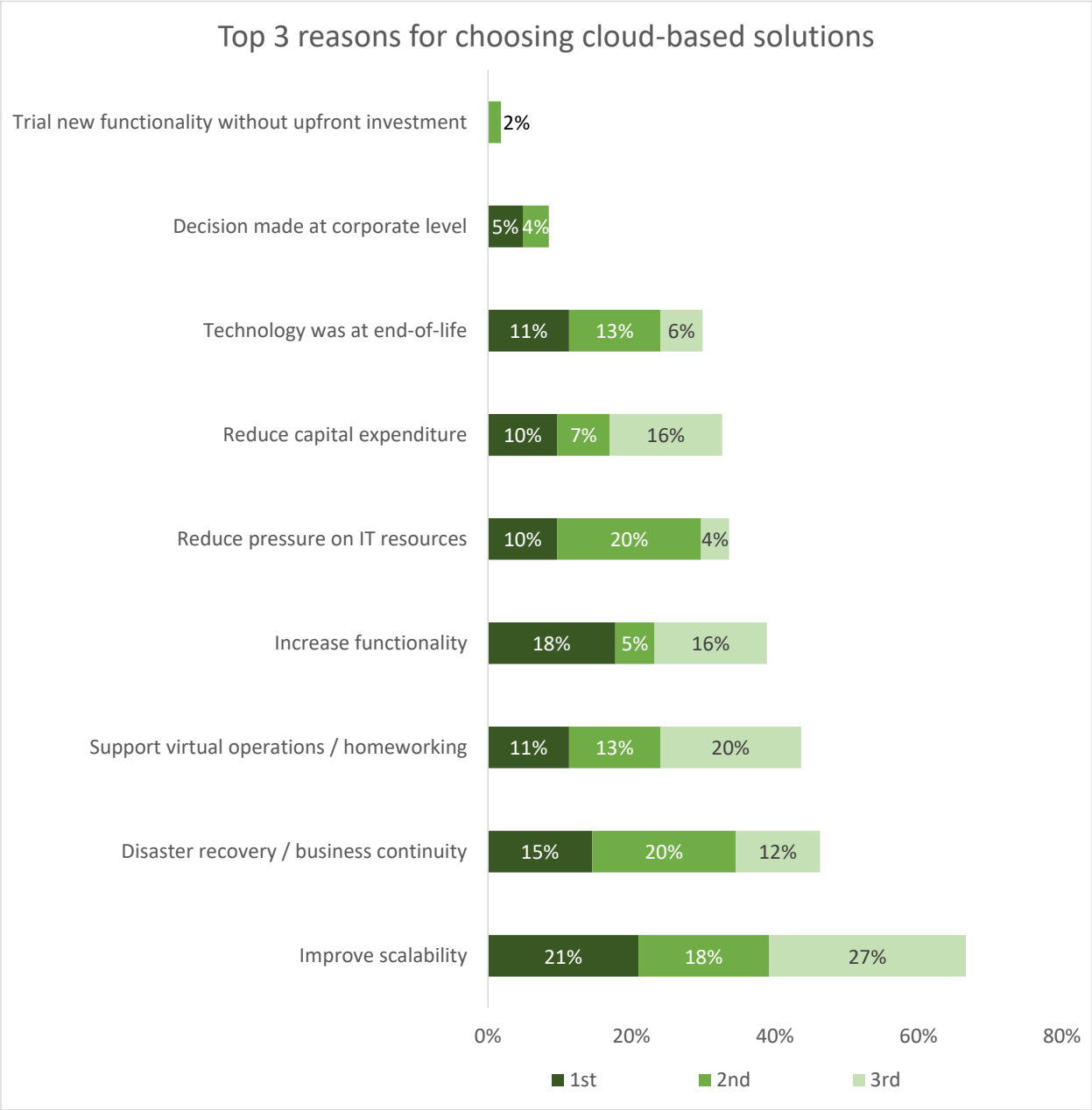
Integration & Customization: while out-of-the-box functionality can be quick and cheap enough to get things moving, what if businesses need more a personalized approach? Being able to continue using relevant existing CPE systems, and access databases and back-office systems is a minimum requirement for 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 following figure shows that while there is no single overarching reason that contact centers move to cloud – as much depends on the nature of the business and contact center environment – the ability to scale operations is see as a top 3 reason to do so by 67% of survey respondents.

The ability to reduce upfront investment has historically been seen by respondents as the most important primary reason to move to the cloud, but this is much less important than it used to be. Supporting virtual operations and remote working, planning for disaster recovery / business continuity and improving scalability are all rated as top 3 reasons by at least 40% of respondents.

Figure 132: Top 3 reasons for choosing cloud-based solutions

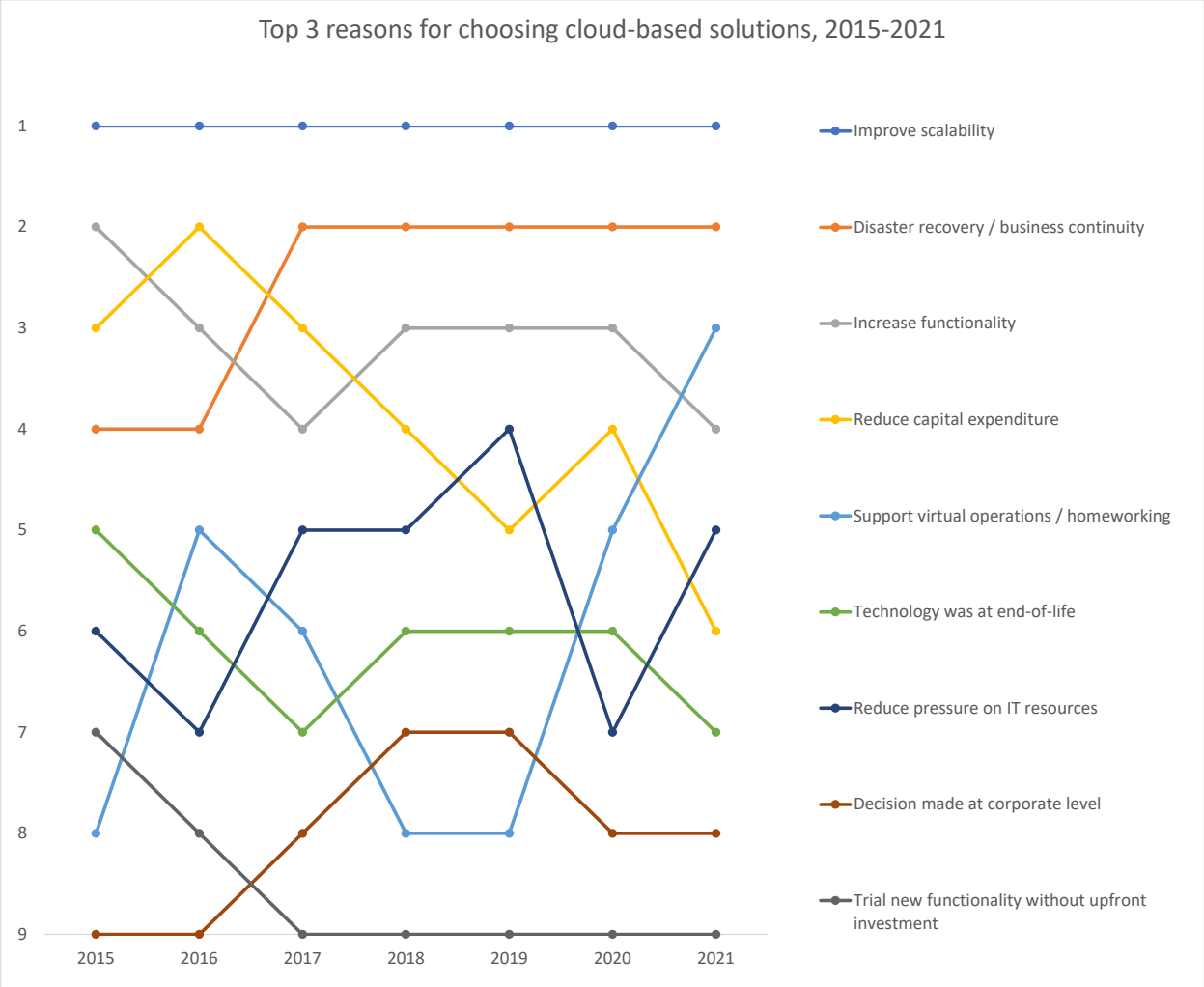


A major finding to take from the previous chart is that there are not simply one or two reasons to move to cloud: there are considerable financial, operational and technical advantages for many organizations to do so.

It is interesting to see how the reasons for implementing cloud have changed, even within the past few years. The 2015 report found that 23% of respondents stated that trialing new functionality was a top 3 reason, whereas only 2% said this in 2021, and a reduction in capital expenditure is a top 3 reason for only 33% of respondents, compared to 50% in 2015.

Scalability has always been the top reason for cloud implementation, and disaster recovery / business continuity was a major driver even before the pandemic. It is very noticeable that support for virtual contact centers / homeworking has risen from 8th place in 2019 to 3rd in 2021.

Figure 133: Top 3 reasons for choosing cloud-based solutions, 2015-2021



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 18 in North America. Others focus on the process of processing payment card data (PCI DSS), whereas others are around information security controls (ISO/IEC 27000 family). 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, 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.

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. Concerns over customization are frequently cited as a major inhibitor to moving to cloud.

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.

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 functionality that the solution needs to integrate with and where possible, a wish-list of functionality in the future

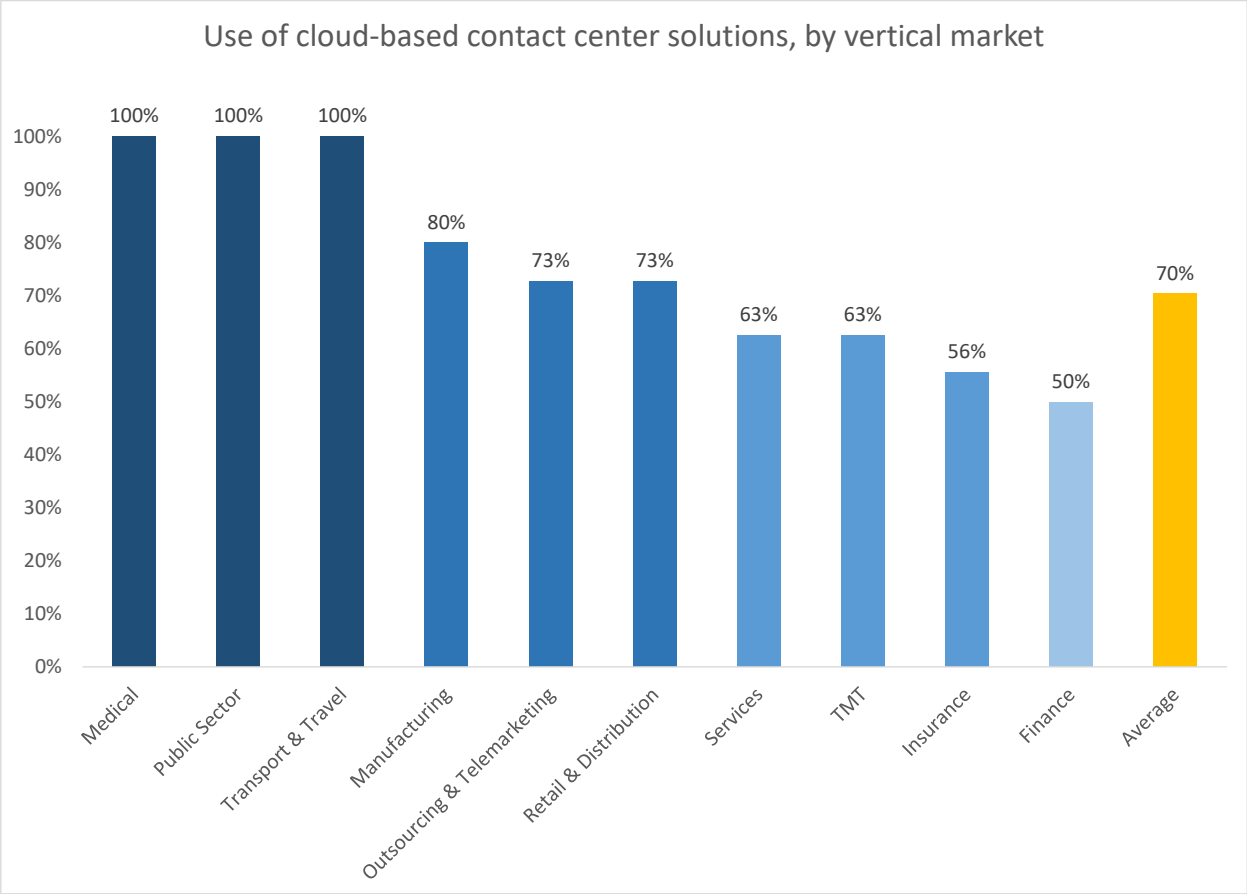
- Investigate publicly-available referenceable sites from cloud-based providers that are similar to your own requirements, and submit an RPF (request for proposal) to the long-list. Request a detailed product roadmap along with timescales in order to assess whether this solution will meet your demands 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

70% of respondents reported that they were currently using at least one cloud-based contact center solution within their operations this year, which is a significant step up from previous surveys. The finance and insurance respondents were least likely to be doing so.

Figure 134: Use of cloud-based contact center solutions, by vertical market



There has historically been a slight positive correlation in the use of cloud-based contact center solutions when looking at contact center size, but this has disappeared in recent years.

Figure 135: Use of cloud-based contact center solutions, by contact center size

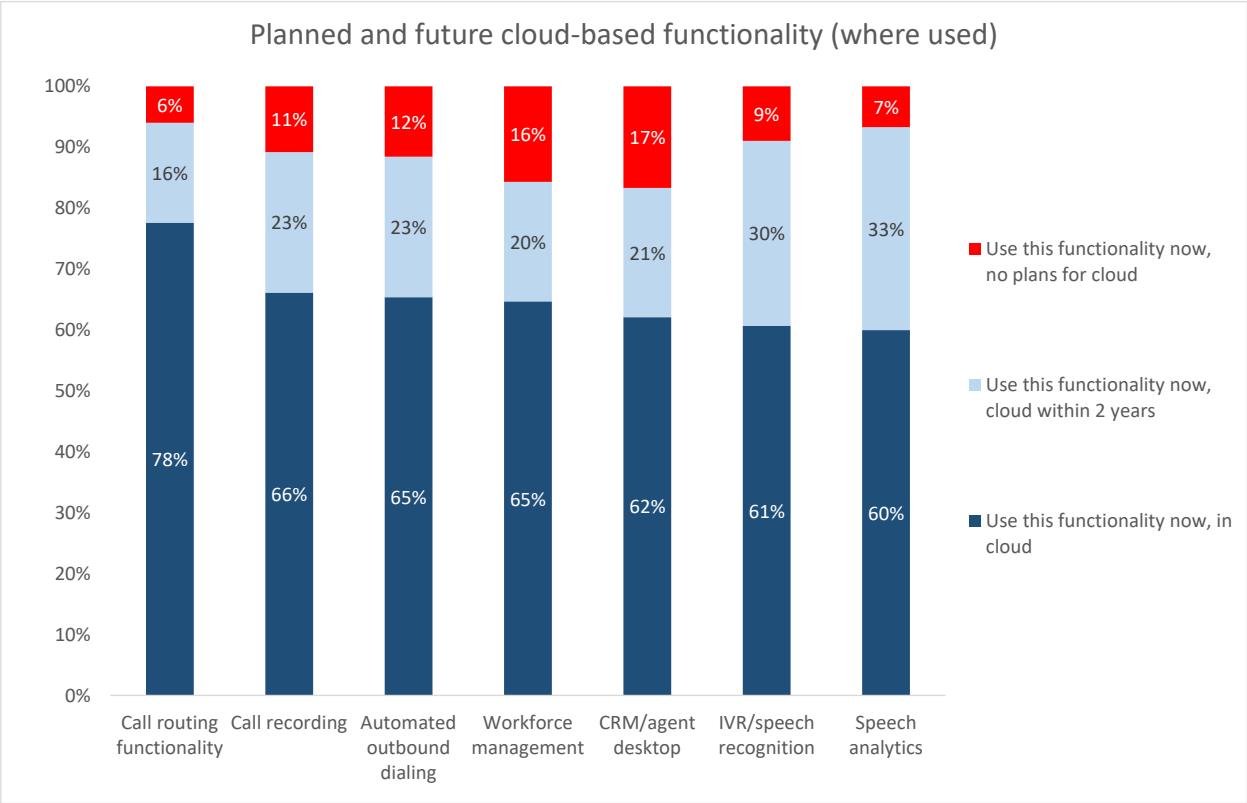
Contact center size	Proportion of respondents using cloud-based contact center solutions
Small	68%
Medium	76%
Large	68%
Average	**70%**

Respondents were asked about the contact center functionality that they had within the cloud, and what their plans were for the next two years.

78% of respondents' call routing functionality is deployed through cloud-based solutions, with respondents stating that all of the other applications studied were also in the cloud in the majority of cases.

Respondents expect to see significant extra amounts of their functionality being delivered in the cloud by end-2023. Respondents indicate that their cloud-based deployment of speech analytics and IVR will show the strongest growth within two years.

Figure 136: Planned and future cloud-based functionality (where used)



RESULTS OF USING CLOUD SOLUTIONS

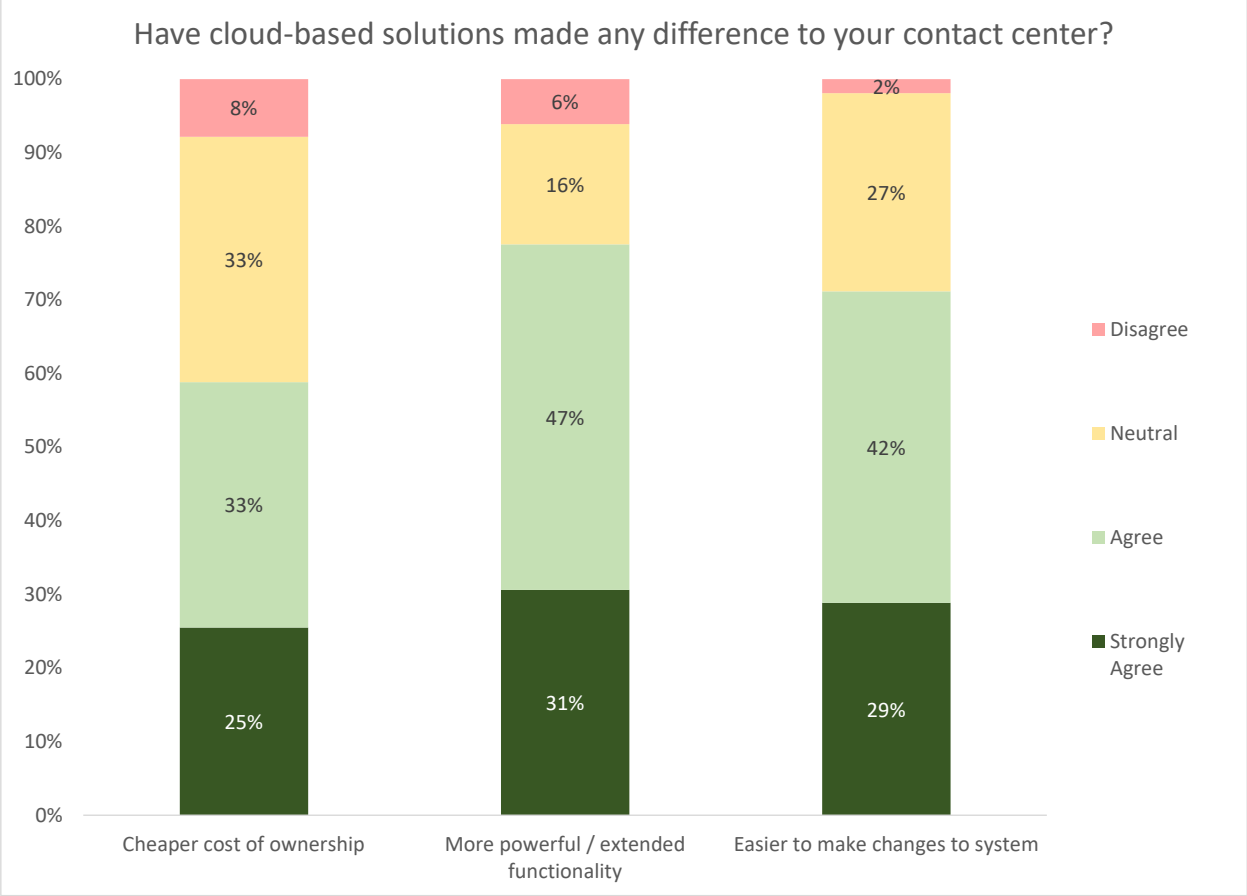
Those contact center respondents who have actually implemented a cloud-based solution report that it has delivered significant advantages in most cases.

58% of respondents stated that cloud-based solutions had given a cheaper overall cost of ownership of their contact center technology; 8% disagreed, although not strongly.

78% experienced more powerful extended functionality in a cloud-based environment, with only 6% disagreeing that this was the case.

71% of respondents stated that cloud made it easier to make changes to the system, with 2% disagreeing.

Figure 137: Have cloud-based solutions made any difference to your contact center?

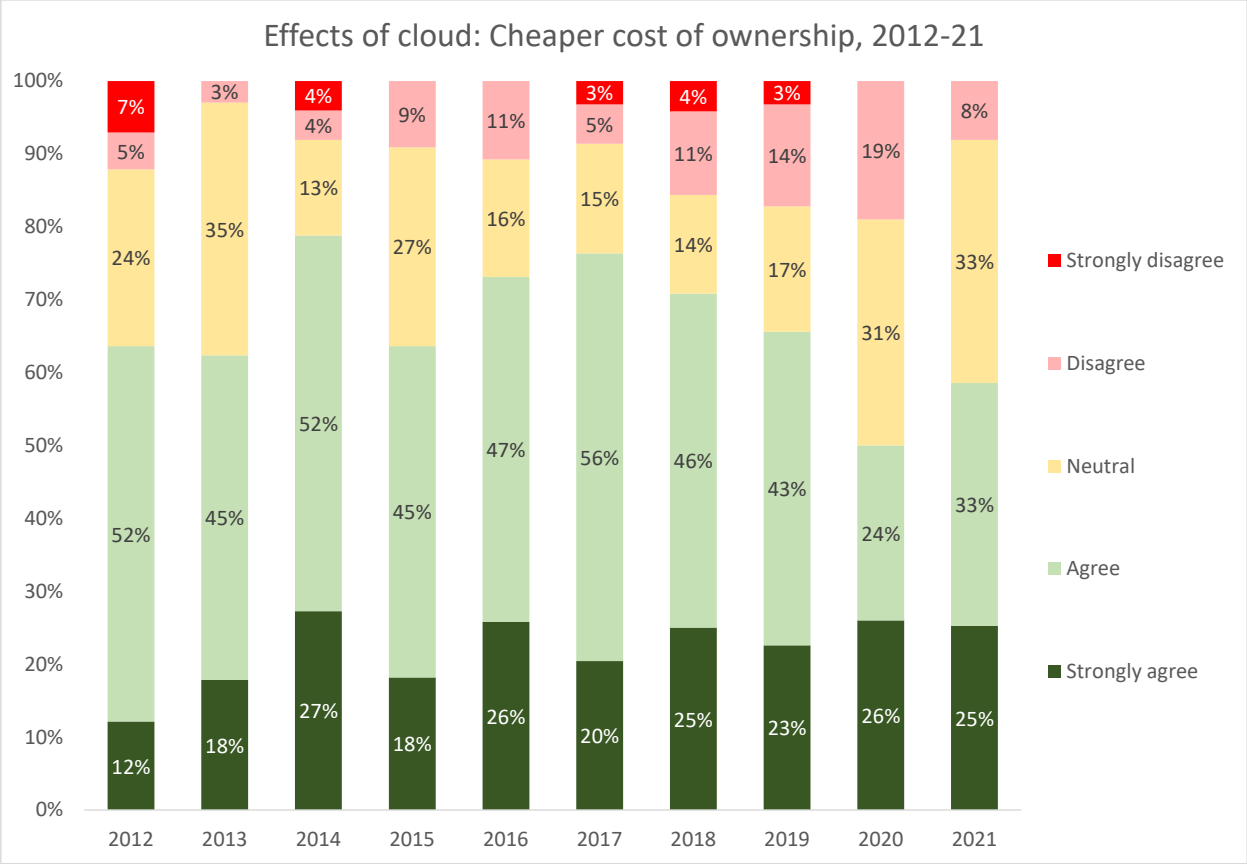


Despite different companies taking part in this research each year, the findings have been consistent for many years and readers can treat these with some confidence.

To show this, the following three charts show how each of these effects has been viewed by respondents over the past 10 years' surveys. (NB – As the option "Don't know" was not always offered in past surveys, these responses have been removed from the following three charts, and the remaining proportions recalculated).

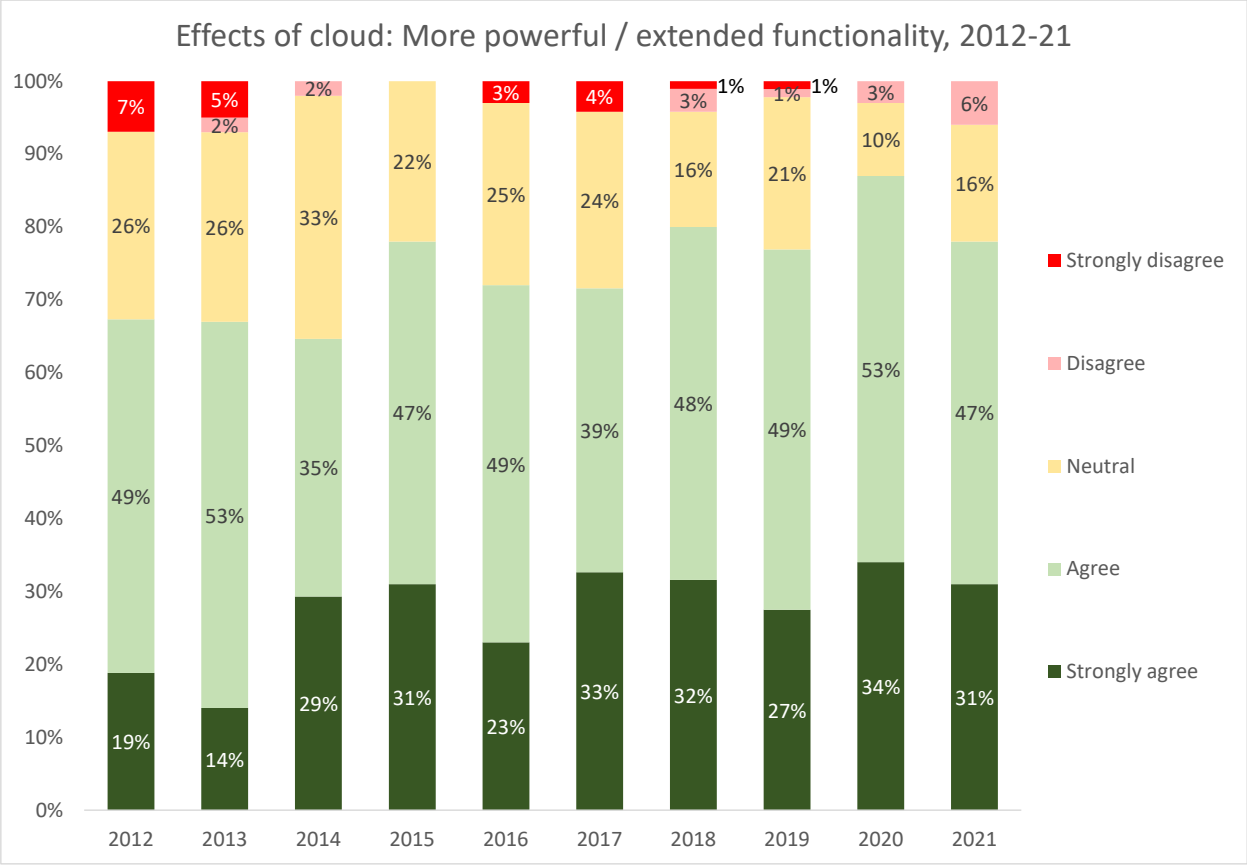
The belief that cloud offers a cheaper overall cost of ownership is fairly consistent, although the relatively high proportion of respondents in 2017-20 stating they disagree is notable: these data should be viewed in conjunction with the next chart which shows a significant rise in functionality, suggesting that cloud now offers far more than stripped-down, lower cost capabilities of many years ago.

Figure 138: Effects of cloud: Cheaper cost of ownership, 2012-21



Looking at the effects of cloud on functionality, there is a very strong feeling that this deployment model offers more powerful and extended functionality, which is especially shown to be the case in the past five years.

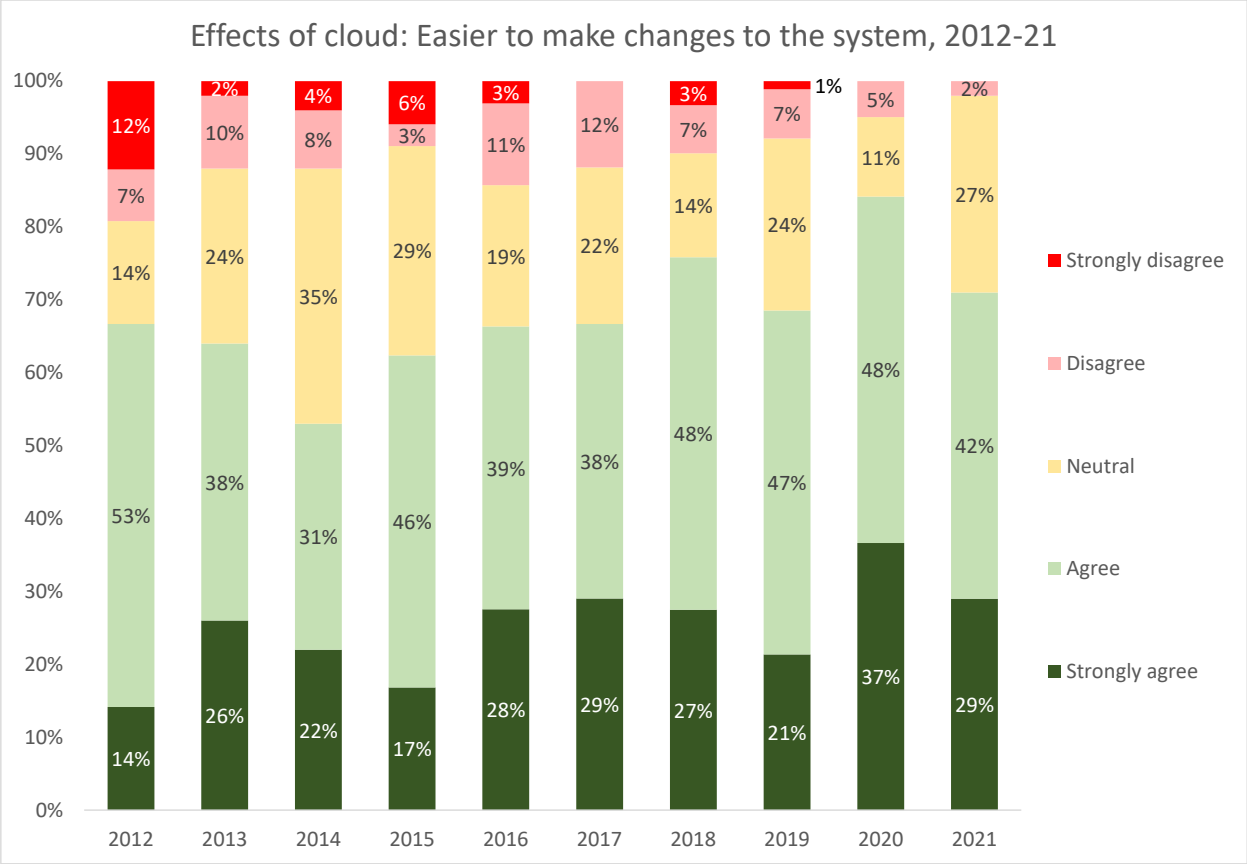
Figure 139: Effects of cloud: More powerful / extended functionality, 2012-21



Over the years there has been a steady feeling that cloud makes system changes somewhat easier, and this opinion has risen significantly since 2014.

This may be the result of cloud solution providers now offering a quicker and easier method for contact centers to make changes to their solutions, as well as the case that contact center users have become more familiar and comfortable with making changes in a cloud-based solution.

Figure 140: Effects of cloud: Easier to make changes to the system, 2012-21



CONCERNS ABOUT CLOUD-BASED SOLUTIONS

Despite the generally positive experiences that most users of cloud solutions have reported, there are still some barriers to implementation that are holding back some potential users, connected with fears around data security, integration, customization and a fear of over-reliance on third parties.

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. 38% 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 12% 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.

Reliance on a third-party to handle business-critical technology, difficulties in integration and customization, and concerns over data security are still of concern to many 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 40% of 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, although as the concerns displayed in this survey generally become less pronounced each year, the movement is in the right direction.

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".

OUTBOUND, CALL BLENDING AND PROACTIVE CUSTOMER SERVICE

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 service selling.

This chapter considers outbound automation in depth, both through live and automated means.

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 (TPS) 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 joining TPS. 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-used tactic.

OUTBOUND ACTIVITY

The single most popular outbound activity is where agents call customers back about an ongoing issue, with call-backs requested by the customer instead of waiting in an inbound queue also important.

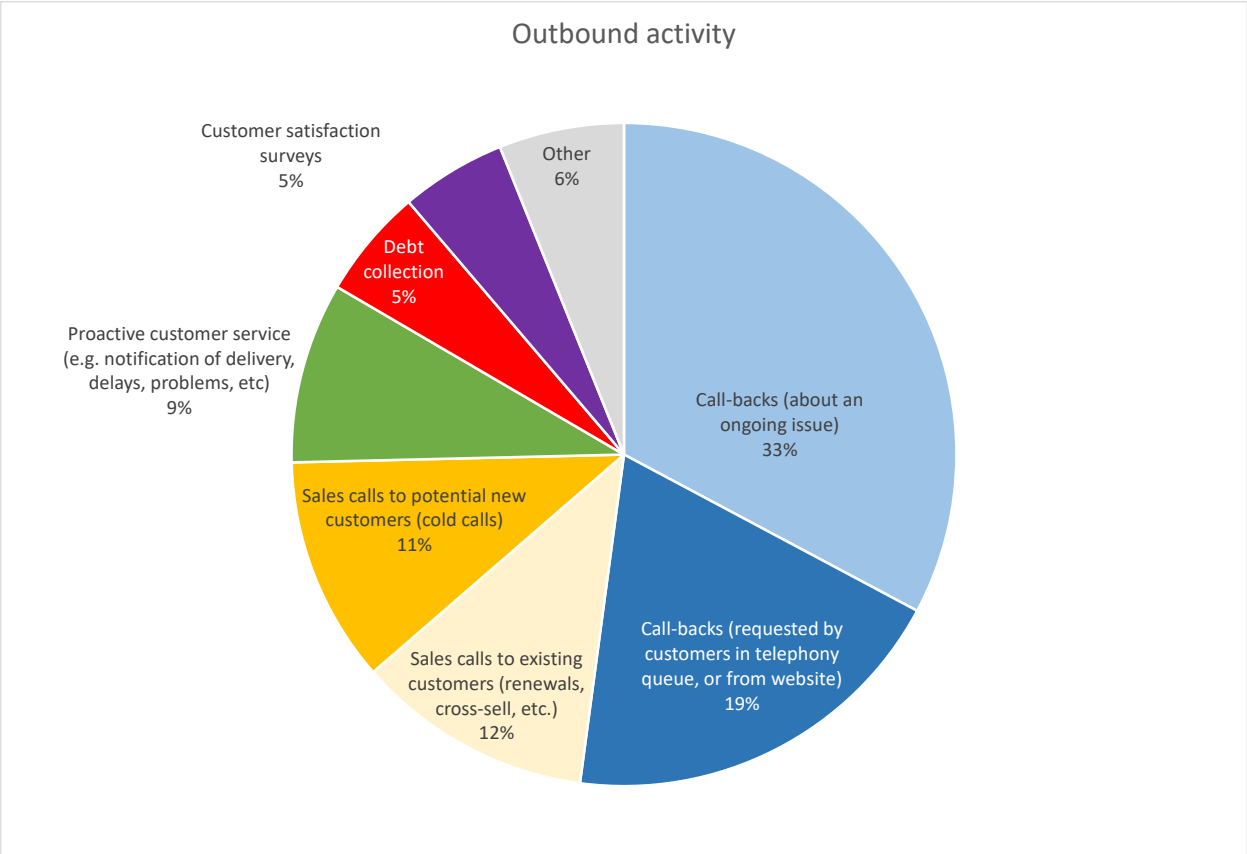
Proactive customer service – calling the customer about an issue without being asked to first – is a strong brand builder as well as an effective call avoidance tactic.

The overall proportion of sales calls remains quite steady at 23% this year.

Cross-selling/upselling continues to be an important outbound activity (and bear in mind that this figure does not include those many inbound service calls that are turned into cross-selling opportunities), with 12% of outbound calls being made for this purpose.

Debt collection accounts for 5% of respondents' calls. Customer satisfaction surveys remain low, with automated processes increasingly preferred.

Figure 141: Outbound activity



19% of respondents' calls are outbound, with the retail & distribution, TMT, medical, services and outsourcing & telemarketing sectors leading the way.

As usual, the public sector is one of the sectors that falls behind the rest of the contact center industry in terms of its outbound activity, and relatively few of this year's finance or insurance respondents carry out much outbound work.

Figure 142: Proportion of calls that are outbound, by vertical market

Vertical market	Proportion of calls that are outbound
Outsourcing & Telemarketing	42%
TMT	29%
Services	18%
Medical	18%
Retail & Distribution	17%
Transport & Travel	13%
Manufacturing	8%
Public Sector	5%
Finance	4%
Insurance	4%
Average	**19%**

Historically, larger contact centers were more likely to carry out outbound work: after a few years of this correlation being weakened, this pattern reappeared in 2017 and is still the case this year.

Figure 143: Proportion of calls that are outbound, by contact center size

Contact center size	Proportion of calls that are outbound
Small	19%
Medium	11%
Large	26%
Average	**19%**

Vertical market patterns of outbound activity are very different from each other, and there is not even a great deal of homogeneity within sectors, so these figures should be treated with some caution. However, there are some interesting findings to bring out.

The manufacturing sector carries out significant amounts of proactive customer service, advising of status, delays, appointment reminders and deliveries.

Finance and TMT respondents report cross-selling and upselling being a very significant part of their outbound activity as do services respondents. TMT and outsourcing respondents carry out high levels of cold calling.

The public sector respondents report significant outbound activity connected to debt collection.

Figure 144: Outbound activity by vertical market

Outbound activity	FS	INS	MN	MD	OS	PS	RD	SVC	TMT	TT	Avg
Call-backs (about an ongoing issue)	38%	48%	44%	59%	30%	5%	50%	22%	10%	22%	**33%**
Call-backs (requested by customers in telephony queue, or from website)	3%	25%	10%	24%	12%	40%	28%	18%	5%	65%	**19%**
Sales calls to existing customers (renewals, cross-sell, etc.)	48%	14%	7%	0%	5%	0%	8%	19%	21%	0%	**11%**
Sales calls to potential new customers (cold calls)	0%	3%	3%	0%	22%	0%	1%	13%	28%	0%	**11%**
Proactive customer service (e.g. notification of delivery, delays, problems, etc.)	13%	3%	37%	11%	11%	0%	9%	3%	5%	13%	**9%**
Debt collection	0%	3%	0%	0%	0%	28%	5%	19%	5%	0%	**5%**
Customer satisfaction surveys	0%	3%	0%	0%	17%	0%	1%	5%	8%	0%	**5%**
Other	0%	1%	0%	5%	4%	27%	0%	2%	17%	0%	**6%**

NB: "0%" refers to a number lower than 0.5%, rather than necessarily a zero value.

Care should be taken when considering vertical market statistics, as the research sample size may be small. Use only as an indication of relative importance.

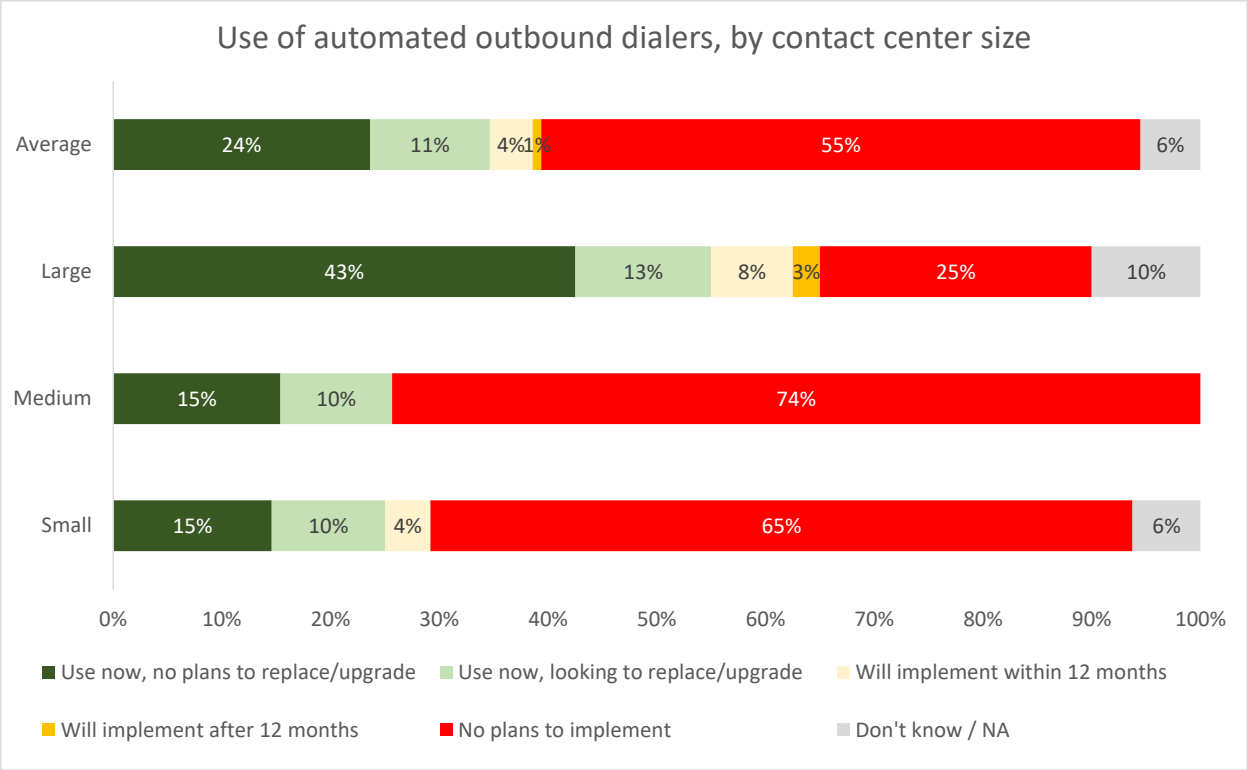
THE USE OF OUTBOUND DIALERS

Automated outbound dialers are most often found 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 becoming increasingly widely-used, and this means the barriers to usage are even less, with smaller operations also showing increased interest.

Dialer usage in respondents from small contact centers is currently 25%, with a further 4% considering implementing it in the next 12 months. Many suppliers of this technology are able to offer low-cost, scalable functionality in the cloud, and we would expect small and mid-sized operations to increase their use of outbound automation.

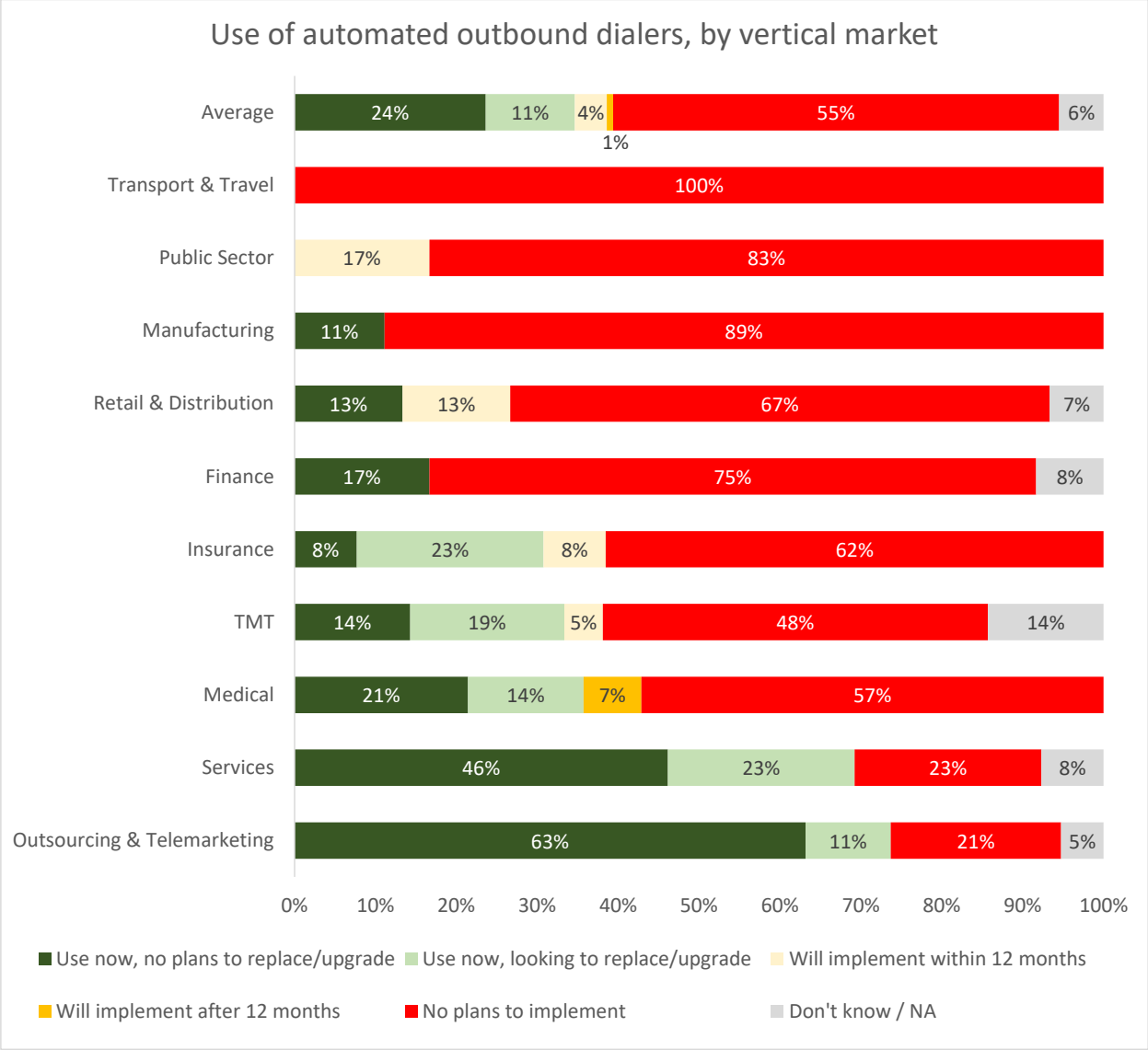
Figure 145: Use of automated outbound dialers, by contact center size



At the vertical market level, the outsourcing and services respondents are most likely to be using outbound dialers, with those in transport & travel and public sector least likely.

Having said that, the public sector shows the greatest interest in implementing dialing within the next 12 months.

Figure 146: Use of automated outbound dialers, by vertical market

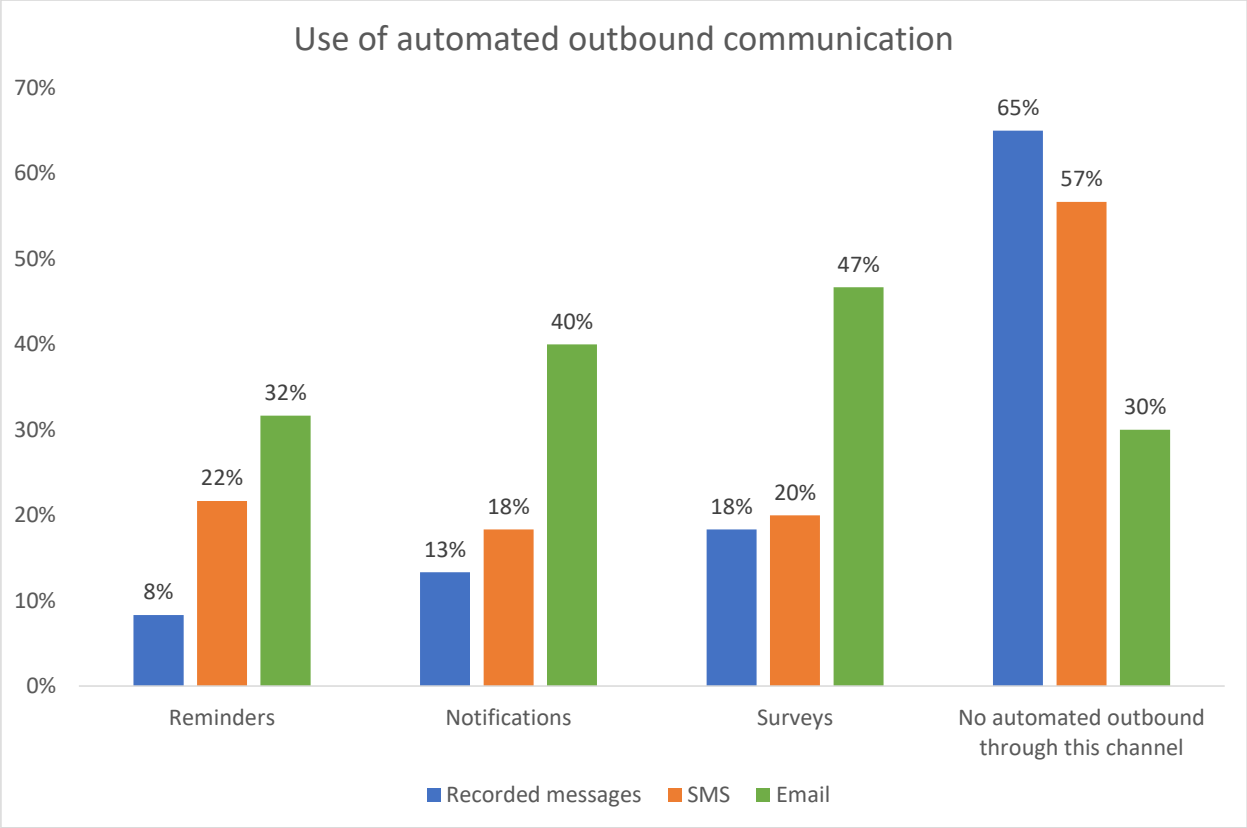


While the majority of targeted outbound contact is carried out by agents, the opportunity exists for automated outbound service to expand – such as sending reminders and notifications to customers through an automated process – thus significantly reducing the cost to the business while improving the 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.

Automated SMS messages are used by 43% of respondents this year, fairly evenly split between notifications, surveys and reminders. There is a fairly similar pattern for recorded messages.

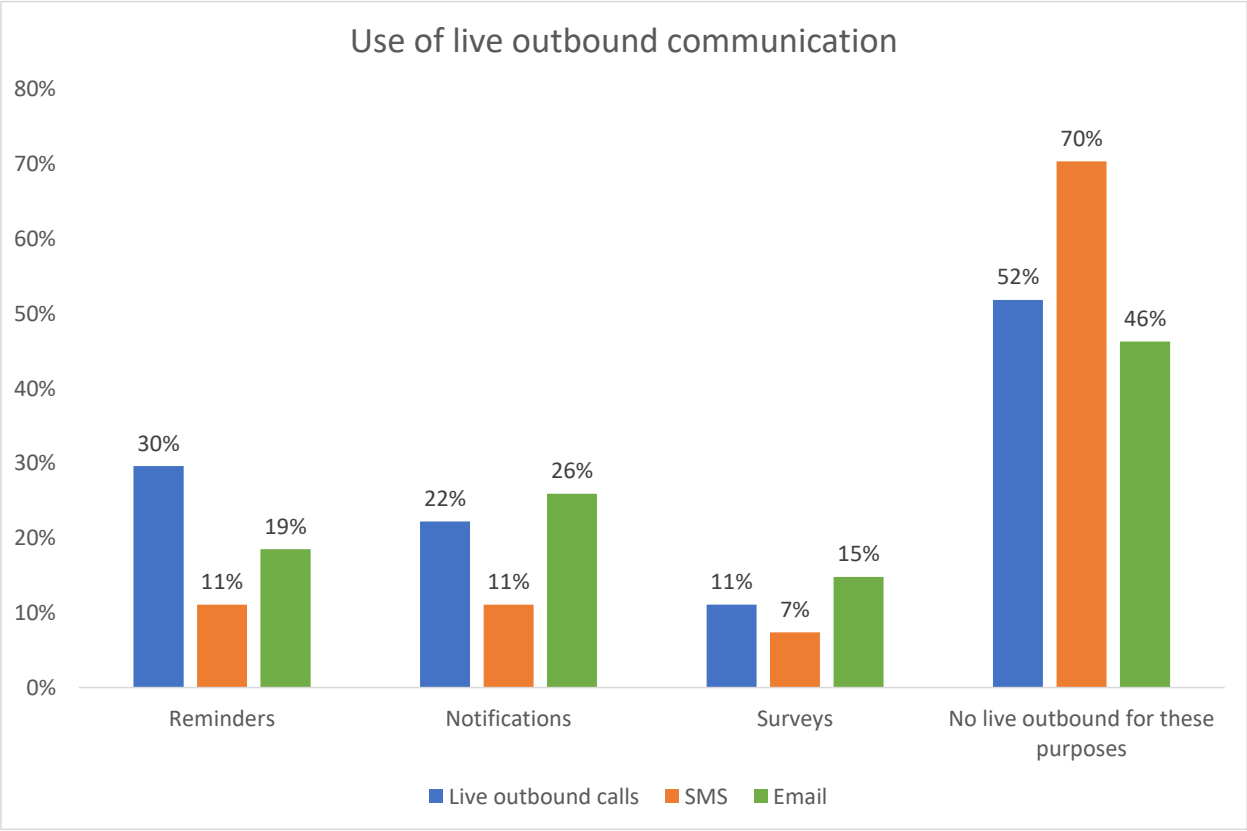
Automated email is more widely used across the board, particularly for outbound customer satisfaction surveys.

Figure 147: Use of automated outbound communication



Live outbound calls are used more often than recorded messages, although fewer respondents allow agents to notify customers manually via SMS or email.

Figure 148: Use of live / manual outbound communication

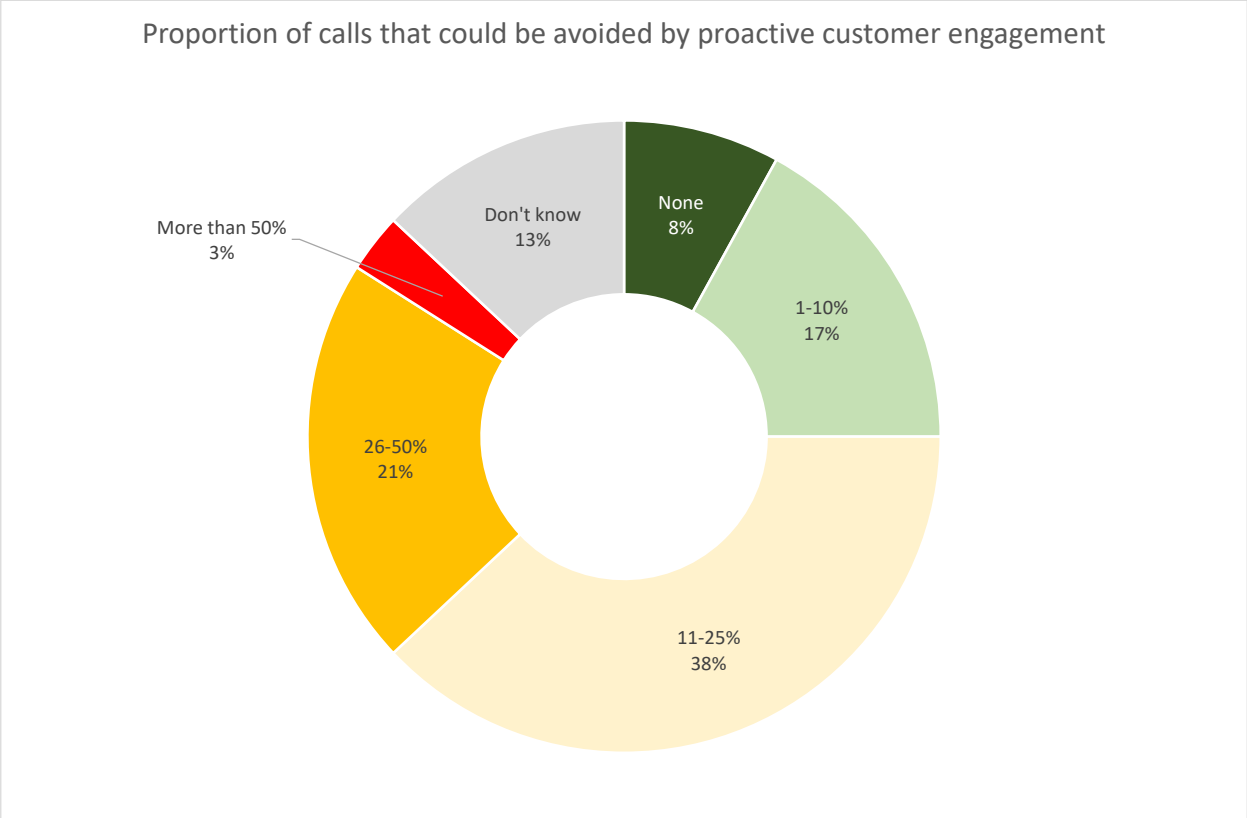


Respondents were asked what proportion of inbound calls could be avoided by engaging the customer before they felt the need to call the business.

24% of contact centers reported that more than a quarter of their inbound calls could be avoided if more proactivity was used, which would make a huge difference to costs (especially through automated outbound communication), as well as having a positive effect on customer experience.

Businesses should be encouraged to analyze the type of interactions that they receive into their contact center, and to see if there is a cost-effective way of proactively handling these. The opportunity is certainly there for the industry as a whole to manage the inbound demand more effectively than is being done so at the moment.

Figure 149: Proportion of calls that could be avoided by proactive customer engagement

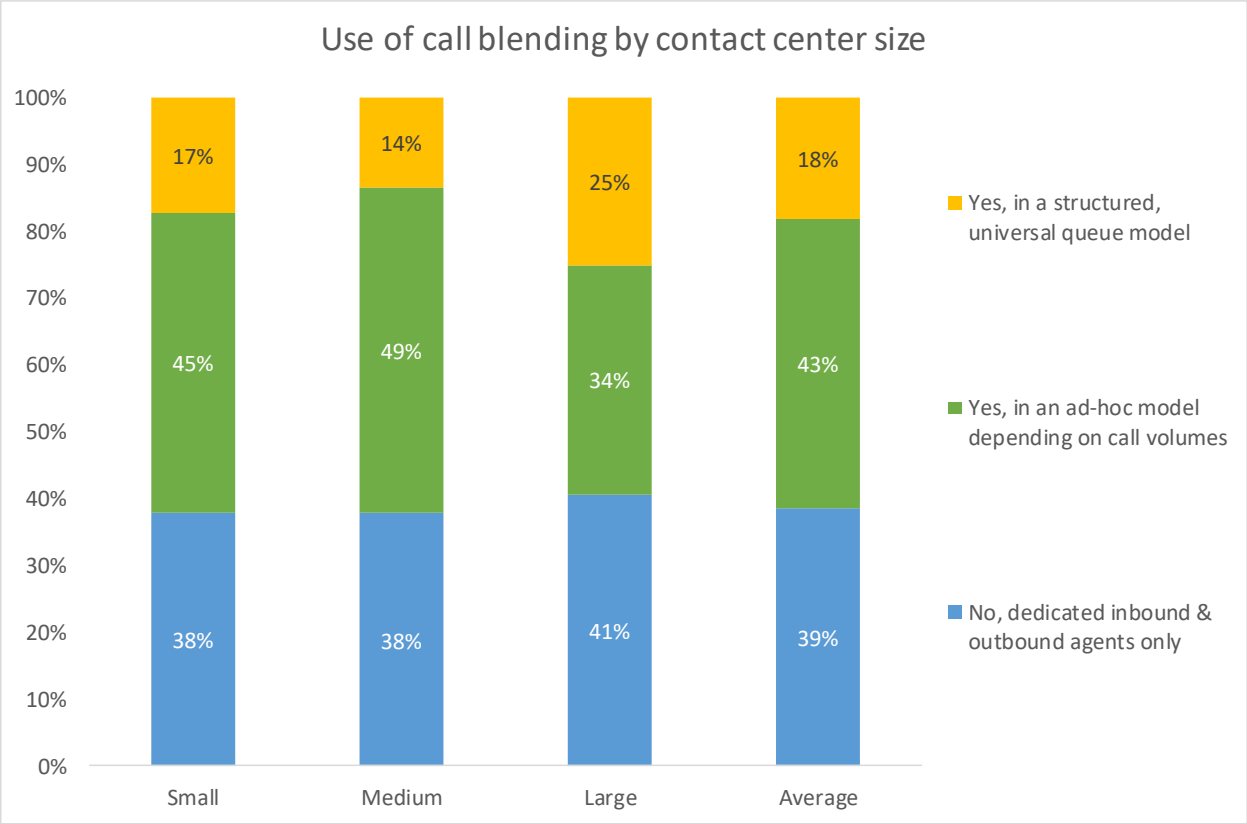


CALL BLENDING

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, systems 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 18% of respondents' operations. Large contact centers are more likely than smaller operations to use this type of approach. A substantial proportion of respondents across all size bands use dedicated teams to handle only either outbound or inbound, with small and medium operations more likely to move agents between inbound and outbound on an ad-hoc basis.

Figure 150: Use of call blending by contact center size



THE CUSTOMER EXPERIENCE

Our research shows that for the vast majority of customers, contacting a business is not something they really want to do.

If we accept this, it makes sense for the customer to choose a channel that they believe will be most painless for them. Of course, each customer is different in terms of their patience, time available, emotional investment in the interaction, the time of day, the device that they are using and many other variables.

Even taking into account the heterogeneity of the customer, there seems to be one overriding expectation: that the issue is dealt with first time.

Customers seem to accept that sometimes, it may take a long time to solve their problem. They also understand that more than one staff member may be needed, and although they don't want to explain the issue again, it may be necessary. Of course, they do not like a lack of courtesy, and being made to wait – especially when they have no idea how long it will be – is also a major problem for them.

But far and away the most important factor in the customer experience is whether the issue will be successfully dealt with at the first time of asking. This is the contract that the customer makes with the business. Breaking it – regardless of how friendly your employees are, or whether the phone was answered immediately – will massively damage the customer experience.

Solutions and issued studied in this section of the report include:

- Customer Experience Management & Improvement
- Customer Effort, Engagement & First Contact Resolution
- Customer Personalization.

CUSTOMER EXPERIENCE MEASUREMENT & IMPROVEMENT

Most businesses say that customer satisfaction is vital to them. Yet this raises more questions: how 'satisfied' do customers have to be? 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. There is also advice from business consultancies that says customer satisfaction is overrated as a metric, and that organizations should be focusing upon reducing the amount of effort that a customer has to expend to carry out the interaction successfully.

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. Elsewhere in this report, contact centers state that adherence to internal metrics is of similar or greater importance to them than first-contact resolution rate – which is consistently seen as the key to customer satisfaction – so the argument that businesses have moved to a customer-centric model is still very much up for debate.

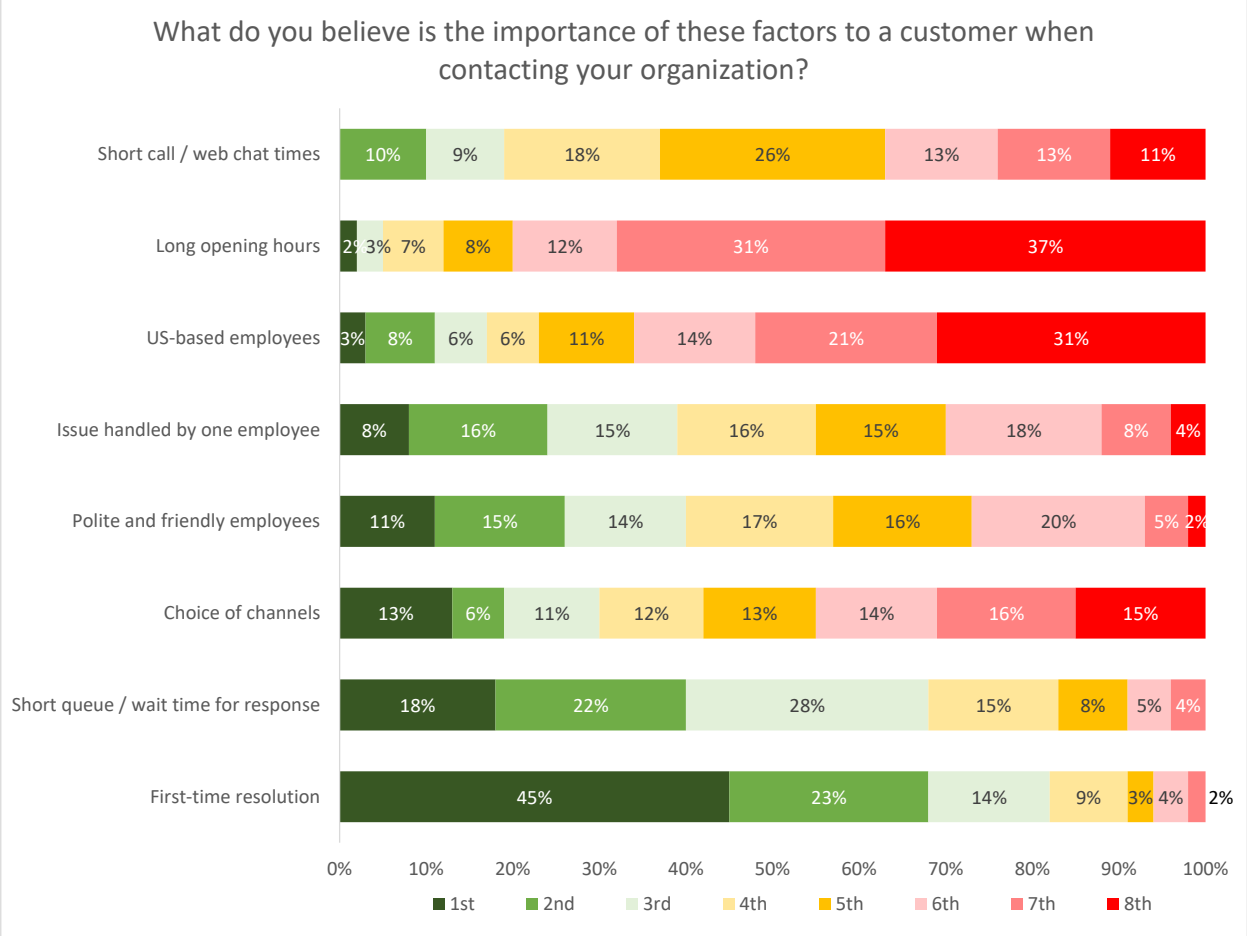
As customers become more demanding and their expectations of what constitutes good service increase, then contact centers are forced to develop greater external focus. This is in part due to the growth of outsourcing, which has introduced a new competitive edge to the business of handling calls. In addition, the greater choice available to customers in terms of suppliers means that customer retention is now as important as customer acquisition. Without knowing what your customer thinks of your service, you cannot legislate for their requirements. A continuous tracking survey hosted by a third party is a useful piece of corporate intelligence. Surveys hosted on a cloud platform have the advantage of being contact center provider- and equipment-agnostic. Businesses can continue using surveys non-stop as they outsource, switch suppliers or take their contact center service back in-house, hence tracking the impact of these changes.

THE VIEW FROM THE BUSINESS

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

As with last year, the top choice was “first-time resolution”, with “polite and friendly agents”, and “short queue times” once again very popular, the latter acknowledging that the customer experience starts well before the agent's greeting.

Figure 151: What do you believe is the importance of these factors to a customer when contacting your organization?

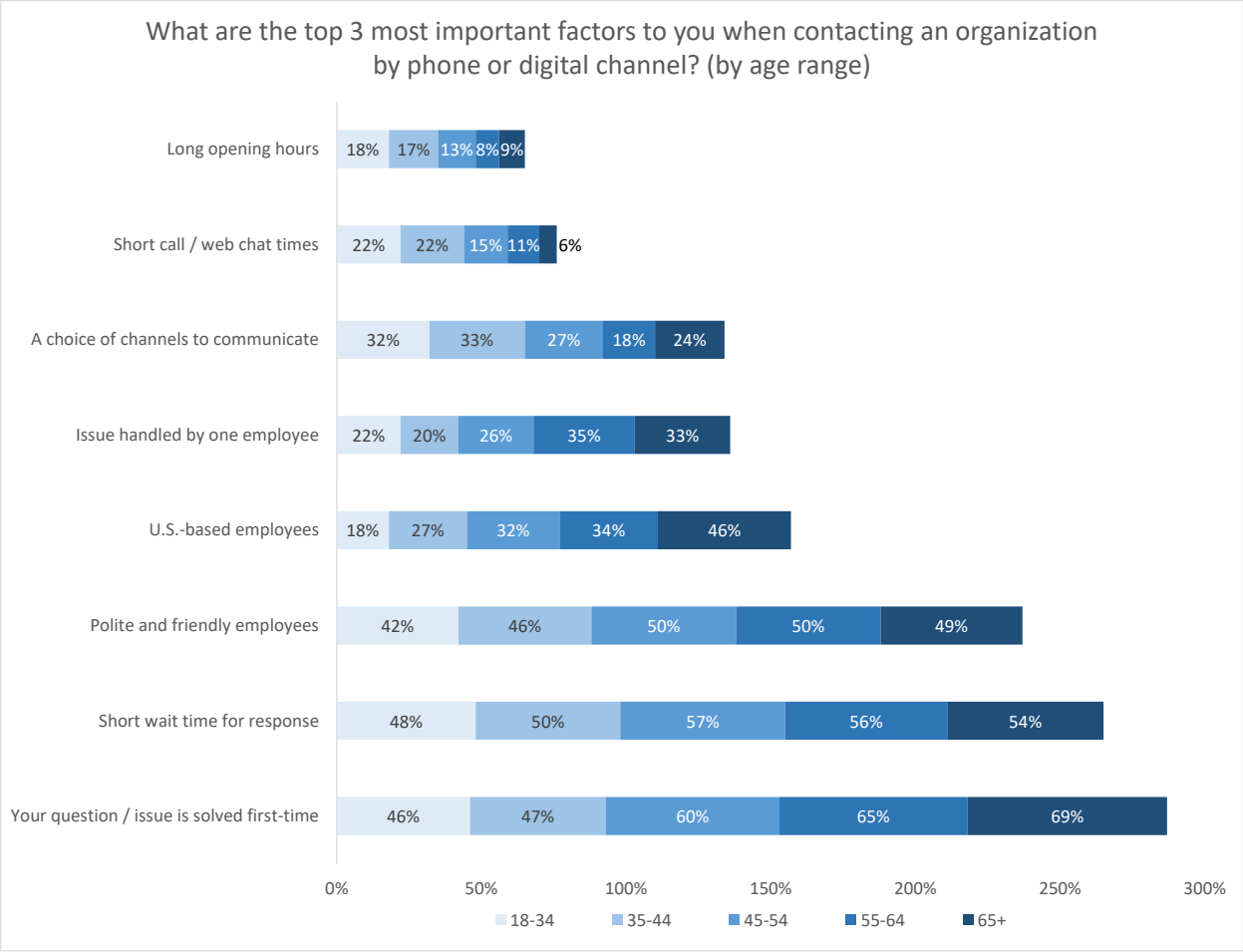


ContactBabel commissioned the research firm ORC International to carry out a survey of 1,000 US consumers. One of the purposes was to identify any differences in opinion between organizations and customers about what were the most important customer experience factors when contacting an organization.

As such, consumers were asked to state which were the top three most important factors to them when contacting an organization, with similar factors presented to them that had been offered to organizations in the previous chart.

Figures below are expressed as the percentage of each age group that expressed an opinion.

Figure 152: What are the top 3 most important factors to you when contacting an organization by phone or digital channel? (by age range)



The previous chart shows the importance of various customer experience factors as an aggregated bar chart, segmented by age so as to show the factors that were of most importance to customers in each age range. Aggregating the results allows an understanding of which factors were placed in the top three overall, while also providing insight on age-related opinion.

For example, 46% of the youngest age group (18 to 34 years old) stated that first-contact resolution was one of their top three most important factors, whereas 69% of the oldest age group (over 65 years old) placed this in their top three.

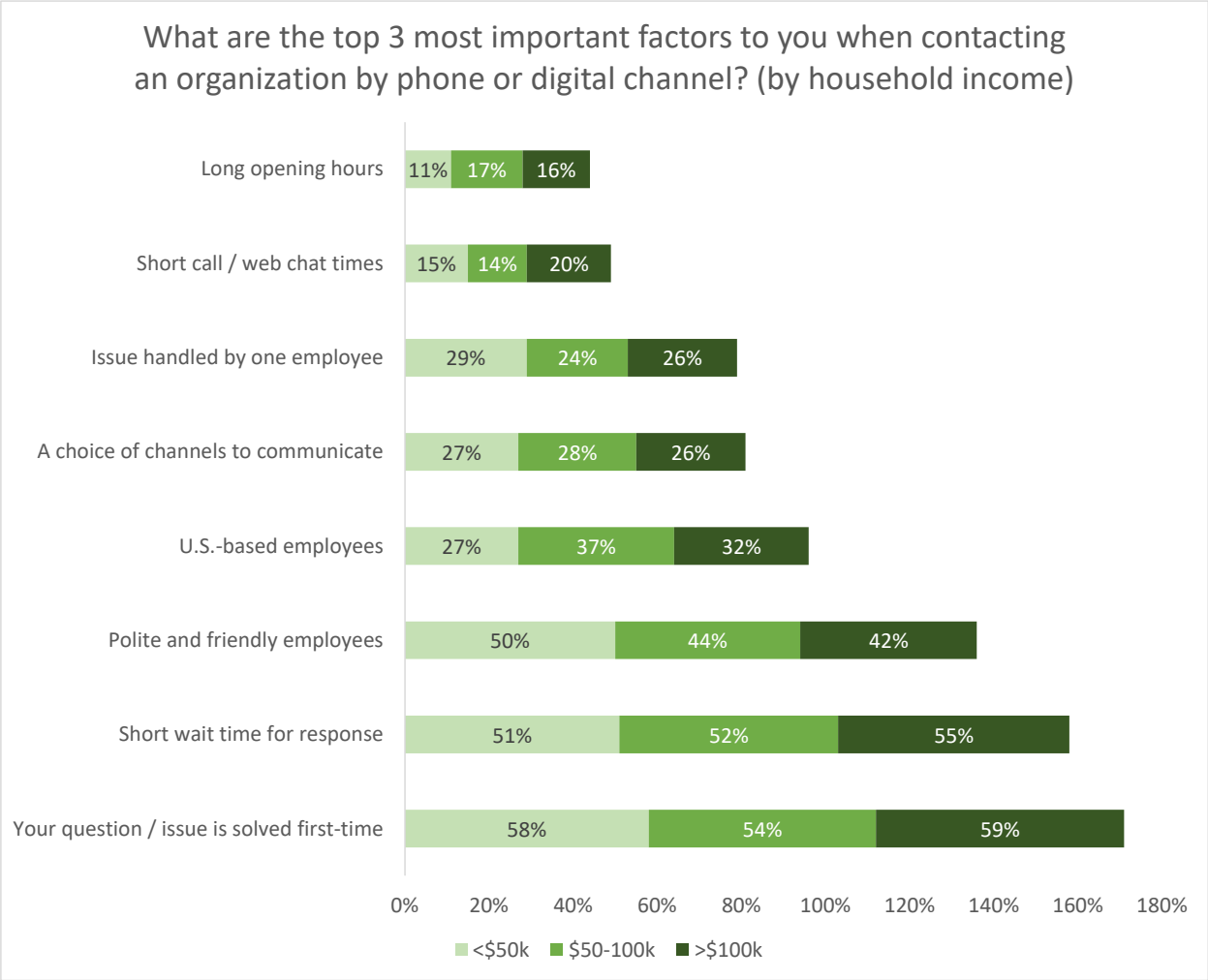
When considering findings from the perspective of the various age ranges, the importance of first-contact resolution is considerably higher in the older age ranges, as is having US-based employees. There is also a pattern that older age-groups are less likely to be happy with being passed between agents.

Younger customers place more importance on longer opening hours, and are also more likely to value having a choice of ways to communicate with the organization. Further evidence for this age group's valuing of its time can be seen in somewhat higher importance being placed upon short call/web chat duration, although a short queue/wait time is valued by all age groups.

When segmenting the consumer data by household income, the most affluent respondents are those keenest to have a short call time. Lower-income groups value having polite and friendly agents.

Apart from this, and a slight inclination for mid-income respondents to prefer US-based agents, there are few major differences between income groups this year.

Figure 153: What are the top 3 most important factors to you when contacting an organization by phone or digital channel? (by household income)



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, 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 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 the business may be alerted in near-real-time to any major problems through pre-programmed automated SMS 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.

Outbound automated surveys are becoming more prevalent. 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: some businesses ensure that 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, and perhaps only appropriate if the customer has engaged very deeply with the business on a number of recent occasions (e.g. completing a mortgage application) or with a demographic that has more time available to them, especially older people. There can be a lack of immediacy, and many people might feel that sending out a written questionnaire to ask about how well a single call was handled is overkill.

A more popular written alternative is to send an email to the customer, which allows immediacy and offers a customer a chance to express themselves more fully, rather than simply with numerical scores. This method also has the advantage that it can be fully automated.

Web forms are becoming increasingly widely-used as an increasing number of customers visit a website initially to see if they can find the information or resolve the issue themselves. Online survey invitations that pop up within a couple of seconds of entering a website are widely used, although many customers find them intrusive as they have not yet found the information that they require. Using a little more intelligence around when to offer the survey to the customer would provide far higher take-up rates.

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 IVR section above should also be considered as an option.

SMS: 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 mobile numbers if they do not already have them. However, take-up rates are better than many other forms of feedback (at around 25-35% on average), and younger and more time-poor customers are more likely to respond, providing a wider universe of responses across demographics. This form of survey can allow the contact center to identify very unhappy customers and schedule an outbound call to deal with the problem.

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 businesses are increasing the number of customers accessed, but a different quality of feedback will be received from each approach.

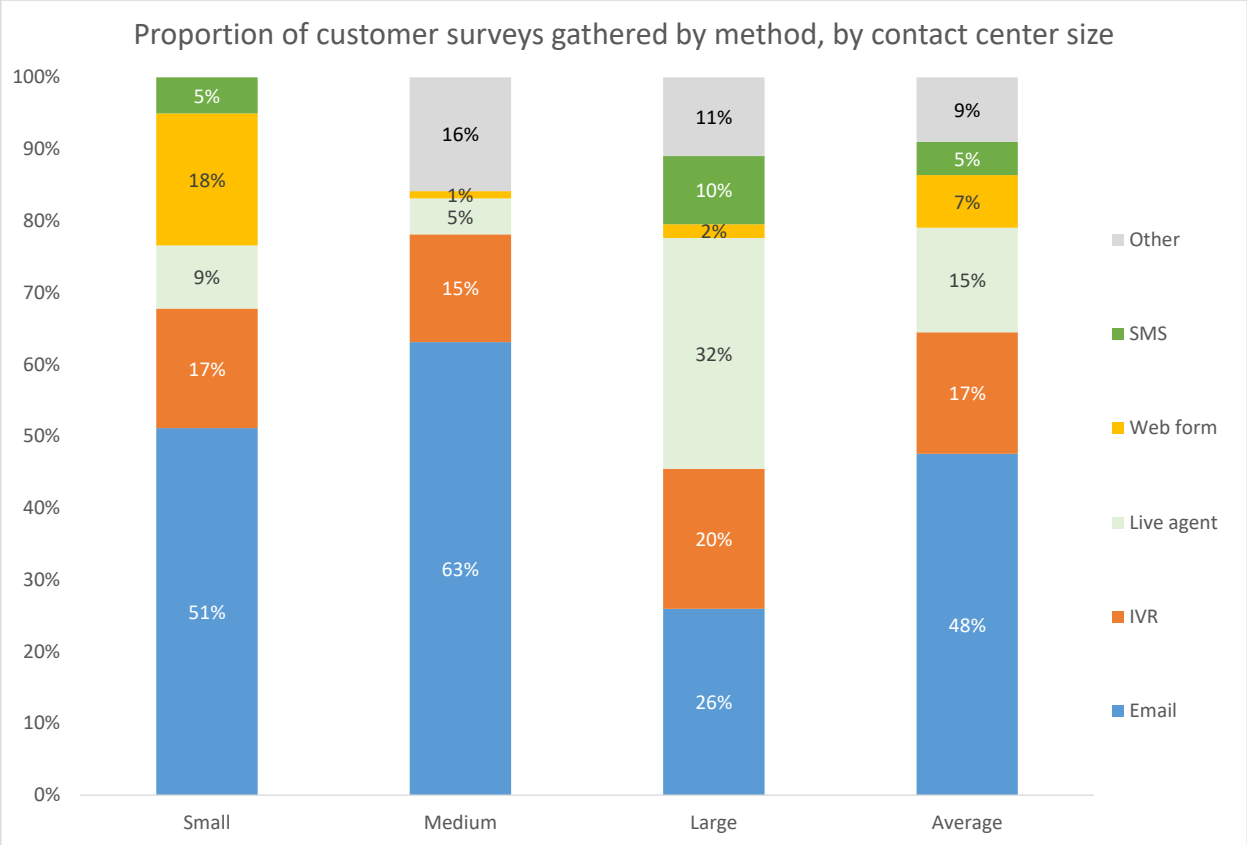
By far the most popular way of collecting customer surveys is via email, particularly amongst small and mid-sized operations, with 48% of surveys being collected in this way. Email allows a mixture of quantitative numerical data to be collected, along with qualitative comments which may highlight issues that would otherwise be unknown. It also has the advantage of immediacy and can be fully automated, requiring little or no additional input from the business. Web forms also allow this mix of numerical and written data to be collected, but the timing of offering the surveys during a web browsing session can be difficult to get right.

Large operations are more likely than others to use IVR to gather customer surveys, whereas smaller contact centers use web forms more often.

Despite the cost, outbound survey calls carried out by live agents are used in 17% of cases, which allow a depth of qualitative information to be collected from which insights can be drawn. Respondents from large operations are much more likely to use this method.

Both SMS and IVR are more positioned towards gathering quantitative information, often aligned to NPS.

Figure 154: Proportion of customer surveys gathered by method, by contact center size



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.

Formal surveys of customer satisfaction offer the customer a chance to feed-back, and the business to learn. Setting up surveys involved various elements which should not be overlooked, including:

Defining the purpose and objectives of the survey

- Deciding the approach
- Developing the questionnaire
- Carrying out the survey
- Collating the data
- Analyzing the results
- Presenting the findings, and acting upon them.

The point of a customer satisfaction survey is to discover what the company is doing wrong, where improvements can take place, how the company is perceived against its competition and how it can improve. It is important to view the survey from the customers' perspective, rather than checking boxes that just relate to internal company metrics, which is self-serving. Surveys should also be ongoing, to check whether real improvements are being made after the issues have been identified.

Survey forms should be simple and quick to complete, but if possible should carry enough weight to allow the company to change its processes and behaviors if that is what is required, using a mixture of objective questions that can be segmented and scored, as well as free text, especially in telephony questionnaires, where customers can be encouraged to add real value.

For surveying customers' experience of the contact center, the key to success is to keep the survey fairly short, with a maximum of around 5 questions, which can be range-based (e.g. "strongly disagree", "disagree", "neutral", "agree", "strongly agree", etc.), a simpler 'Yes/No' option and a free-text, 'any comments' question. These questions may include:

- Was the call answered quickly?
- Was the agent polite?
- Were you satisfied with the response?
- Was this the first time you had called about this matter?
- Do you have any comments you would like to make?

Opinion is split on whether surveys should identify specific agents, as although major outlying training and behavioral problems can be identified, many operations are keen to avoid the 'Big Brother' feeling of spying on agents, and prefer to emphasize that surveys are done to identify broken processes, not to criticize individuals.

Regardless of whether surveys identify specific agents or not, a key to success is whether the survey implemented is considered by agents as just yet another form of monitoring, or a genuine attempt to help them provide better service in the long run. Agents tend to respond well to successful customer satisfaction improvement initiatives as they usually make their job easier and more rewarding. Keep the survey process simple, focus on agent engagement and act quickly to provide positive feedback to the team. It's more important to get the survey adopted as a positive part of the company's customer service strategy, than it is to design the academically-perfect survey that has a negative impact on the morale of the team.

It is vitally important before beginning to survey customers, that a business:

- Clearly determines the purpose and aims of the survey
- Considers adopting a variety of question types. Scored questions enable a business to produce statistically significant and representative data. Free comments allow the gain of real insight into customers' perception of service
- Selects an experienced company to set up and host the survey. Businesses will benefit from their expertise and knowledge and avoid potentially costly errors
- Ensures that the survey can be carried out throughout the day, including peak times, to gain a true picture of the customer experience
- Makes 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
- Has procedures in place to act upon the information that it finds. 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, the survey platform should provide some mechanism for alerting and following-up to ensure that dissatisfied customers are escalated to the appropriate staff
- Adopts a unified approach across the business to assessing and monitoring customer satisfaction. If a business continues to reward agents based on traditional call performance metrics, it is merely paying lip service to good service. If agents are rewarded based on customer satisfaction ratings, it will increase agent engagement and retention at the same time as improving the service it offers to customers.

More information on this, and other elements of gathering, analyzing and acting upon customer feedback can be found in ContactBabel's "Inner Circle Guide to the Voice of the Customer".

USING CUSTOMER FEEDBACK

Apart from formal customer surveys, there is a deep source of knowledge about what your customers think: your agents, who spend all day communicating with your customer base, and have a depth of insight that can benefit the business if only it can be gathered effectively.

The most popular way respondents gather customer insight is through the informal channel of team meetings, where team leaders pass agent insight up the management chain. This relies upon goodwill and effort from agent, team leader, contact center manager and the relevant business unit to get things achieved, and should not be relied upon solely. A more formal process of gathering agent comments is used by 80% of respondents.

71% carry out customer experience research via phone calls & emails, and 49% use IVR or SMS to get near-real time feedback.

52% state that they have a customer journey project taking place and 48% use call analytics (automated speech analytics as well as supervisors listening in to recorded calls) to gain customer insight.

Figure 155: Methods used for gathering customer insight (where used)

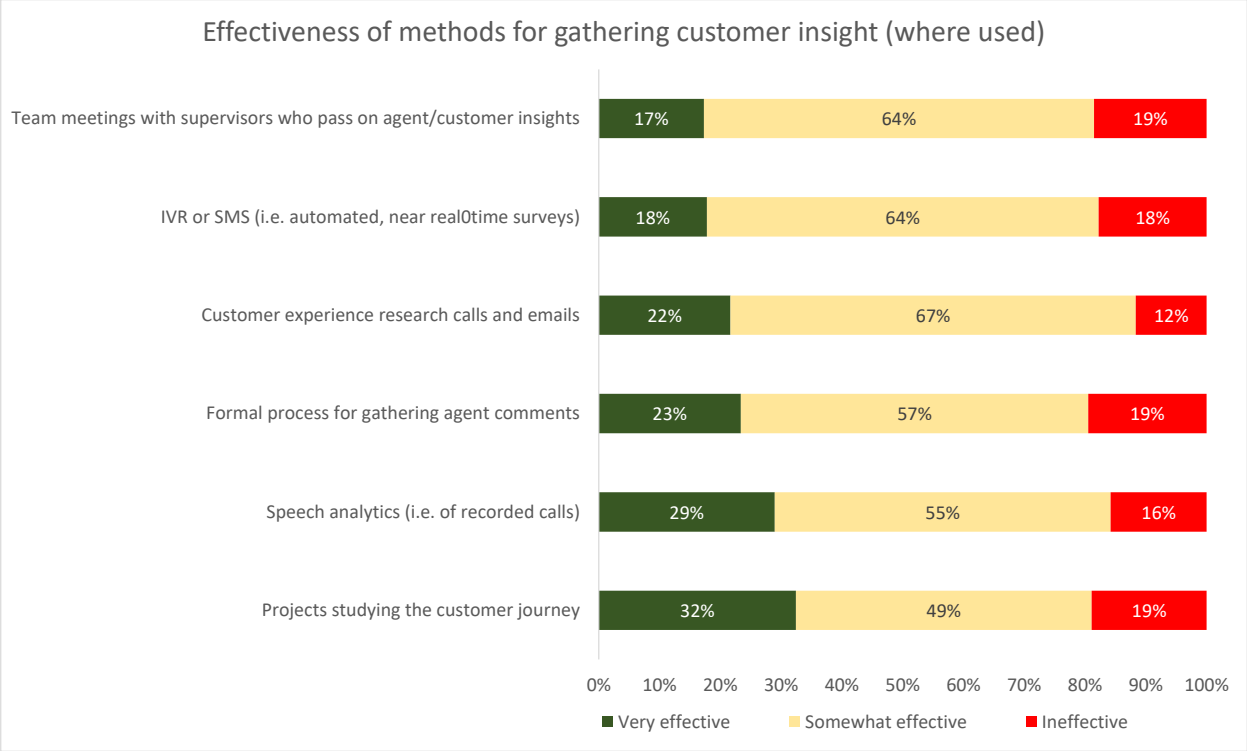
Method	% of respondents using this method
Team meetings with supervisors who pass on agent/customer insights	91%
Formal process for gathering agent comments	87%
Customer experience research calls & emails	68%
IVR or SMS (i.e. automated, near-real-time surveys)	51%
Speech analytics and/or manual analysis of recorded calls	43%
Projects studying the customer journey	42%

The chart below takes into account the respondents' opinions of the effectiveness of each method of gathering customer insight.

Taking into account the proportion of respondents using each form of insight gathering method, call analysis and projects studying the customer journey were judged the most effective.

IVR/SMS surveys and informal comments from supervisors were seen as somewhat less useful.

Figure 156: Effectiveness of methods for gathering customer insight (where used)



Businesses were asked which of four methods that they use in order to measure customer experience and satisfaction.

CSAT (customer satisfaction) scores do not have a fixed and accepted scoring system, but is more generic and wide-ranging. Businesses may decide that they want to track the proportion of customers who report being "very satisfied", score them at 5 out of 5, etc.

Net Promoter Score® [14] , otherwise known as NPS, is an index ranging from -100 to 100 that measures how likely customers are to recommend a company's products or services to others. The question asked to customers is:

"On a scale of 0 to 10, how likely are you to recommend this company's product or service to a friend or a colleague?"

Based on their rating, customers can then be grouped into in 3 categories: detractors, passives and promoters. 'Detractors' score lower or equal to 6, 'Passives' score of 7 or 8 and 'Promoters' answered 9 or 10.

NPS is determined by subtracting the percentage of customers who are detractors from the percentage who are promoters. For example, if 50% were promoters and 10% detractors, the NPS would be 40. This allows businesses not only to focus upon increasing the proportion of people that actively like and evangelize about the company, but also to bear in mind those at the opposite end of the spectrum who are lukewarm or negative.

Customer effort scores look to understand the ease or otherwise with which the customer has interacted with the company on a particular occasion. Often, there will be a five-point scale running from "very easy" to "very difficult", which can be converted into a quantitative metric. Various methods of calculating customer effort scores and pitfalls to avoid can be found within this referenced article[15].

Complaint analysis is somewhat different from the other metrics considered here, in that it focuses strongly upon understanding negative customer reactions, with a focus upon improving the processes and situations that caused these in the first place.

[14] Net Promoter, Net Promoter System, Net Promoter Score, NPS and the NPS-related emoticons are registered trademarks of Bain & Company, Inc., Fred Reichheld and Satmetrix Systems, Inc.
[15] https://www.callcentrehelper.com/how-to-calculate-customer-effort-94671.htm

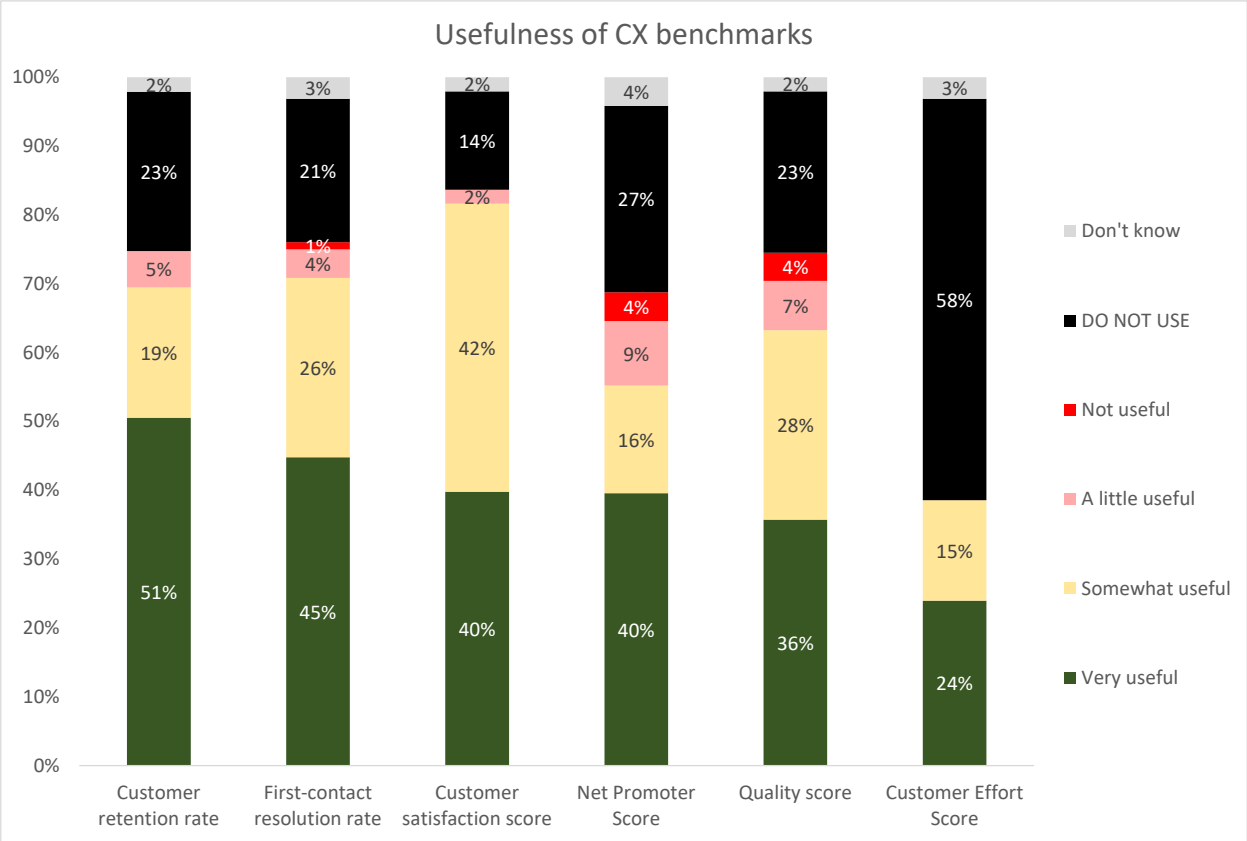
The most widely used customer experience benchmark is the general customer satisfaction rating, which is used by 86% of respondents. Closely following this is first-contact resolution rate (79%), NPS (73%), customer retention rate (77%) and agent quality scores (77%). Customer effort score is much less widely used, however is still in place in 42% of respondents.

Respondents that used these customer experience benchmarks were asked to rate how useful they were.

Of those that used it, 66% of respondents stated that they believed that the customer retention rate was a very useful indicator of customer experience, as satisfied customers are more likely to return. 57% of respondents using customer effort scores believed it to be very useful.

The other customer experience benchmarks received very similar scores, with 50-60% of respondents that used them stating that they were 'very useful', and usually a lower proportion stating that they were 'somewhat useful'.

Figure 157: Usefulness of customer experience benchmarks



As customer experience benchmarks change from company to company – there is no generally accepted customer satisfaction rating or quality score that allows direct comparison between organizations – only NPS easily allows head-to-head comparison across companies.

Figure 158: Actual and target Net Promoter Score by vertical market

Vertical market	Actual	Target	% of target
Finance & Insurance	39	51	76%
Medical	76	74	103%
Outsourcing / Telemarketing / BPO	71	75	95%
Retail & Distribution	60	69	87%
Services	46	72	64%
TMT (Technology, Media, Telecoms)	53	62	85%
Average (inc. other verticals)	**57**	**64**	**89%**

Respondents to this survey generally reported good Net Promoter scores, with a survey-wide average of 57, a slight increase on last year's figure of 55.

Those in the outsourcing and medical industries reported the highest average scores.

Respondents were also asked what their realistic target NPS would be (assuming that a perfect score of 100 is unattainable). Most sectors were close to their target, apart from those in the services vertical market once again.

Looking at quality scores, the fact that there is no single industry-wide quality measurement score made head-to-head comparisons impossible. Instead, each set of responses was judged on whether it was above target, at target or below target.

While the majority of respondents are currently missing their quality target, 77% of those that are missing the quality target are less than 10% below where they want to be.

Figure 159: Quality score – actual and target

In the same way as with quality scores, customer satisfaction scores are not necessarily directly comparable between organizations. However, where possible, the data was normalized as a percentage although this should be treated with caution.

Actual CSAT scores were 83% against an average target of 90%. 40% of respondents were more than 10% below their target, compared to around 25% last year.

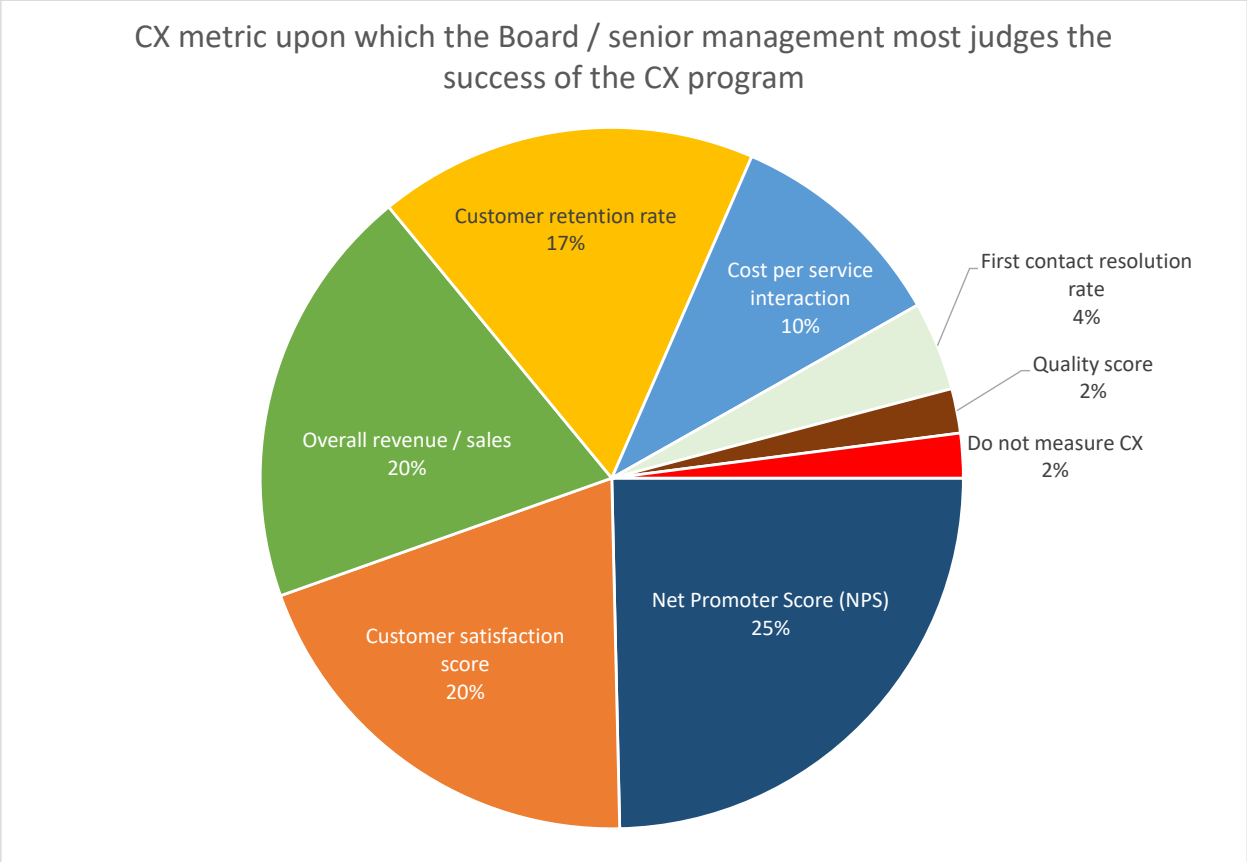
Figure 160: Customer satisfaction score – actual and target

Survey respondents were asked to pick a single customer experience metric upon which their board or senior management team most judged the success or otherwise of the customer experience program.

There was a wide mix of responses, with overall revenue, NPS and customer satisfaction score accounting for 65% of responses. Customer retention rate also scored highly, which fits with the previous finding that it is seen as the most useful CX benchmarking metric.

Also of note is the fact that first-contact resolution rate was identified as being the key CX metric for senior management by only 4% of respondents, despite the customer survey results earlier in this report showing clearly that first-contact resolution was the most important factor influencing customer experience, although the contact center respondents believed this to be far less important.

Figure 161: CX metric upon which the Board / senior management most judges the success of the CX program



CUSTOMER EFFORT, ENGAGEMENT & 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 previous ContactBabel research shows that customer satisfaction rating is the most important metric, the vast majority of survey respondents place first-contact resolution as being one of the top 3 metrics that are most **influential** on customer satisfaction, far more important than any other metric. So, logically it seems that to improve customer satisfaction, a business has to improve first contact resolution rates, which necessarily then decreases the effort that a customer has to make.

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 less well-understood and undervalued by senior management, especially as it is not simply a matter of producing a monthly report from ACD statistics.

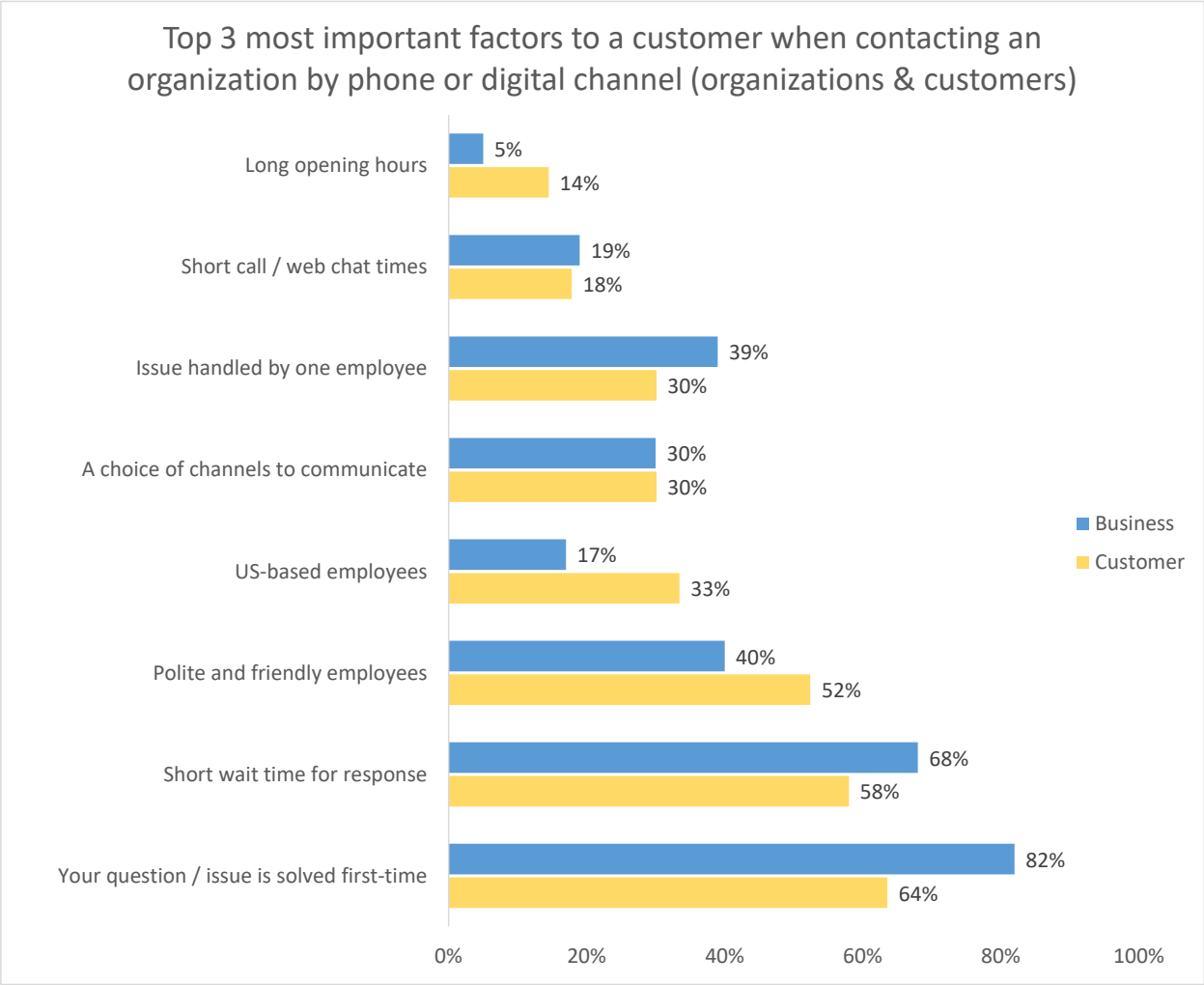
FIRST CONTACT RESOLUTION AS A CUSTOMER EXPERIENCE DRIVER

ContactBabel commissioned the research firm ORC International to carry out a survey of 1,000 US consumers. One of the purposes was to identify differences in opinion between organizations and customers about the most important customer experience factors when contacting an organization.

As such, consumers were asked to state which were the top three most important factors to them when contacting an organization, with the same factors presented to them that had been offered to organizations within the business survey upon which most of this report is based.

The chart below shows a direct comparison between what businesses believe customers want, and what customers actually value. Customer data are normalized as if each respondent has selected three choices (in fact, not all survey respondents did so), in order to compare directly with organizational data.

Figure 162: Top 3 most important factors to a customer when contacting an organization by phone or digital channel (organizations & customers)



Customers and organizations agree on some points: first-time resolution is vital; short queue times are also very much preferred; polite and friendly employees are highly valued; short call/web chat times and long opening hours aren't vital to everyone.

There are some significant differences in opinion: customers place far more emphasis on US-based agents than organizations believe that they will; long opening hours are likely to be more important to younger customer segments at least; issues don't necessarily have to be handled by a single agent; and while queue times are important to customers, they aren't quite as critical to the process as most organizations believe.

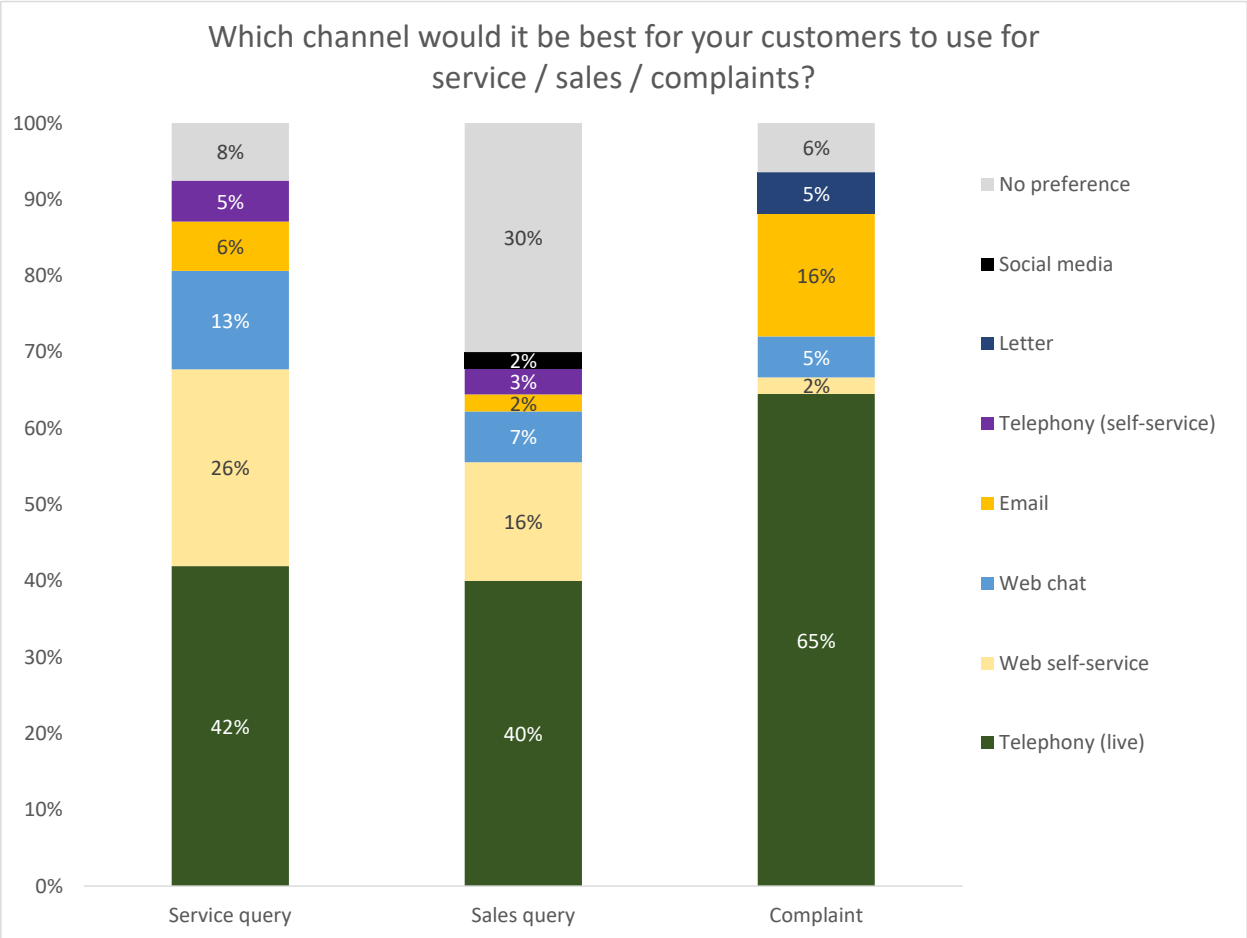
THE IMPACT OF CHANNEL CHOICE ON CUSTOMER EFFORT

Survey respondents were asked to assess which channel they would recommend customers to use if they had a complaint, a sales query or a service query.

Telephony is the most recommended in all cases, being particularly strong in complaint handling. A substantial minority of businesses recommend customers to solve their own service issues online, and email is seen by 16% of respondents as the best way to make a complaint.

Few respondents recommend the live digital channels of web chat and social media to be the best way to get anything resolved (with the possible exception of web chat for service issues).

Figure 163: Which channel would it be best for your customers to use for service / sales / complaints?

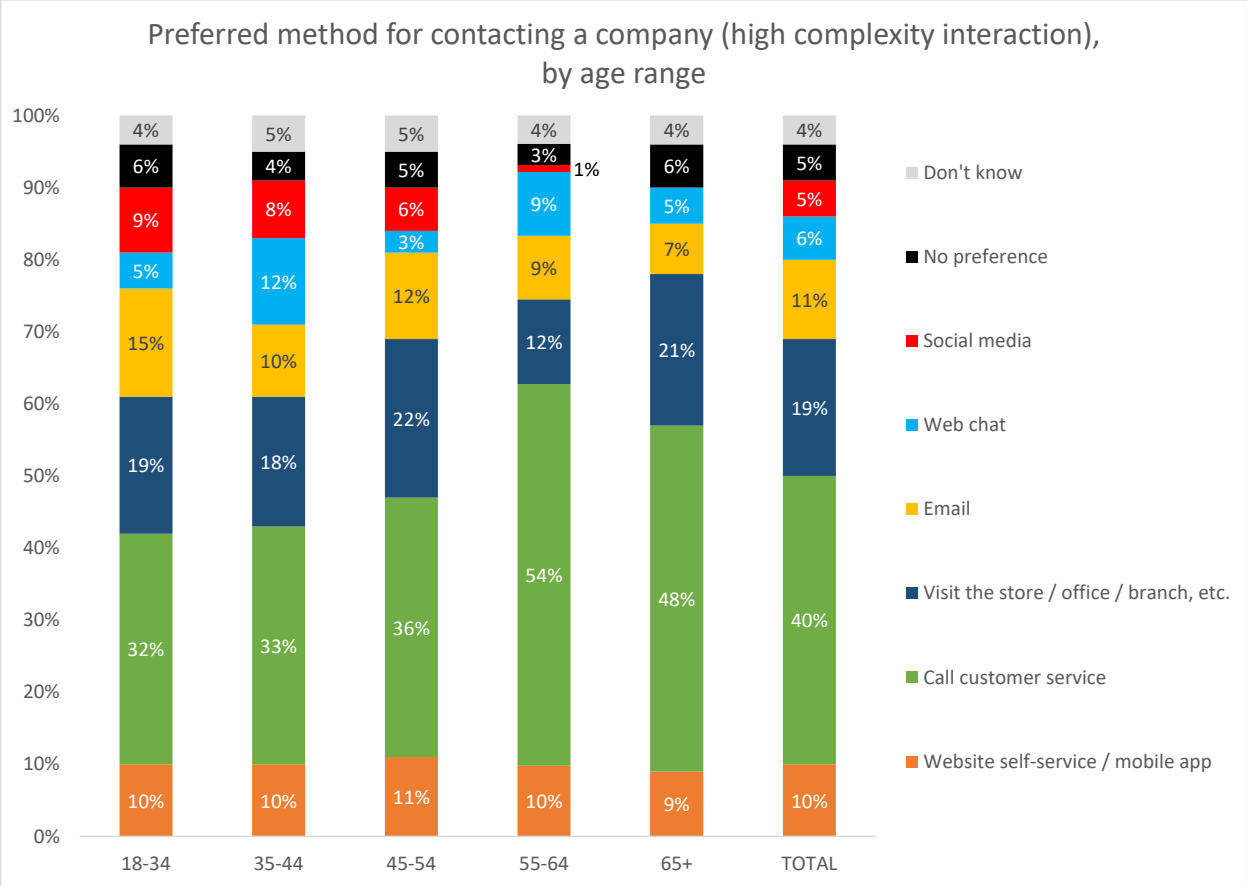


Summarizing, the telephony channel is recommended to customers as the primary channel for most queries, but as the following chart shows, customers often have a different view on what's best for them.

The survey of 1,000 US consumers carried out for "The US CX Decision-Makers' Guide"[16] attempted to understand which the channels of preference would be in cases of high emotion, urgency and complexity through presenting survey respondents with three hypothetical scenarios. We have chosen to show here the preferred channels for the 'high complexity' scenario, that of receiving guidance on completing a mortgage application or tax form. This is likely to be a complex and long interaction, but is unlikely to have high levels of urgency or emotional response. After a downturn in 2020 driven by the pandemic, making a physical visit to an office or branch has become more popular again, with 21% of this year's 65+ respondents feeling this way, compared to only 11% last year.

Web self-service was a much less popular option for complex interactions than for urgent or emotional enquiries. Web chat was also seen as an appropriate primary channel for complex interactions by some age groups, and social media again figures to some extent in the youngest age groups.

Figure 164: Preferred method for contacting a company (high complexity interaction), by age range



[16] Available free at www.contactbabel.com

The wide range of channels chosen here looks confusing at first, until we understand that what each customer is trying to do is to choose the channel that they believe is most likely to get the issue resolved. Customer effort is more than about simply picking the quickest and easiest channel to hand: few people could argue that choosing a face-to-face meeting over a web chat is a logical choice if customers are simply driven by doing what is easiest – ostensibly, the least effort – for them.

Instead, they choose a channel which they believe will be the least effort to them in the context of the **overall** specific interaction, which will not involve re-explaining the issue to multiple employees, or taking days to communicate back-and-forth over an asynchronous channel such as email. Customers do not just choose to use the channel of least effort regardless of any other factor: they choose the channel which is the least effort to them personally, but only where they are **also** confident that their issue will be resolved fully. As such, businesses should be aware that customer effort and first-contact resolution are inextricably linked to each other.

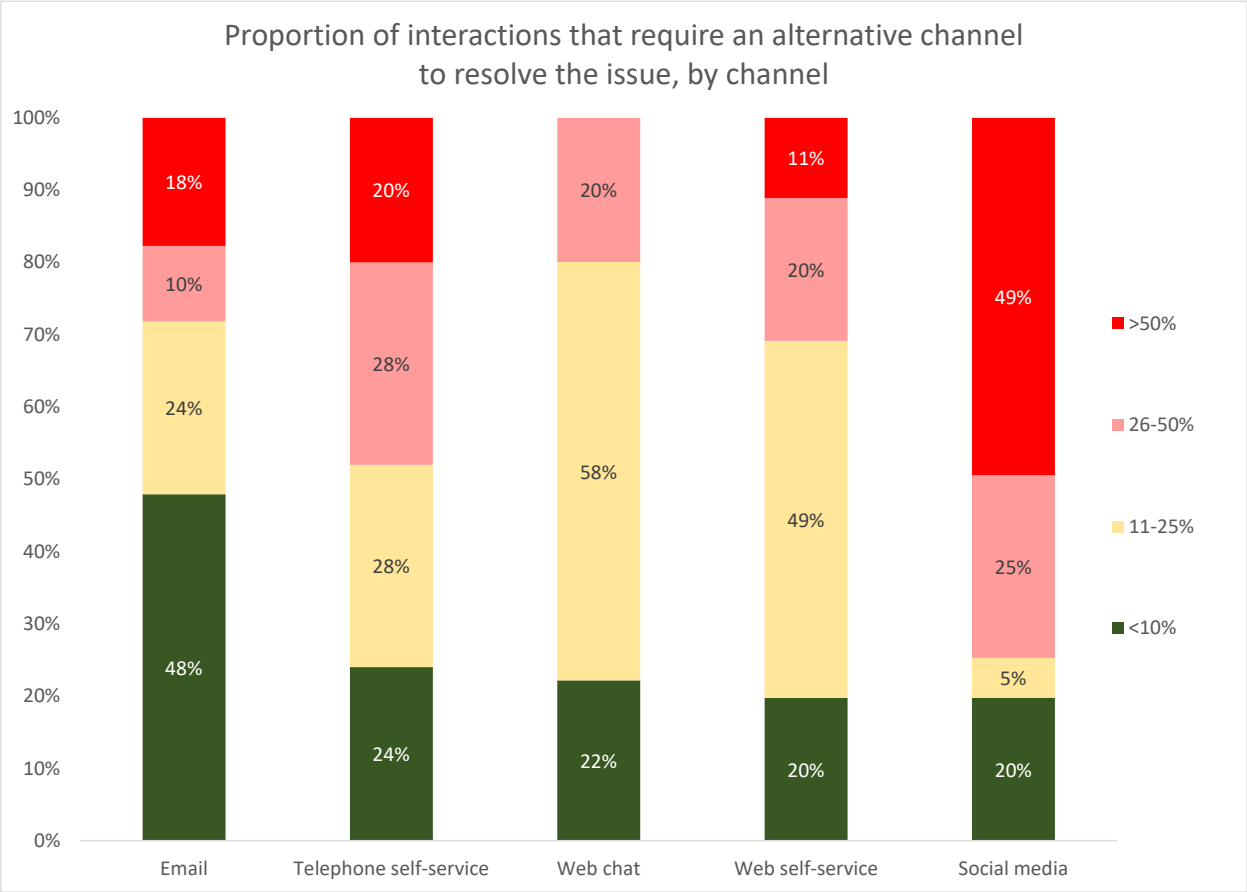
Effort is also not a constant between customers. For some, driving to an office or branch and speaking face-to-face is a major effort: for others, worrying about having to navigate around a self-service application while making sense of jargon is a bigger effort.

Customers will not all choose the same channel for a job, and will not always choose the best channel. It is a fact that, for whatever reason, channels will not be able to deliver what is needed. All channels will sometimes fail to deliver, and it is how that failure is then handled that determines overall success.

CHANNEL 'FAILURE' AND CUSTOMER EFFORT

In the course of this report's research, respondents gave their estimates for the success of each channel in resolving customers' issues without having to use another channel. The chart below shows the proportion of interactions handled by each channel which then require alternate channels. (All "don't know" responses were removed).

Figure 165: Proportion of interactions that require an alternative channel to resolve the issue, by channel



While social media is the live channel most likely to require assistance from another channel (usually live voice), it can be seen that all channels inevitably have their 'failures'. Offering multiple channels means that customers will move between them as they see fit, depending not only on the quality of the channel's service, but also on what they wish to do, their personalities and experience, and many other factors.

Therefore, a seamless, contextual omnichannel experience is necessary to reduce customer effort, and make sure they don't have to start from the beginning in the next channel.

First-contact resolution (FCR) rates are not simple to understand, and 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.

The drop in first-call resolution rate in 2015 seems to have a statistical blip rather than a fundamental change (with the mean average rising in recent years to a more typical level). At best, the overall trend for FCR is static rather than upwards: 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'.

The exodus of 'easy' work to self-service channels seems to be quite well-balanced by improvements in knowledge sharing and other agent support processes that mean stable first call resolution rates.

Figure 166: Changes in first-call resolution rate (2007 - 2020)

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%
2017	74%
2018	75%
2019	75%
2020	74%
2021	79%

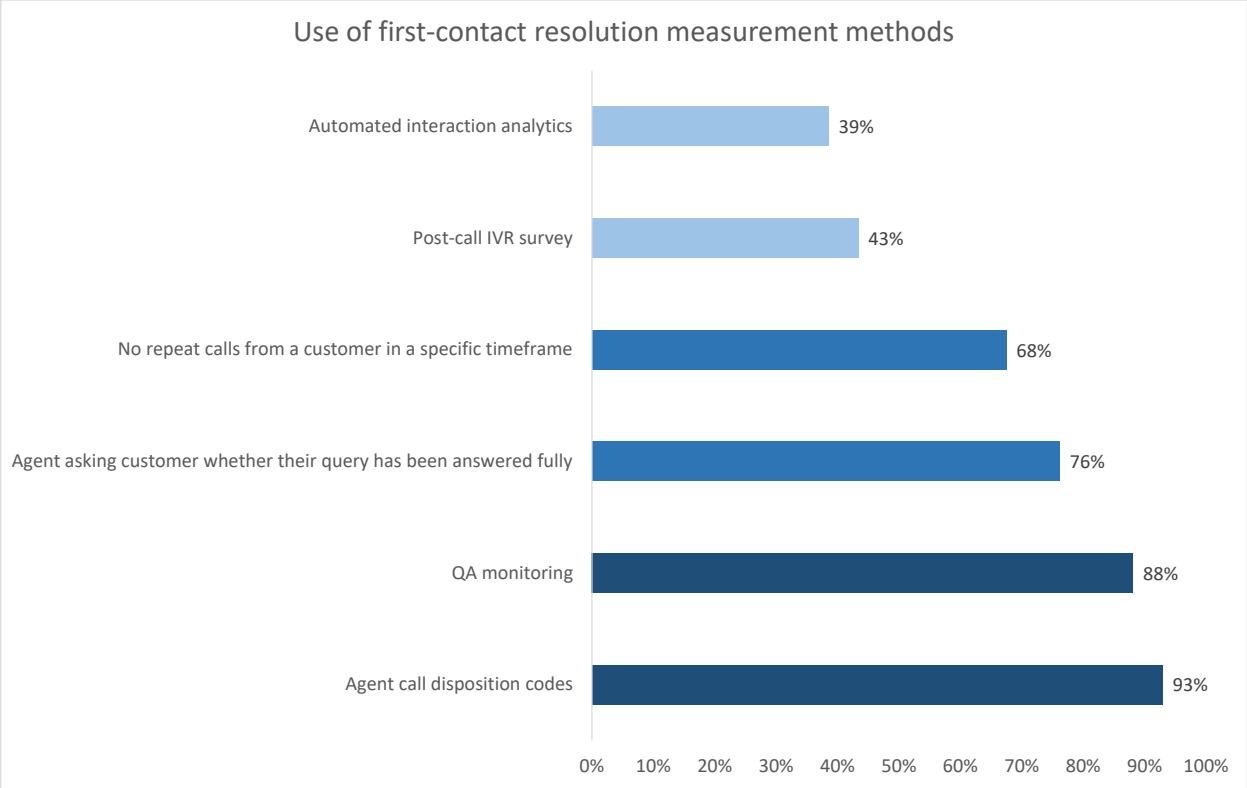
The first-contact resolution rate is an important metric to study, being concerned both with the customers' experience as well as avoiding unnecessary calls. However, it is very difficult to measure effectively, with no single best practice method of getting definitive statistics that are directly comparable to the rest of the industry. This difficulty is shown by the fact that ten 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 12%).

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

- Agents provide opinions on whether the call was resolved completely, including tagging the interactions with a disposition code at the end of the call (used by 93% of respondents)
- Tracking of issues shows if they are re-opened (68%)
- Supervisors monitor calls and score based on their opinion (88%)
- Customers can be asked their views by the agent (76%) or through an IVR survey (43%)
- Analytics of interaction recordings can be used to see whether the call was actually resolved or more interactions were needed (39%).

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.

Figure 167: Use of first-contact resolution measurement methods

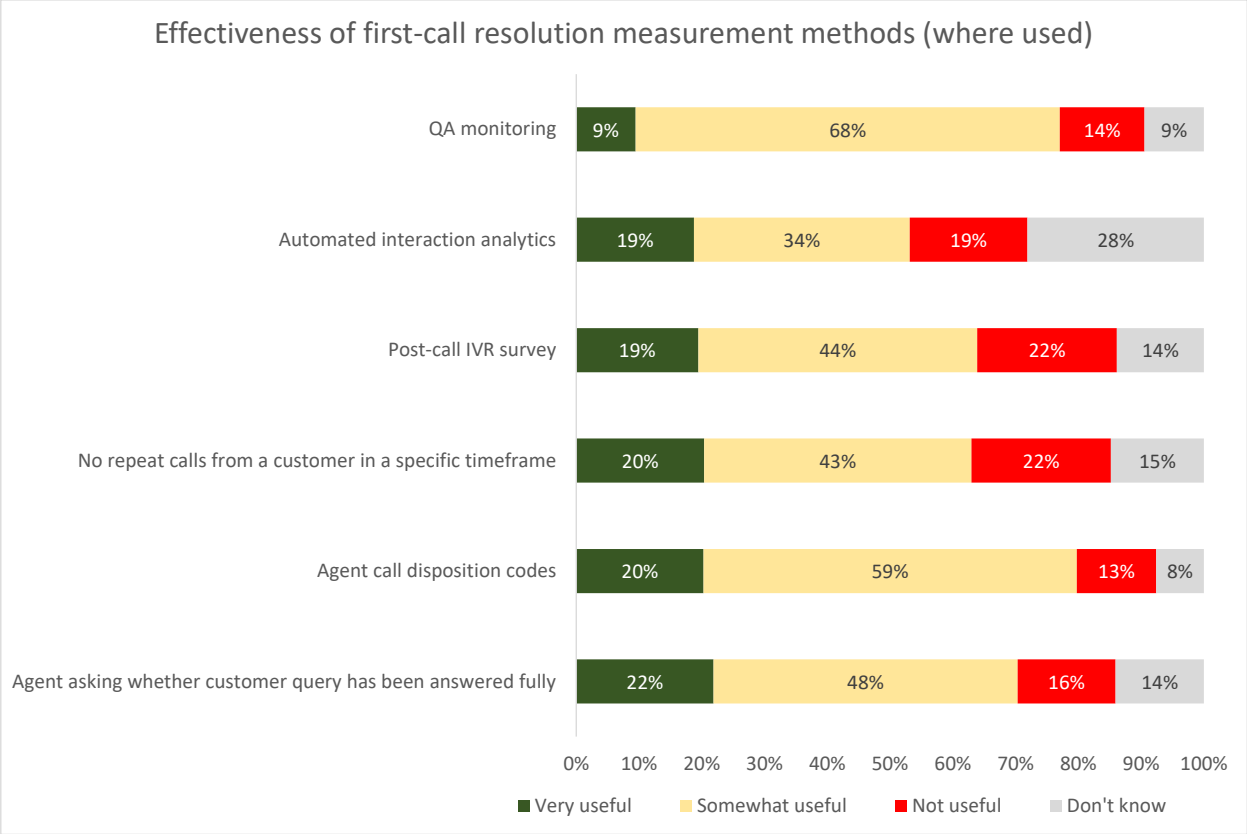


QA monitoring, the most widely-used form of gathering first-contact resolution information, is not seen as particularly effective. Surprisingly (compared to UK figures, where survey respondents were very positive), automated analysis of call recordings is considered ineffective by 19% of those respondents that use this method of calculating first-contact resolution.

Tracking customer callbacks within a specific timeframe is also seen as fairly ineffective, and although the simple method of having an agent ask if the issues has been fully resolved is rated highly by 22%, although 16% do not rate this method at all.

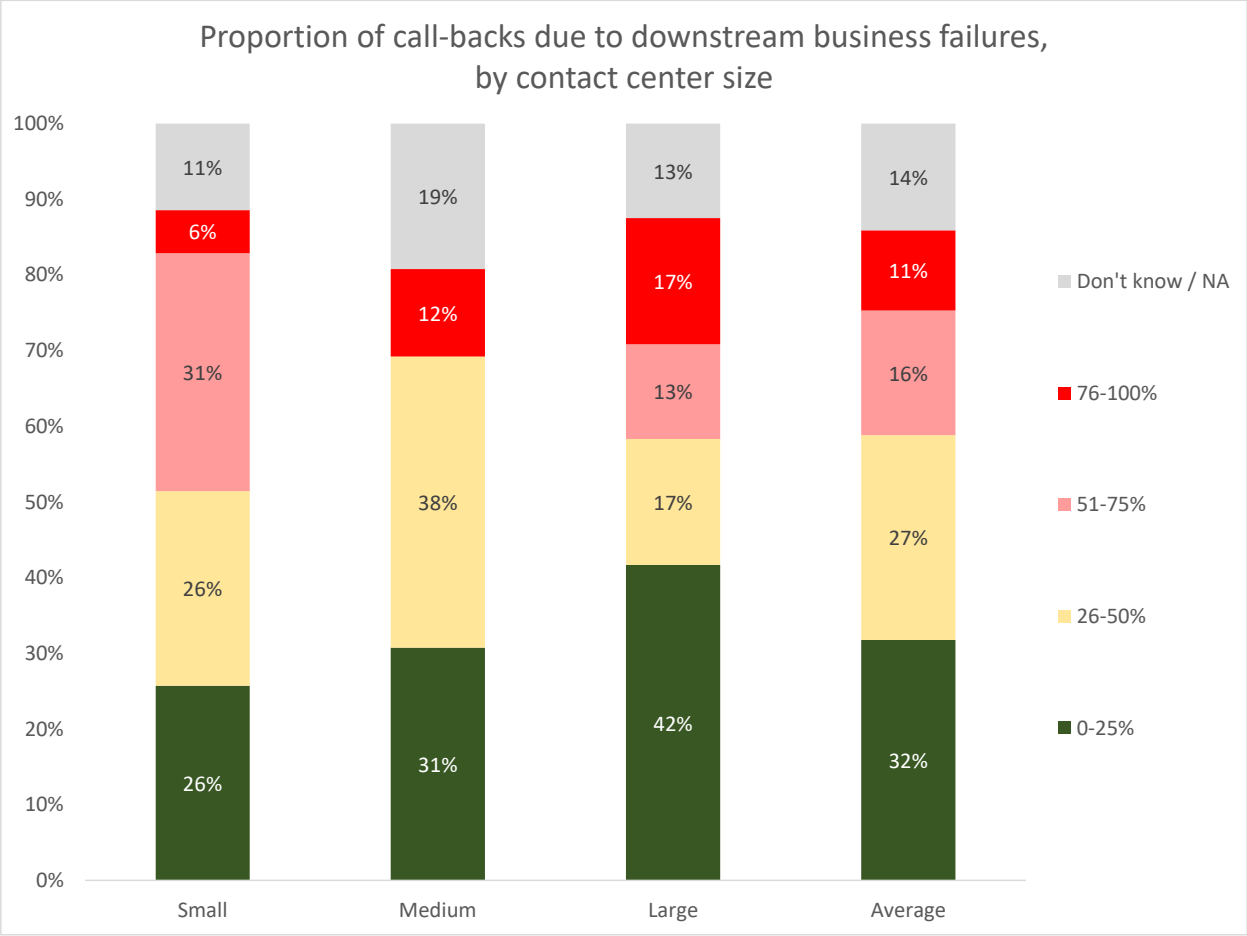
In essence, this chart shows an at-best lukewarm enthusiasm for any of the FCR measurement methods suggested to survey respondents, leading to the conclusion that far more needs to be done by both businesses and solution providers.

Figure 168: Effectiveness of first-call resolution measurement methods (where used)



It is worth noting that the majority of contact centers who track first-call resolution do so **only** based 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 (around 80%), so focusing entirely upon the work done within the contact center is missing the point of measuring first-call resolution. The following chart shows that 27% of respondents report that more than half of their call-backs are due to failures in downstream processes and actions (or lack of them), showing that there is a real need for joined-up processes between the front and back-office as well as between channels.

Figure 169: Proportion of call-backs due to downstream business failures, by contact center size



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 further directed at understanding why customers contact a business multiple times. The recent ContactBabel report, "The Inner Circle Guide to First-Contact Resolution", looks in depth at how to measure and improve FCR.

CUSTOMER EFFORT WITHIN THE CALL

IVR

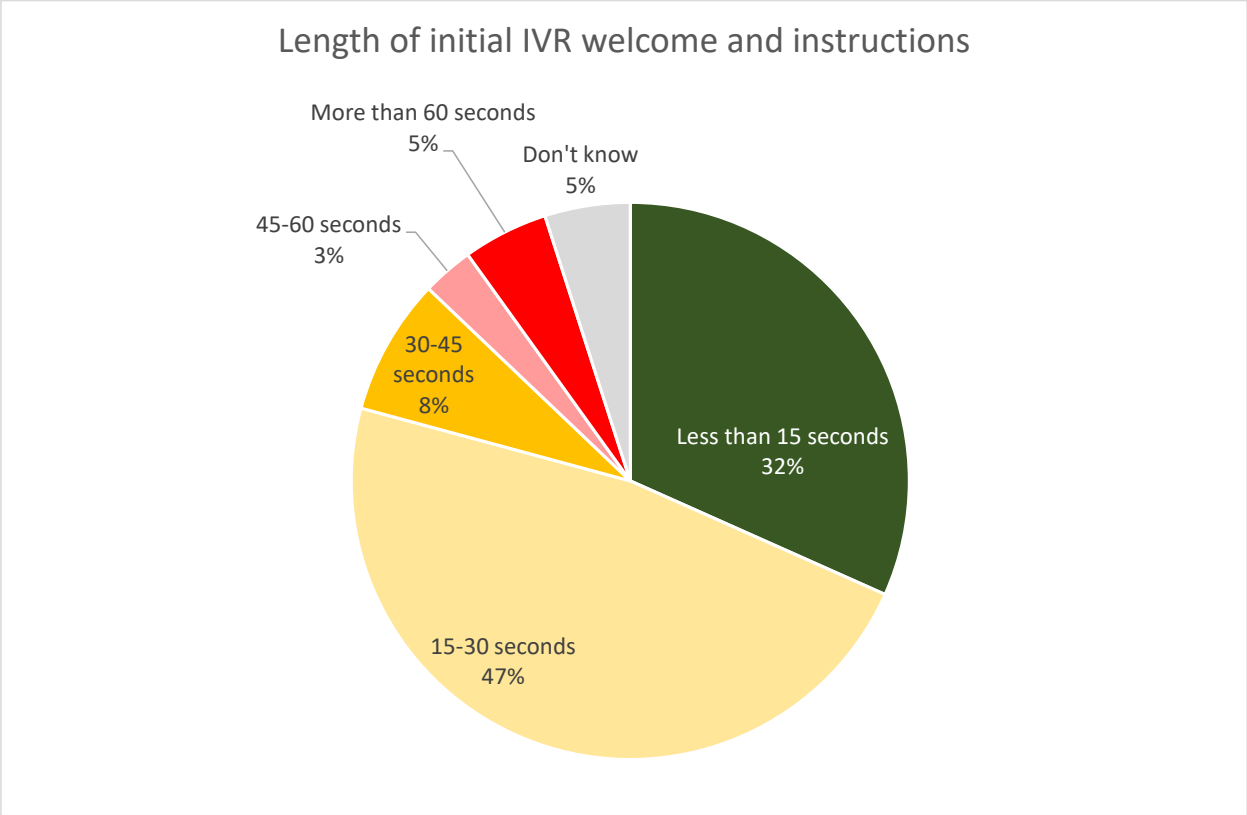
Customer effort is not all about channel choice and the escalation that comes with the failure of the initial channel. Within the call, businesses have put up many blocks and frustrations that can be alleviated.

Many customer interactions begin with an IVR session. For many customers, IVR is seen as a way for the business to put up a barrier between them, involving a long and tortuous path before actually getting to speak with someone. Yet an IVR session should capture information about the customer's identity and requirements that allows a business to provide an answer or route the call to someone who can actually help, rather than taking pot luck by dropping the call on the next agent available.

The IVR experience will often begin with a generic welcome announcement before offering various options for the customer to choose with a DTMF keypad (the vast majority of IVR is carried out with DMTF rather than speech recognition).

Smaller contact centers (usually with fewer departments, skill-sets and products/services) tend to have the shortest initial IVR announcement, with the majority having announcements of less than 15 seconds.

Figure 170: Length of initial IVR welcome and instructions

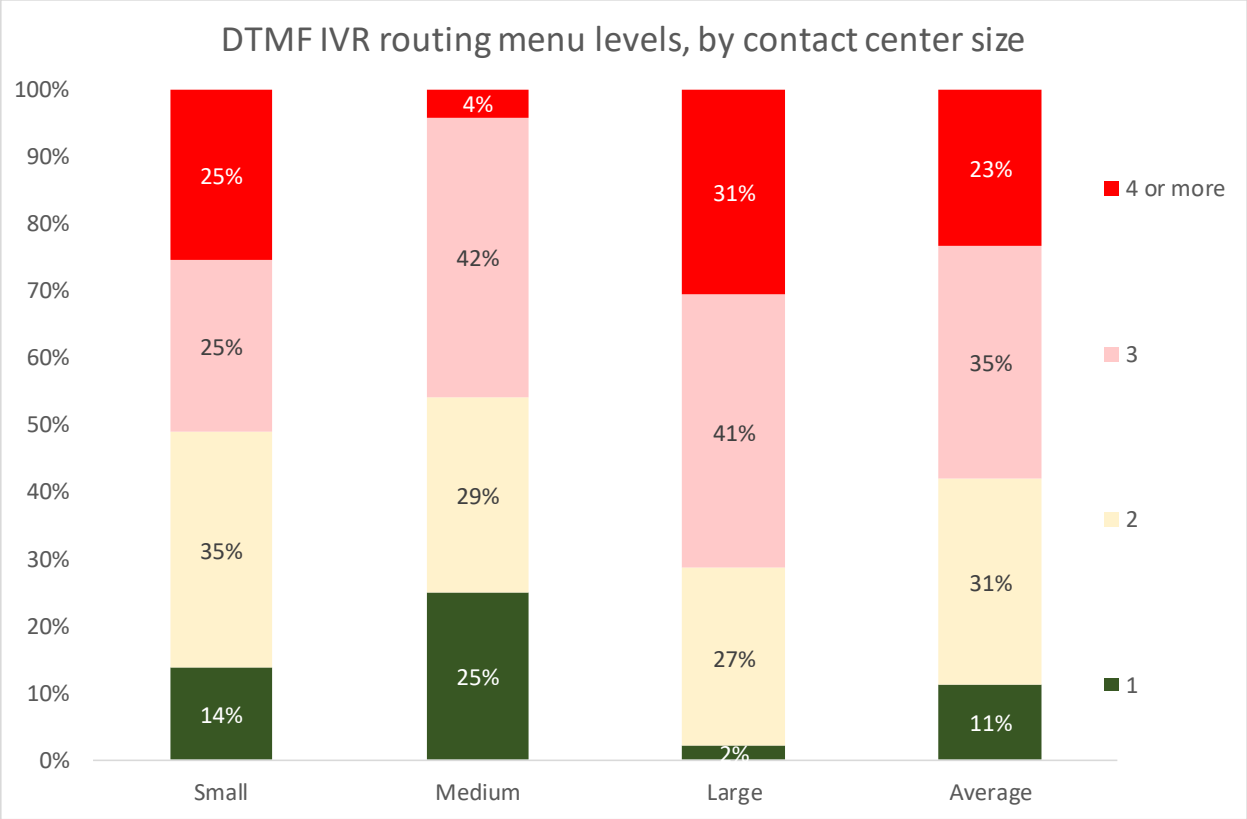


The audio-only nature of DTMF IVR places limitations upon how user-friendly the experience can be for a customer. There has always been a trade-off required between functionality and usability, which manifests itself in the number of menu options and levels that made available within the IVR system. The greater the functionality, the longer the announcements and the worse the customer frustration.

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 11% of respondents keep it simple with a single-level of options, e.g. "Press 1 for Sales; 2 for Service; 3 for Accounts".

31% 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 25% of small contact center respondents report doing the same.

Figure 171: DTMF IVR routing menu levels, by contact center size



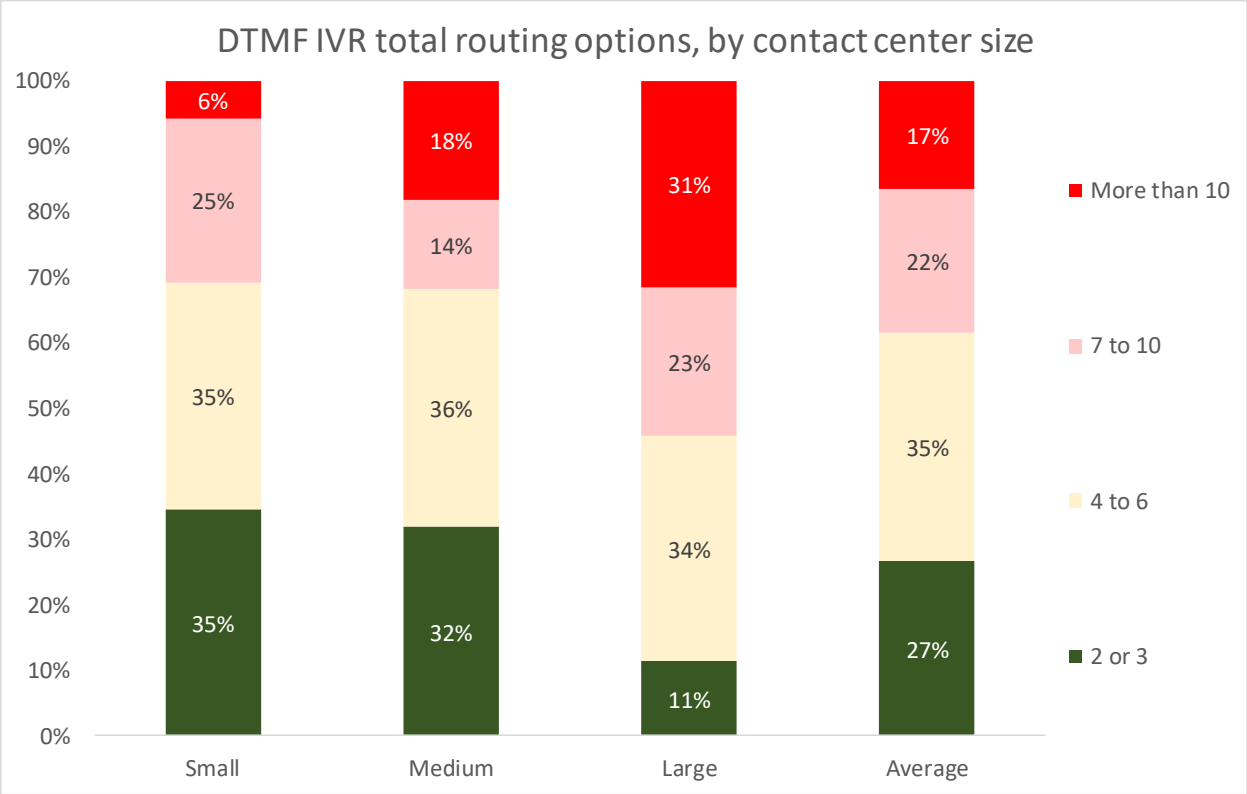
When considering the number of routing menu levels presented by sales or service focused operations, 68% of service respondents present three or more menu levels, whereas all of the sales respondents report providing only one or two levels.

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 more than half of respondents from large operations reporting that they offer seven or more routing options to their customers.

Figure 172: DTMF IVR total routing options, by contact center size



Live agent authentication accounts for 89% of calls. 16% of calls are authenticated with DTMF touchtone IVR and 2% use speech recognition to identify the caller, which itself can take around 20-30 seconds and 1% are carried out through voice biometrics. (NB: totals may be more than 100% e.g. all calls may be authenticated by IVR, with 20% of these then requiring agent checks).

In small and medium operations, the vast majority of customer identity authentication is carried out by agents, rather than automation.

Respondents from larger contact centers with far higher volumes of calls are more likely to use some form of automation – usually DTMF IVR – to authenticate customers.

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.

The mean average time taken to authenticate using an agent is 42 seconds. The figure for authentication using an IVR is only a little less, although the main difference is that the agent's time is not used, so the call duration (from the operation's perspective) and cost per call is reduced.

Figure 173: Time taken to authenticate caller identity using an agent (seconds)

	Seconds to authenticate caller identity using an agent
1st quartile	18
Median	30
3rd quartile	60
Mean	42
High	120
Low	10

With around 10% of the typical call being used to authenticate a customer's identity, this places a significant burden on both the contact center and the customer. Voice biometrics gives the opportunity to reduce the cost and effort involved with this, and we would expect the longer-term future to see this becoming a much more widely-used form of authentication.

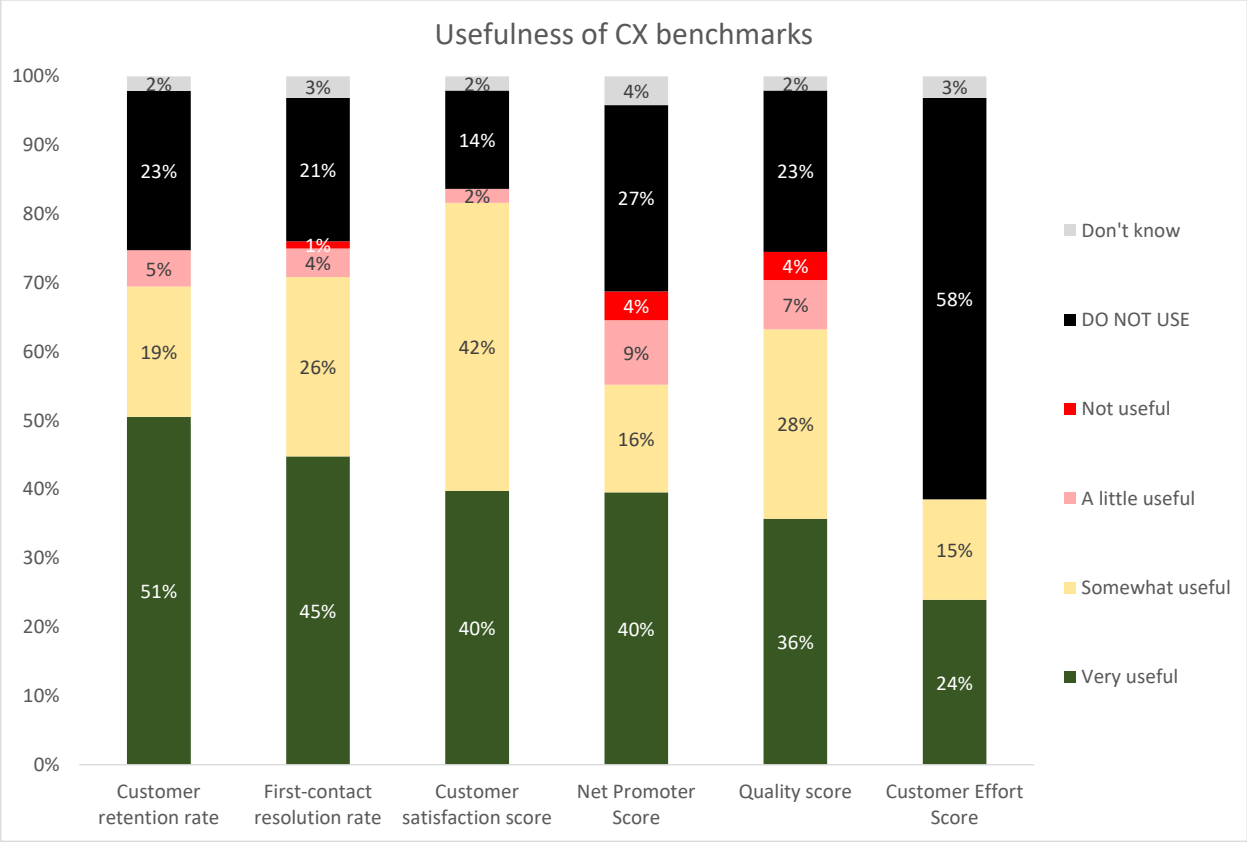
MEASURING CUSTOMER EFFORT

Customer effort scores look to understand the ease or otherwise with which the customer has interacted with the company on a particular occasion. Often, there will be a five-point scale running from "very easy" to "very difficult", which can be converted into a quantitative metric. Various methods of calculating customer effort scores and pitfalls to avoid can be found within this referenced article[17]

The most widely used customer experience benchmark is the general customer satisfaction rating, which is used by 86% of respondents. Closely following this is first-contact resolution rate (79%), NPS (73%), customer retention rate (77%) and agent quality scores (77%). Customer effort score is much less widely used, however is still in place in 42% of respondents.

Of those that used it, 66% of respondents stated that they believed that the customer retention rate was a very useful indicator of customer experience, as satisfied customers are more likely to return. 57% of respondents using customer effort scores believed it to be very useful.

Figure 174: Usefulness of CX benchmarks (if used)



[17] https://www.callcentrehelper.com/how-to-calculate-customer-effort-94671.htm

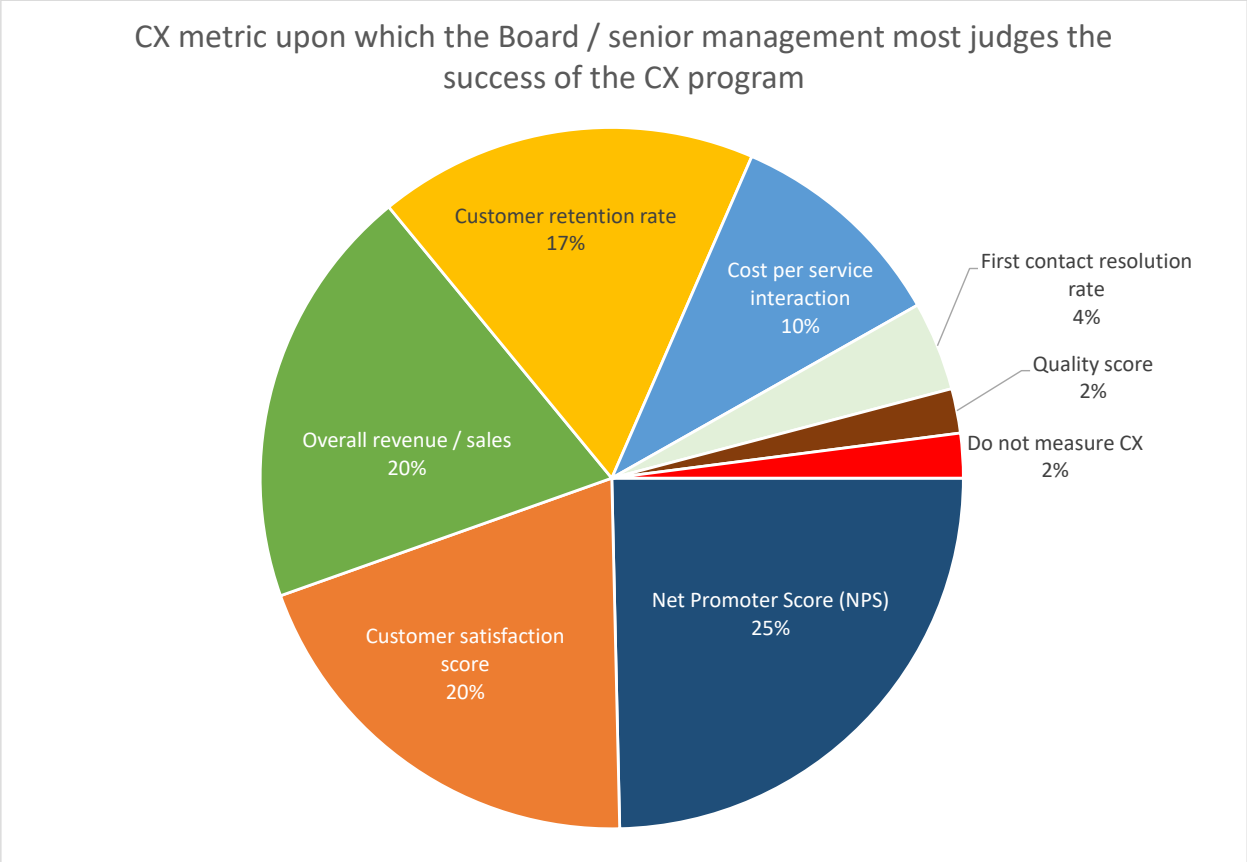
Yet this acknowledgment that customer effort is important to the success of the contact center, and the satisfaction of its customers does not yet seem to have struck a chord at the highest levels of most businesses.

Survey respondents were asked to pick a single customer experience metric upon which their board or senior management team most judged the success or otherwise of the customer experience program. There was a wide mix of responses, with overall revenue, NPS and customer satisfaction score accounting for around two-thirds of responses.

Interestingly, despite customer effort score being stated as one of the most useful CX benchmarking metrics, no survey respondents stated that it was the CX metric considered most important by the senior management team.

Of even greater note is the fact that first-contact resolution rate was identified as being the key CX metric for senior management by only 4% of respondents, despite both current and historic customer and business survey results showing clearly that first-contact resolution was the most important factor influencing customer experience.

Figure 175: CX metric upon which the Board / senior management most judge the success of the CX program



CUSTOMER PERSONALIZATION

This chapter looks at the ways in which the business can tailor the interaction to the customer's requirements, from identifying who they are and how they prefer to be treated, to dynamic changes within the conversation itself to enable a better outcome.

The chapter includes discussions upon:

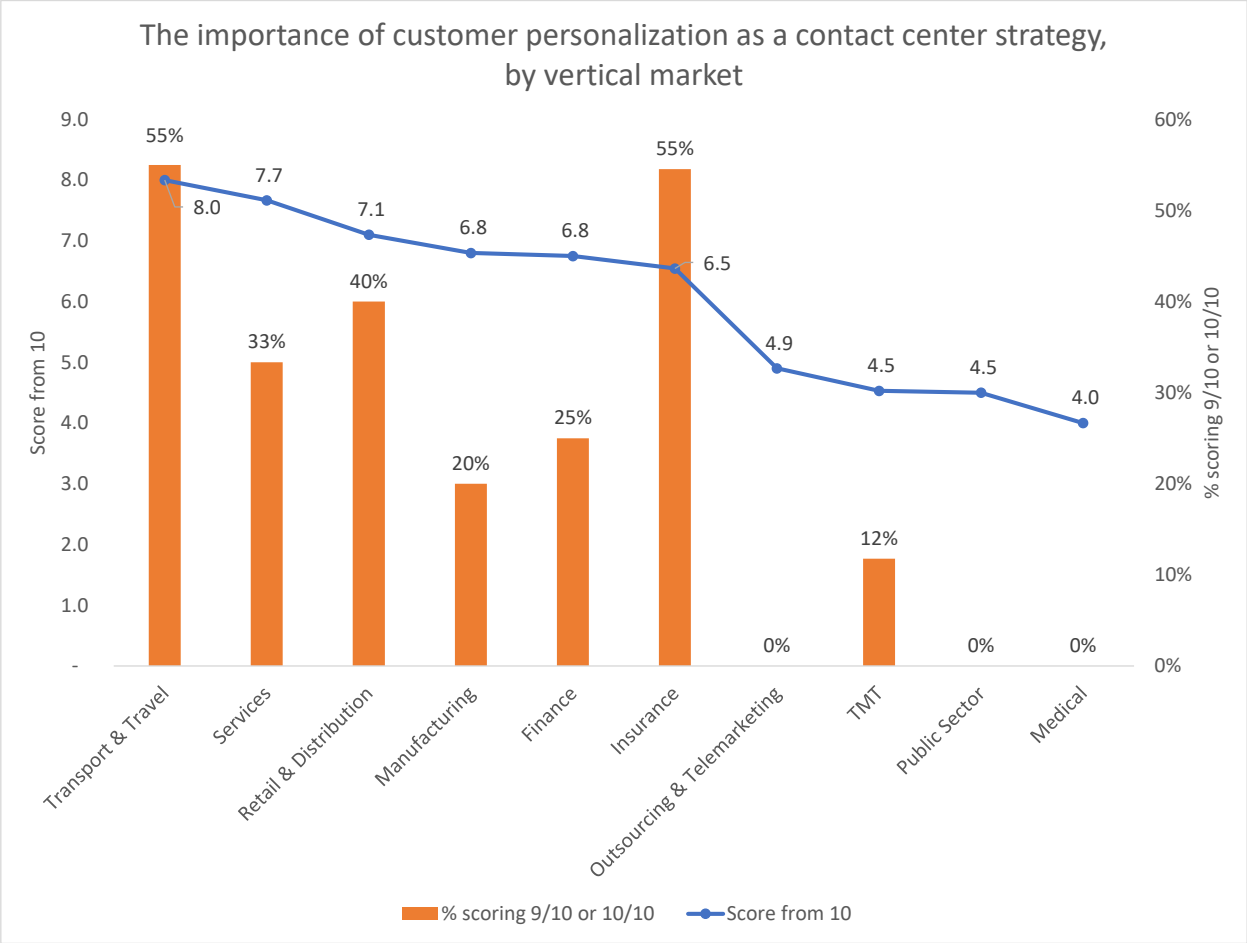
- The growing importance of customer personalization to the contact center's strategy
- Context- and location-specific service
- Understanding the channel of choice
- Optimizing and personalizing the IVR experience
- Call routing decisions
- Supporting the agent to help the customer through dynamic scripting, real-time analytics and emotion detection.

CUSTOMER PERSONALIZATION AND CONTACT CENTER STRATEGY

Survey respondents were asked to score the importance of customer personalization on a scale of 1 to 10, where 10 was 'extremely important'. The proportion of respondents scoring at 9 or 10 – showing a major focus – was also noted.

Many sectors, in particular insurance & travel, state that customer personalization is a critical part of their contact center's strategy and will directly affect the decisions made about the investments made in future.

Figure 176: The importance of customer personalization as a contact center strategy, by vertical market

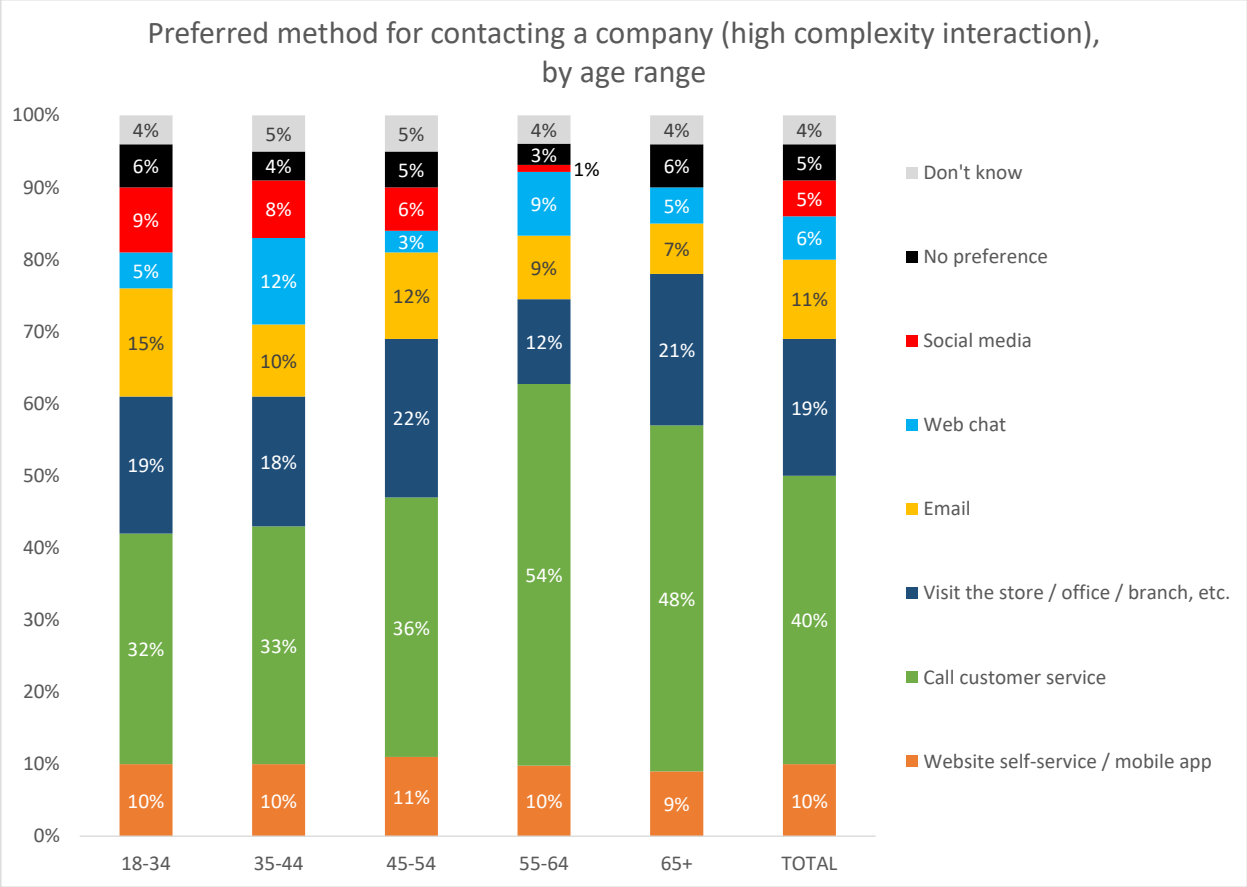


THE CHANNEL OF CHOICE

A major finding from a ContactBabel survey of 1,000 US customers[18] was that even faced with a complex inquiry in times of pandemic, only a minority actually want to pick up a phone to deal with a business. This, despite live telephony accounting for around two-thirds of customer-initiated contact, and the average complexity of a call increasing due to self-service handing many of the simple queries the customers have.

While the findings below show many interesting things, the general fact remains that most customers don't really want to pick up the phone, even to talk through a complex issue. And yet they do.

Figure 177: Preferred method for contacting a company (high complexity interaction), by age range



[18] The 2021-22 US CX Decision-Makers' Guide, available free from www.contactbabel.com

For many customers, being made to pick up the phone puts the customer experience into negative territory, giving the agent an uphill task before a word has even been spoken. For many customers, a truly personalized business experience will not involve them picking up the phone at all.

So, what makes customers do something they don't want to?

The answer is the huge importance that customers place on first-contact resolution. Their experience – not just with a specific business, but in all of their dealings with companies – has shown them that the telephony channel, despite its attendant irritations, is most likely to get the job done first time.

Yet if first-contact resolution is of the utmost importance, we might expect that all other channels would be spurned in favor of telephony. Clearly, with one-third of inbound interactions coming into other channels, this is not the case. Some interactions are simpler than others; some less important or urgent.

It's worth reiterating that, as a rule, customers choose the most painless channel that also gets the right result first-time.

This is where things get more complicated: the customer's experience of each interaction is driven not just by what they want to achieve, but also multiple factors such as emotional state, urgency of request, time of day, the device being used and the past experiences of the customer, amongst others.

Businesses can reach a better understanding of their customers' requirements by analyzing the type of interactions that they receive, and trying to offer the right channels and match necessary resources accordingly. If customers decide that they have to pick up the phone, then the business has ways of making sure that the interaction is effective, painless and customized to the needs of that specific customer, starting from the time that they connect with the IVR menu.

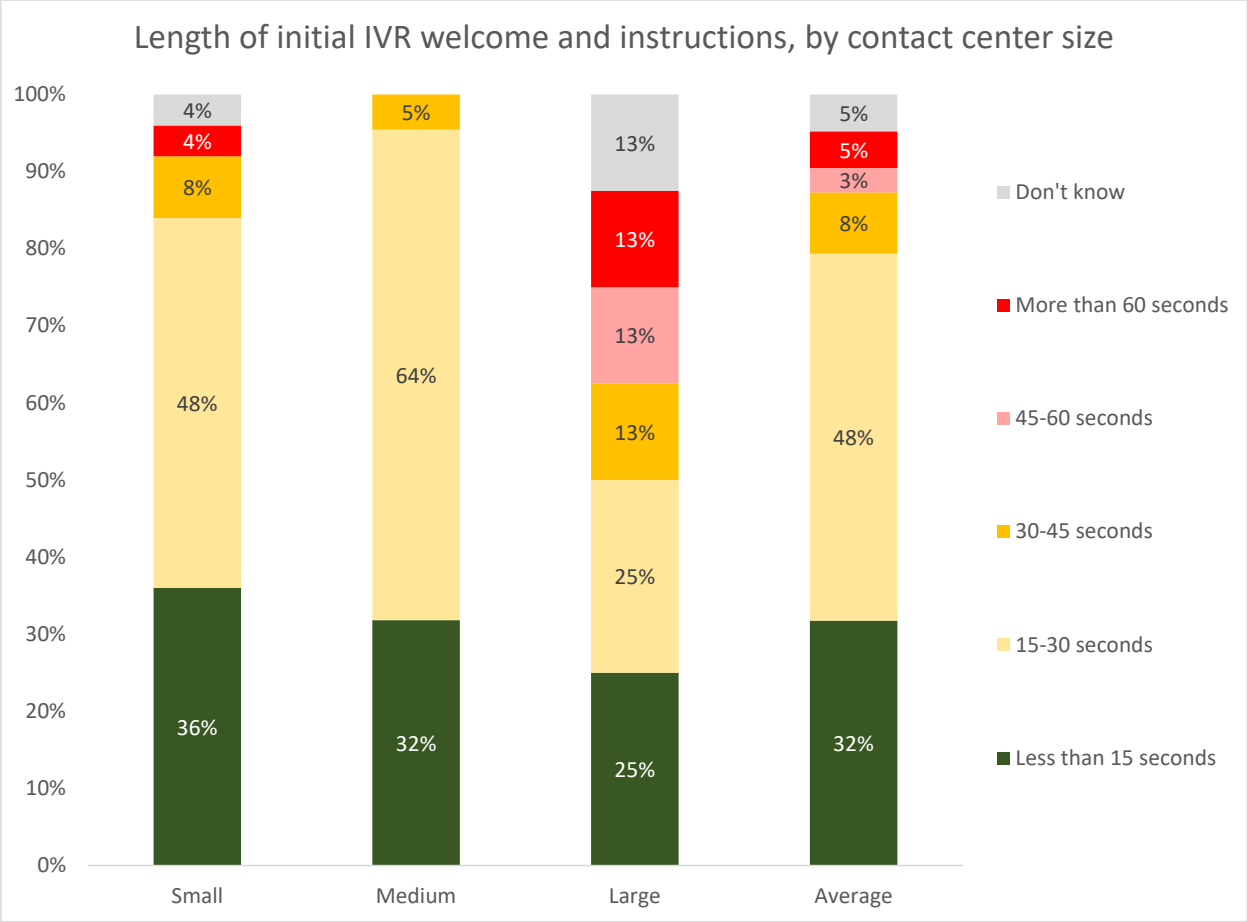
THE IVR EXPERIENCE

Many customer interactions begin with an IVR session. For many customers, IVR is seen as a way for the business to put up a barrier between them, involving a long and tortuous path before actually getting to speak with someone. Yet an IVR session should capture information about the customer's identity and requirements that allows a business to provide an answer or route the call to someone who can actually help, rather than taking pot luck by dropping the call on the next agent available.

The IVR experience will often begin with a generic welcome announcement before offering various options for the customer to choose with a DTMF keypad (the vast majority of IVR is carried out with DMTF rather than speech recognition).

Smaller contact centers (usually with fewer departments, skill-sets and products/services) will tend to have the shortest initial IVR announcement, with 84% reporting announcements shorter than 30 seconds, compared to only 50% of large operations.

Figure 178: Length of initial IVR welcome and instructions, by contact center size



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 greater the functionality, the longer the announcements and the worse the customer frustration.

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.

Another option is to speech-enable IVR, to increase 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. Smartphone applications and IVR options could be tailored to the preferences and history of a customer. In turn, the business could ensure that customers are only offered options that both make sense to them personally and also optimize business potential. This is analogous to the targeted advertising approach delivered by the likes of Google and Facebook.

By identifying a customer within a self-service process, and by personalizing and contextualizing offers that they may be interested in based upon their profile, history and what they are searching for now, businesses can improve their cross-selling and up-selling rate. There are also wider and longer-term benefits to be had by understanding more about the customer's mindset and personal circumstances.

A key aim of omnichannel is to provide consistent customer experience, which requires access to the same master dataset, and that the same knowledge bases and business logic must be applied equally. Real-time data flow and updates between channels and databases are required in order to achieve consistency. This allows not only the seamless escalation of service requests within channels, but also gives the business a chance to use their automated systems to react to an escalation before it reaches a live agent, deflecting the cost while fulfilling the service request more quickly. For example, analysis of past interactions may show that a particular customer is likely to ring the contact center within two days to check on the order's progress. Making the IVR aware of the customer's history means that this call can be intercepted before it reaches an agent, and a personalized IVR experience (with the option to "Check your order status") will reduce customer effort and the time and cost of the agent who would otherwise handle this. Analyzing and predicting customer intent will become a competitive service differentiator within the next few years.

ANALYSING CUSTOMER INTENT

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. This information can be matched against customer profiles, or those which have recently carried out specific actions, in order to predict why they are calling, and either offer the correct self-service option, or proactively communicate the required solution before they even call.

This personalized approach is also leveraging the information that mobile and especially smartphone devices can provide. 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.

Contextual data provide a great opportunity for businesses to deliver timely personalized service in a cost-effective and profitable manner. 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:

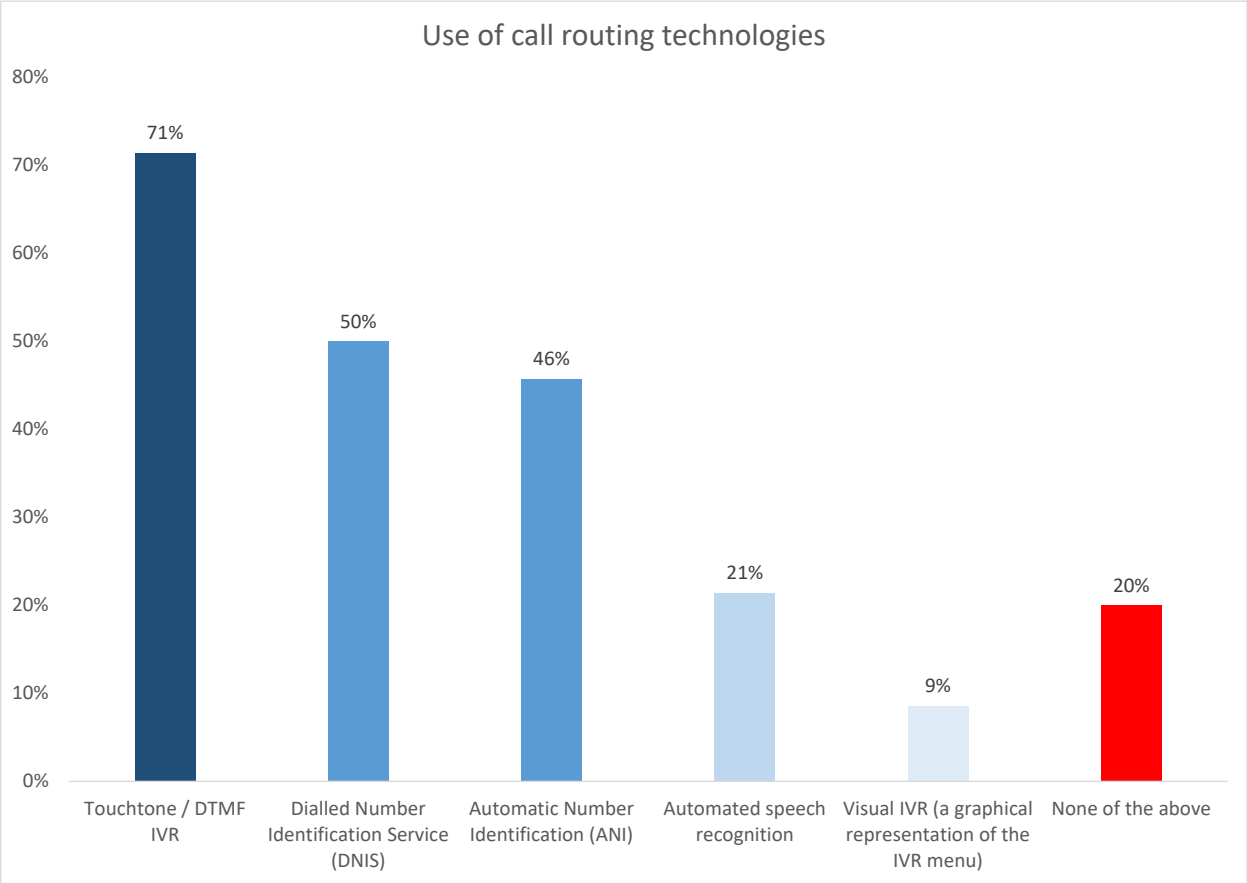
- Customer identity: once the customer has identified themselves, such as by logging on, or through the mobile phone number, this allows the agent to access their existing customer history in the same way that would be done so on a phone call into the contact center.
- Geographical information: smartphones are GPS-enabled, allowing agents to see where customers are, and to direct them to the nearest shop, 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.

ROUTING AND CUSTOMER PERSONALIZATION

On the occasions when the customer has chosen the phone channel but not had their issue resolved through IVR self-service, the business has had the opportunity to learn who they are, and perhaps gather some information about what they want.

Building on that, there is an opportunity to see what this customer has done before, how they prefer to be addressed and their conversational style, as well as putting all of the relevant information on the agent's screen before a word has been spoken.

Figure 179: Use of call routing technologies



Over two-thirds of respondents route calls through one or more techniques, for example using DTMF tones to input an account number or choose a department, through an automated security process or through Automatic 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.

45% of respondents use this information or other sources (for example, identifying the language that the customer is using via speech recognition) in order to identify the skills that the call may require, and use this to route the call appropriately.

44% understand something about the subject that the customer wants to discuss (this could be as simple as pressing '1' for sales and '2' for service).

52% of respondents actually identify the customer, and 38% then access the customer's records within the CRM system in order to deliver this to the agent desktop.

Only 10% identify whether the agent who last spoke to this customer is available, an option which could be used to personalize the call and develop the relationship and understanding between the customer and business.

17% of contact centers do none of these things, and the caller is faced with explaining who they are and want they want. At the opposite end of the spectrum, some contact centers attempt to match the customer with an agent based on personality types and communication preferences, and this is discussed in the next section on predictive behavioral analytics and routing.

Figure 180: Pre-call personalization actions

Method	% of respondents using this method
Identify the customer	52%
Access the customer's records and history in the CRM system	37%
Identify the skills and capabilities that the agent answering the call is likely to need	45%
The subject that the customer wants to discuss	44%
Identify whether the agent that last talked with this customer is available to take the call	10%
None of the above	17%

PREDICTIVE ANALYTICS

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

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

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

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

Predictive behavioral routing has its roots in communication-based psychological models for assessing personality type and identifying behavioral characteristics. One vendor’s solution, for instance, is based upon a personality model developed in the 1970’s to assist NASA with astronaut selection; the premise of this model is that individual personality type can be derived from a person’s use of language. By understanding the type of customer, calls can be routed to agents who are best at handling the caller. Agents who are skilled at handling many types of callers' personality styles can be saved for callers whose character type is unknown, perhaps as this is the first time that they have called.

By tracking agent performance across various personality types, information can be fed into the performance management process to help that agent improve, and agent capabilities are regularly reassessed to promote optimal routing.

HELPING THE AGENT TO HELP THE CUSTOMER

Once the customer has been identified and the call has been routed to the agent, greater personalization of the interaction becomes possible. Agents need relevant information about the customer and the issue they wish resolving to be available at a glance, without having to search manually for it, or keep the customer waiting while they try to understand the situation.

Integrated desktop 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. This not only increases speed and accuracy, but allows the agent to concentrate on the customer, and on any alerts or suggestions that the desktop application is making about where to take the conversation next.

Figure 181: Personalized customer information available to the agent

Surprisingly, only 49% of contact centers report that the agent even has a full view of the customer history, including any non-voice interactions.

Very few respondents state that their agents are provided with hints and tips on how the customer prefers to be addressed or their style of conversation (relaxed, formal, chatty, etc.), meaning at best that callers receive the same neutral, generic form of address as everyone else.

Only 4% of this year's survey respondents use AI-enabled dynamic scripting, which 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.).

Dynamic scripting can be supported by the use of real time analytics, which should perhaps be more accurately referred to as 'real-time monitoring and action'. Analysis ("a detailed examination of the elements or structure of something[19]"), refers to the discovery and understanding of patterns in data, and is currently something that by definition only happens post-call when all data are fully present. Real-time monitoring on the other hand, looks for and recognizes predefined words, phrases and sometimes context, within a handful of seconds, giving the business the opportunity to act.

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

Real-time can be used in many ways:

- monitoring calls for key words and phrases, which can either be acted upon within the conversation, or passed to another department (e.g. Marketing, if the customer indicates something relevant to other products or services sold by the company)
- alerting the agent or supervisor if pre-specified words or phrases occur
- offering guidance to the agent on the next best action for them to take, bringing in CRM data and knowledge bases to suggest answers to the question being asked, or advice on whether to change the tone or speed of the conversation
- escalating calls to a supervisor as appropriate
- detecting negative sentiment through instances of talk-over, negative language, obscenities, increased speaking volume etc., that can be escalated to a supervisor

[19] http://www.oxforddictionaries.com/definition/english/analysis

- triggering back-office processes and opening agent desktop screens depending on call events. For example, the statement of a product name or serial number within the conversation can open an agent assistant screen that is relevant to that product
- making sure that all required words and phrases have been used, e.g. in the case of compliance or forming a phone-based contract
- suggesting cross-selling or upselling opportunities.

Many solution providers have worked hard to bring to market new or improved solutions to assist with real-time monitoring and alerts, and recognition of key words, phrases, instances of talk-over, emotion and sentiment detection, pitch, tone, speed and audibility of language and many other important variables can be presented on the agent desktop within the call, triggering business-driven alerts and processes if required.

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

The concept of 'emotion detection' is becoming more frequently mentioned in relation to real-time analytics. Emotion or sentiment displayed on calls can be extremely difficult to track accurately and meaningfully, as everyone has their own way of expressing themselves, words and feelings may not match up, or external irritations not related to the topic of conversation may intrude. Some vendors argue strongly that detecting emotion on each call is a useful tool – for example, by passing irate customers to a supervisor – and further developing their ability to detect voice-stress on a call in order to flag these to a supervisor, with some real time monitoring solutions measuring indicators such as speed of speech, volume, use of key word triggers, instances of talk-over or silence, etc.

There is another viewpoint, taken by those that offer solutions based on the analysis of masses of recordings, that says that the real value comes from looking at very large samples of data to identify those agents, processes and circumstances where emotion (often negative) runs highest, and taking into account the outcome of the call as well. While emotion detection has had a relatively low profile for many solution providers, recently there has been a great deal talked about the benefit of sentiment detection in both real time and historical analytics solutions.

Against this however, is the feeling that this is one thing that humans can do far better than machines: do agents really need to be advised on a call when somebody is being sarcastic, or is upset? It may be that sentiment detection is more suitable for large-scale historical analysis of calls, where emotional content can be correlated with the outcome of the call, and the spoken use of a word can be ambiguous when seen as text (for example, in the use of sarcasm).

Another viewpoint is that real-time sentiment analysis may be useful for offshore agents who have a different cultural and first-language background to that of the caller.

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

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

HR 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, how contact center decision-makers view their agents' performance and morale, and what they are doing to support their agents' performance.

This section contains information around contact center HR benchmarks such as attrition and absence.

"The 2022 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, ABSENCE AND RECRUITMENT

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.

There are a record number of job vacancies in the US, and we would expect this to drive up attrition rates as many alternatives to working in a contact center are currently available. Against this, the remote working model is popular with many – not all – of contact center agents, who appreciate its benefits to their work-life balance, and putting a hybrid office/home working model into place is likely to reduce attrition.

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 parlance – 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 182: 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%
Mid-2017	30%	20%
Mid-2018	31%	23%
Q3 2019	34%	24%
2020	30%	20%
2021	36%	28%

After 2008's very high mean attrition rate of 42%, rates declined significantly as the economic downturn took off some of the HR pressures.

Year-end 2012 saw a small rise in median 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%. Following years' data saw a very slight increase in attrition.

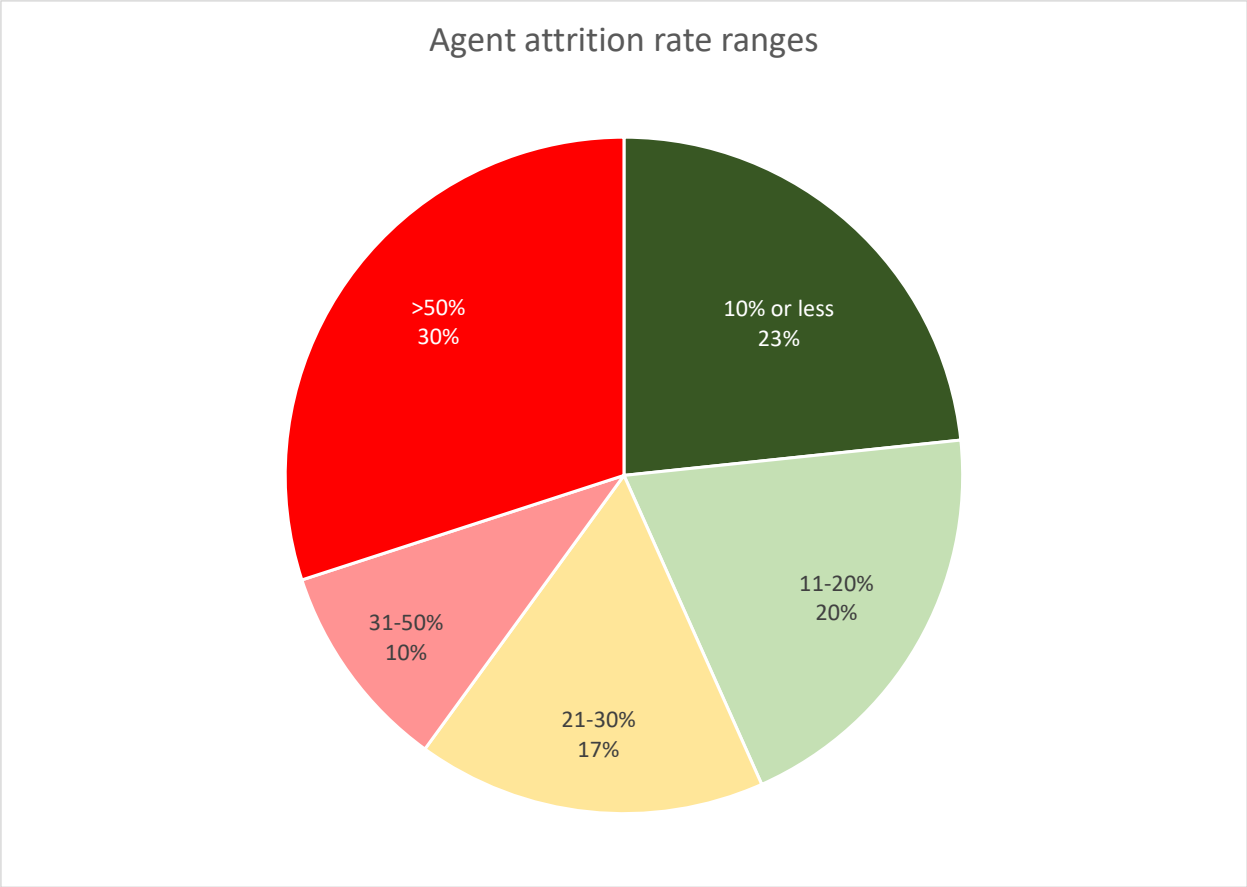
2019's figures were higher again, suggesting that the high level of employment in the US economy meant that there are many alternative employment options. 2020 saw a drop in attrition as fewer companies were hiring new staff, although this is likely to have been offset to some extent by a considerable number of redundancies.

2021's figures show a distinct increase in the mean and median attrition rates, probably driven by the record number of alternative employment opportunities in the US economy.

There is a very wide spread of attrition rates across the industry, with 40% of survey respondents having to deal with attrition rates of over 30% (up from 26% last year).

23% of contact centers report very low levels of attrition, at 10% or lower.

Figure 183: Agent attrition rate ranges

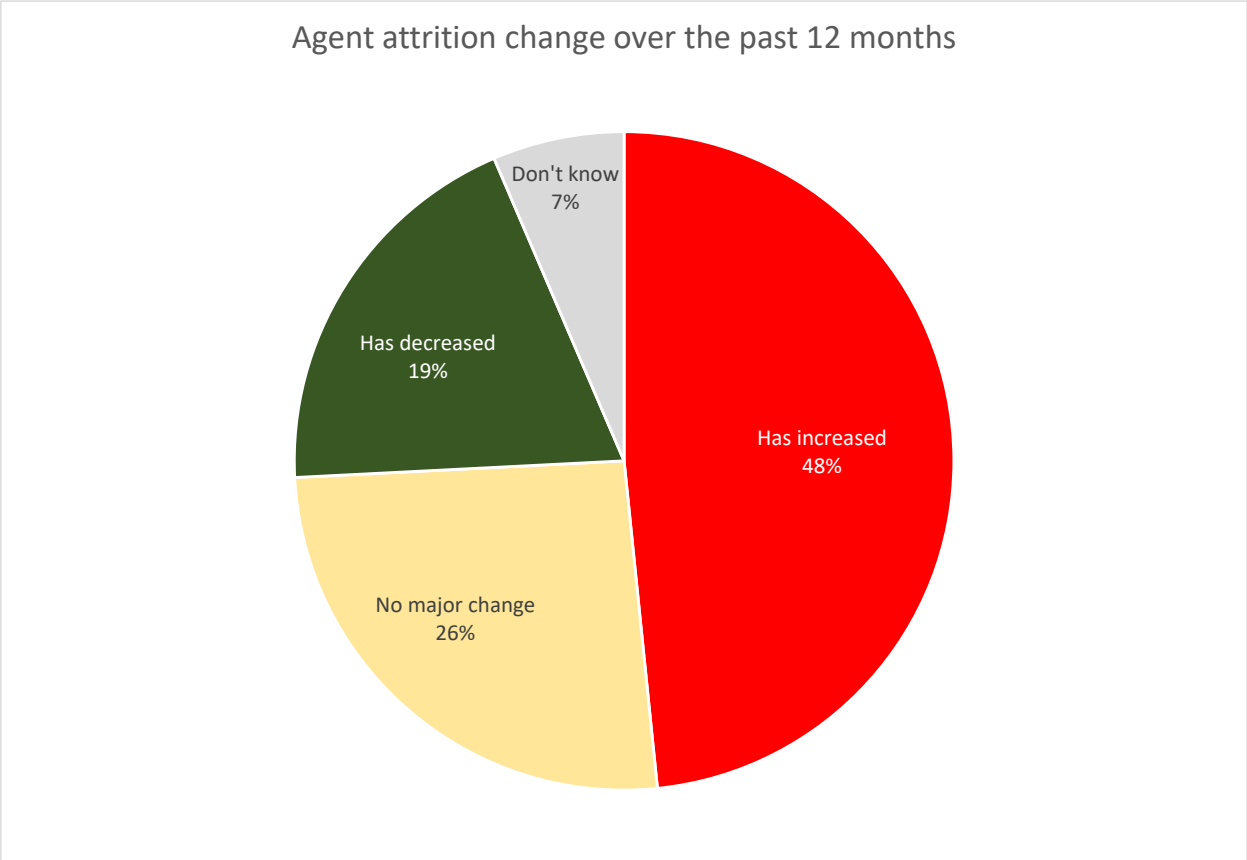


One of the difficulties with tracking metrics such as attrition over time is that the companies responding to the research program may be different year-on-year, meaning comparing like-for-like is difficult. As such, the question was asked, "How does your current attrition rate compare with 12 months ago?", giving a consistent view of changes at a company level.

Only 26% of respondents say that there has been little real change, 48% say that attrition has increased, with 19% saying that it has decreased.

This suggests that any change in attrition across the industry is likely to be noticeably upward.

Figure 184: Agent attrition change over the past 12 months



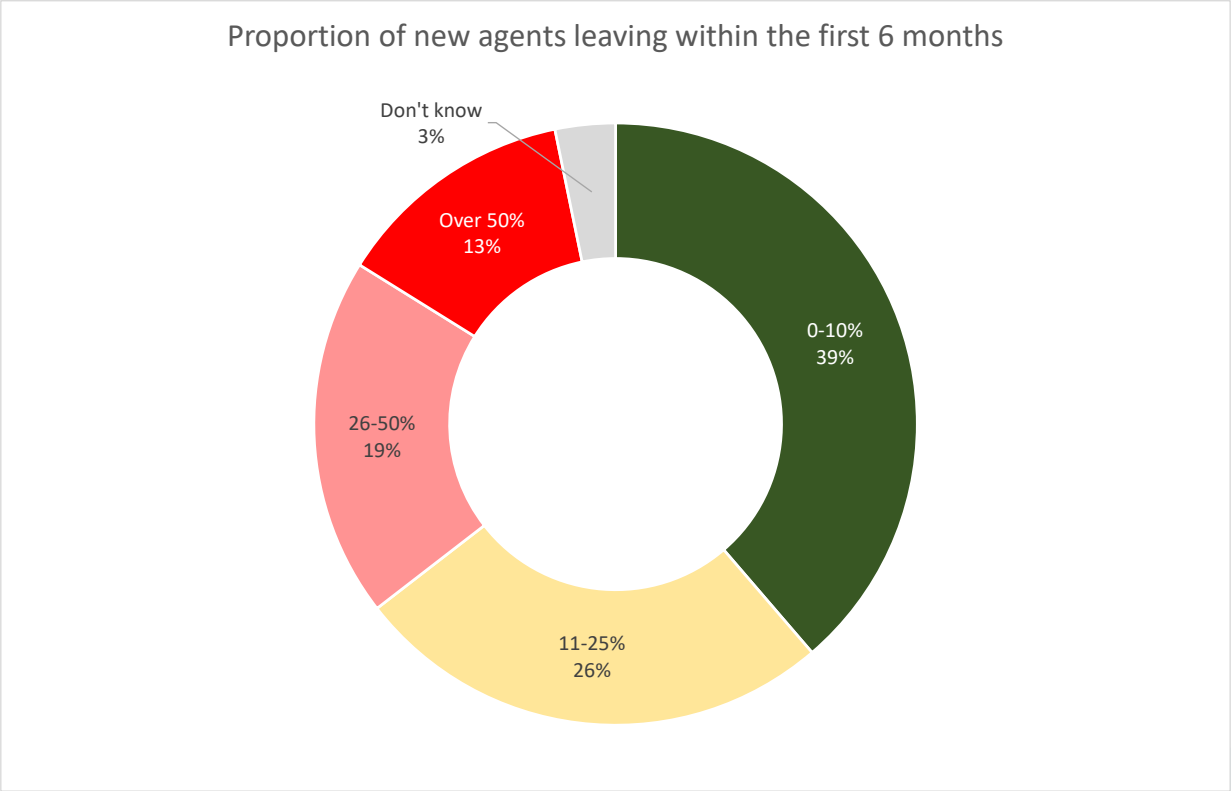
The reduction of attrition has two main factors: that the successful candidates are suited to, and competent for the work which they will undertake, and that the work and conditions in which they find themselves will be conducive to a long-term stay.

Solution providers experienced in analyzing attrition state that that understanding the short-term new starter attrition data is critical to being able to reduce attrition. Most organizations believe that a very significant proportion of their annualized attrition occurs in the first 90 days after recruitment. This strongly suggests that there are often errors made in the type of people employed, 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: attrition is something that should be focused upon at the recruitment stage, rather than leaving it until the candidates are already in the business.

Only 39% of respondents report few problems with early attrition (compared to well over half last year), and 32% have more than one-quarter of their new agents leave within the first six months. This is significantly higher than usual, which suggests that any rise in attrition could be down to a greater proportion of new agents leaving. This may indicate that introducing new agents to the contact center through remote working may result in a less successful induction.

Figure 185: Proportion of new agents leaving within the first 6 months



Looking at the causes for attrition, the stress of the work and the repetitive nature of some contact center activity were cited as key by a significant proportion of respondents in survey carried out ten or more years ago. While they remain important, contact centers seem to be giving a collective shrug by consistently 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 and competency testing at the recruitment stage – whether in-house or through a recruitment agency – and the assessment of behavior and character will go a long way to stopping the wrong type of person for the job at source, with consistent support especially within the early stages of the role being vital to reducing short-term attrition.

Figure 186: Reasons for agent attrition (ranked in order) – aggregated data

Rank	Reason for staff attrition
1st	Just the wrong type of person for the job
2nd	Lack of promotion or development opportunity
3rd	Repetitive work
4th	Low pay
5th	Excessive pressure or stress
6th	High numbers of temporary / seasonal staff
7th	Competition from other contact centers
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 second-greatest cause of staff attrition.

As for other causes, much of the repetitive work is increasingly being alleviated by using self-service (whether voice-driven or web-based), and the blending of tasks (especially inbound digital and voice, rather than inbound / outbound voice) has been shown in many previous reports to show a positive correlation with lower levels of attrition.

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 overworked 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 agents think that missing work is acceptable.

There are also other factors that influence absence, including:

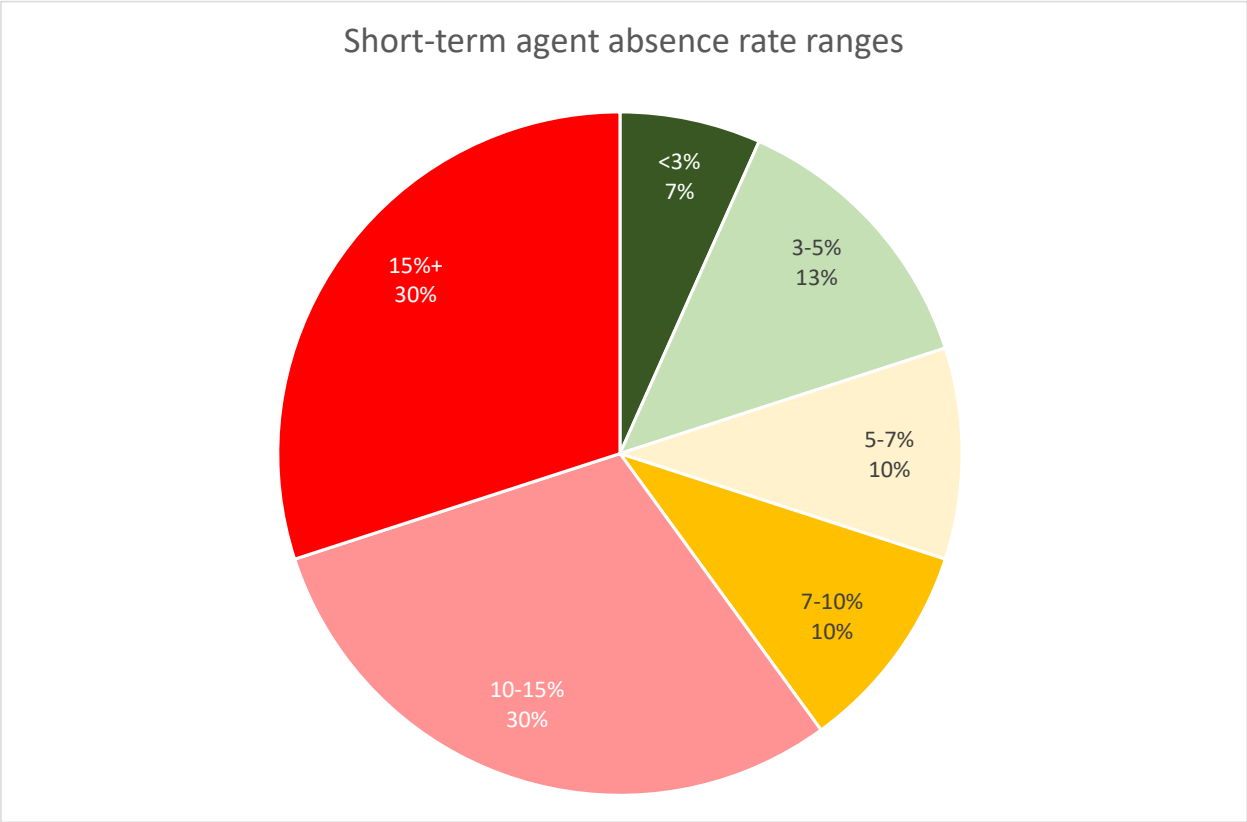
- Mandatory overtime
- Antisocial hours
- Lack of schedule flexibility and choice
- Insufficient mentoring or supervisor support, especially during the transition period after training
- Large team sizes (20+ per team)
- This year, the pandemic has caused greater absence levels (see the first chapter on the effects of the pandemic).

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. Top-level information is included in here, and detailed information by vertical market and contact center size is available in the US Contact Center HR & Operational Benchmarking Report.

Long-term absence: includes long-term sickness, maternity leave, sabbaticals and other long-term absences where the business is able to expect and plan for the absence. This is not included in this report but is available in the US Contact Center HR & Operational Benchmarking Report.

This year's mean absence rate has increased to 9.9%, compared to 9.5% last year, with the median – the typical midpoint average increasing to 10%.

Figure 187: Short-term agent absence rate ranges



NB: a range of "3-5%" includes all results from 3.00% to 4.99%. "5-7%" includes all figures from 5.00% to 6.99%, etc.

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.

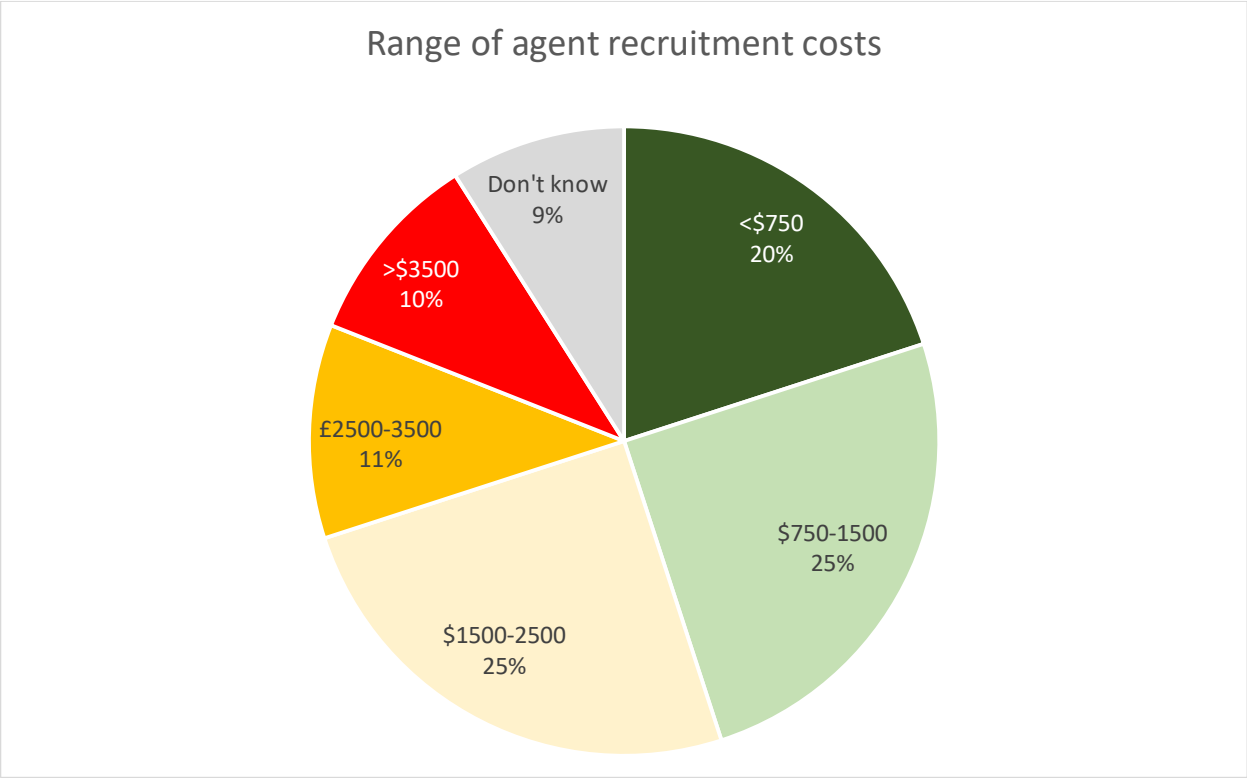
Firstly, the business must understand the competencies, characteristics and behaviors that are most suitable for the contact center positions that they are trying to fill, for example:

- 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-learnt. 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.

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 a range of figures are now provided. As can be seen, the median is considerably lower (around $1,750), with a small number of very high responses having pushed up the mean average.

Figure 188: Range of agent recruitment costs



SALARIES

New agent salaries are reported to have increased by 7%, and there was a 6.1% increase reported in the salaries of experienced agents. This is likely in part to be driven by the very low salary increases seen last year being a statistical blip. However, there was also a salary freeze in place for some businesses as they struggled with costs in the lockdown which has now been removed. The pressure to keep staff despite many other opportunities being available in the job market should also be considered.

At a team leader level, the salary increase was higher that last year's 1.5% figure, at 4.6%.

Respondents' average contact center manager salaries in 2020 showed a decrease of 3.0%. This has been more than gained back, with a reported increase industry-wide of 10% in 2021. It is likely that 2020's decrease in salary was not actually representative of the industry as a whole, but a factor of the data set's idiosyncrasy.

These figures should be viewed with some caution, using the perspective of historical data and the median/quartile perspective, as respondents differ each year, and outlying data points can skew mean averages.

Figure 189: Contact center salaries and changes

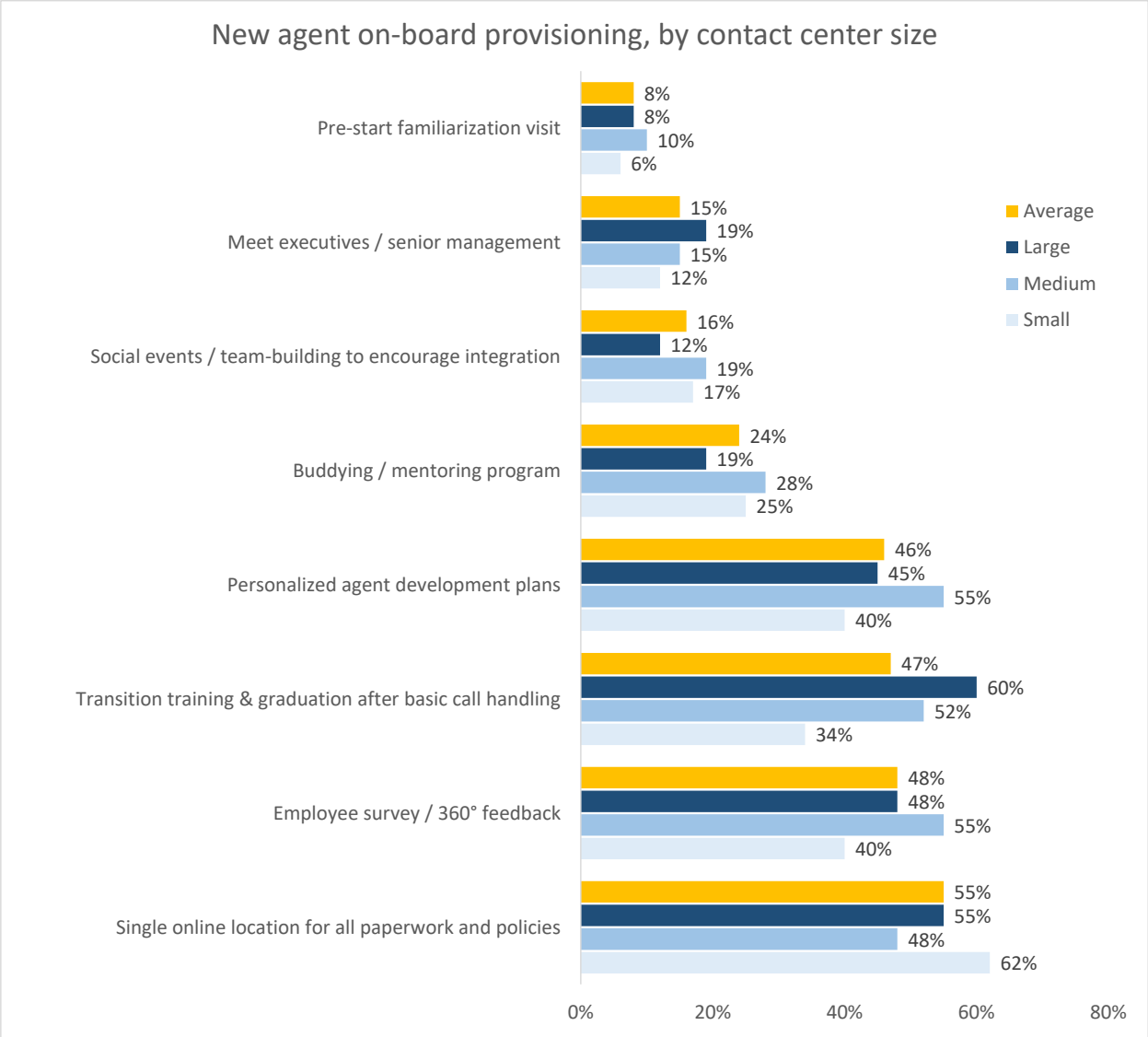
Role	2020 mean salary	2021 mean salary	Change 2020-21
New agent	$31,347	$33,535	+7.0%
Experienced agent	$37,780	$40,066	+6.1%
Team leader / supervisor	$48,618	$50,928	+4.6%
Contact center manager	$71,643	$78,955	+10.2%

More detailed analysis of salaries and bonuses, including historical patterns, median/quartiles and segmentation by vertical market, contact center size and activity type is included in "The US Contact Center HR and Operational Benchmarking Report (2022)".

ENGAGING THE NEW AGENT

An agent joining a new organization has a lot to take on board – culture, systems, expectations, new products and services – and this becomes even more difficult if this is the first time that the agent has worked in a contact center environment. Businesses have numerous ways of introducing (or 'onboarding') new agents to their work, shown in the following chart.

Figure 190: New agent on-board provisioning, by contact center size

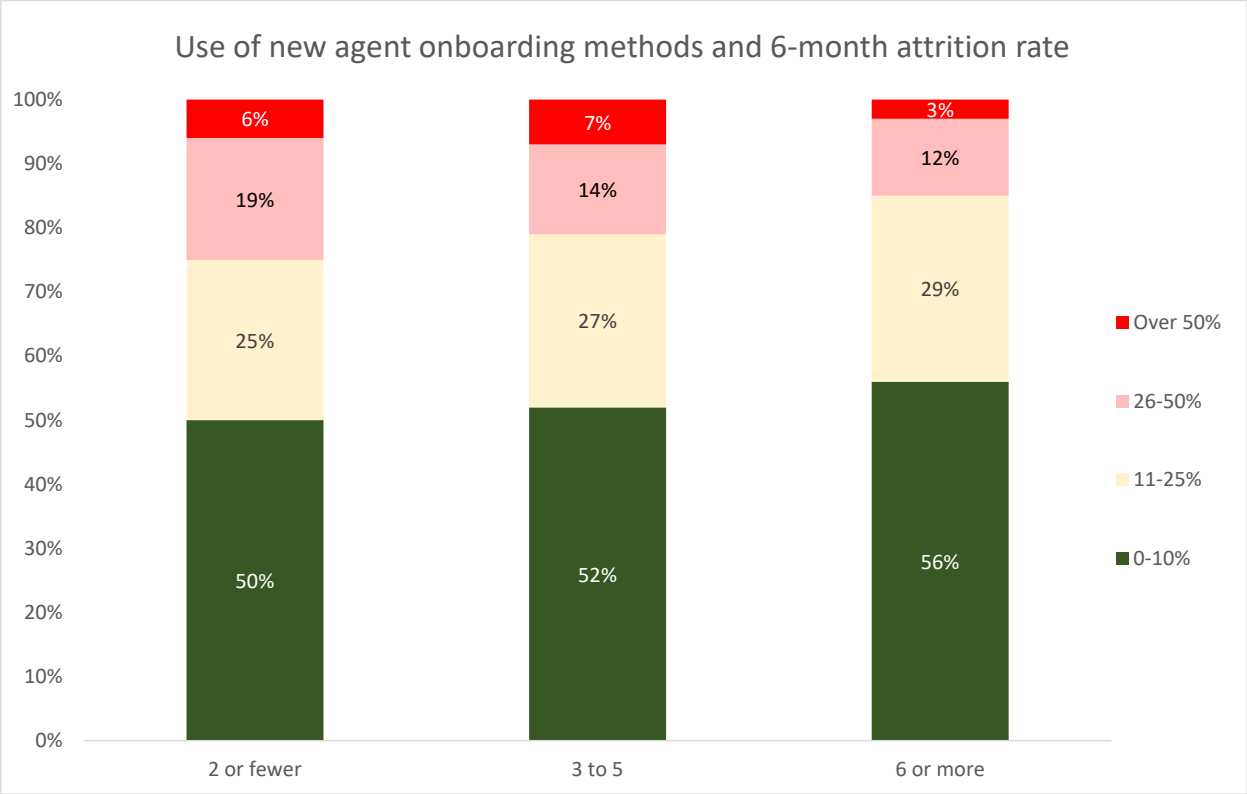


Most respondents have a buddying / mentoring program, and some form of official 'graduation', easing new agents into the real work after basic call handling training. Social events and senior management introductions usually feature quite highly, although the pandemic has obviously severely reduced the opportunity for the former. 46% provide individual agent training plans.

48% of respondents seek 360-degree feedback from new agents (which would provide vital information about the reality of the agent onboarding process that could be used for improvement), and 55% offer a single portal containing all of the paperwork and internal administrative tasks that a new employee requires. Only 8% have pre-start familiarization visits (a considerable drop from last year for understandable reasons).

It was hypothesized that high levels of agent onboarding and support would reap benefits through lower new agent attrition levels, as agents receiving more onboarding support in their first few weeks should adapt to the work and culture more quickly, become more confident and feel more empowered. The chart below shows three ranges of new agent attrition – 0-10%, 11-25% and 25%+ – and investigates how many types of onboarding method were used by respondents within each group.

Figure 191: Use of new agent onboarding methods and 6-month attrition rate

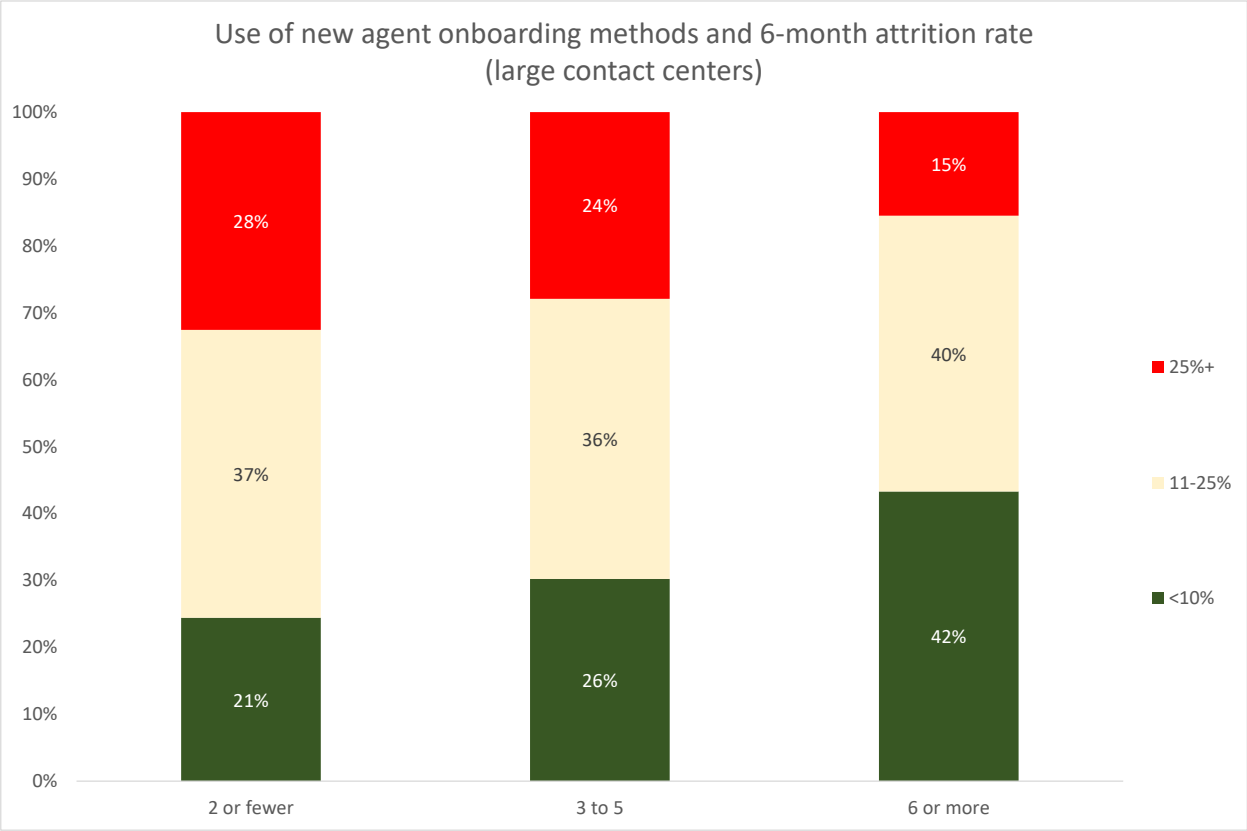


The obvious conclusion from the previous chart is that high levels of onboarding have a relatively small effect on 6-month attrition rate, but there may be another factor in play.

Large contact centers tend to have higher levels of attrition all-round, so comparing only those contact centers from within the same size band will give a clearer view.

There is some noticeable difference in new leaver attrition when looking only at large (200+ seat) operations: 28% of those that use two or fewer onboarding methods report high levels of new leaver attrition, compared to 15% of those that use 6 or more methods.

Figure 192: Use of new agent onboarding methods and 6-month attrition rate (large contact centers)



ENGAGING THE EXPERIENCED AGENT

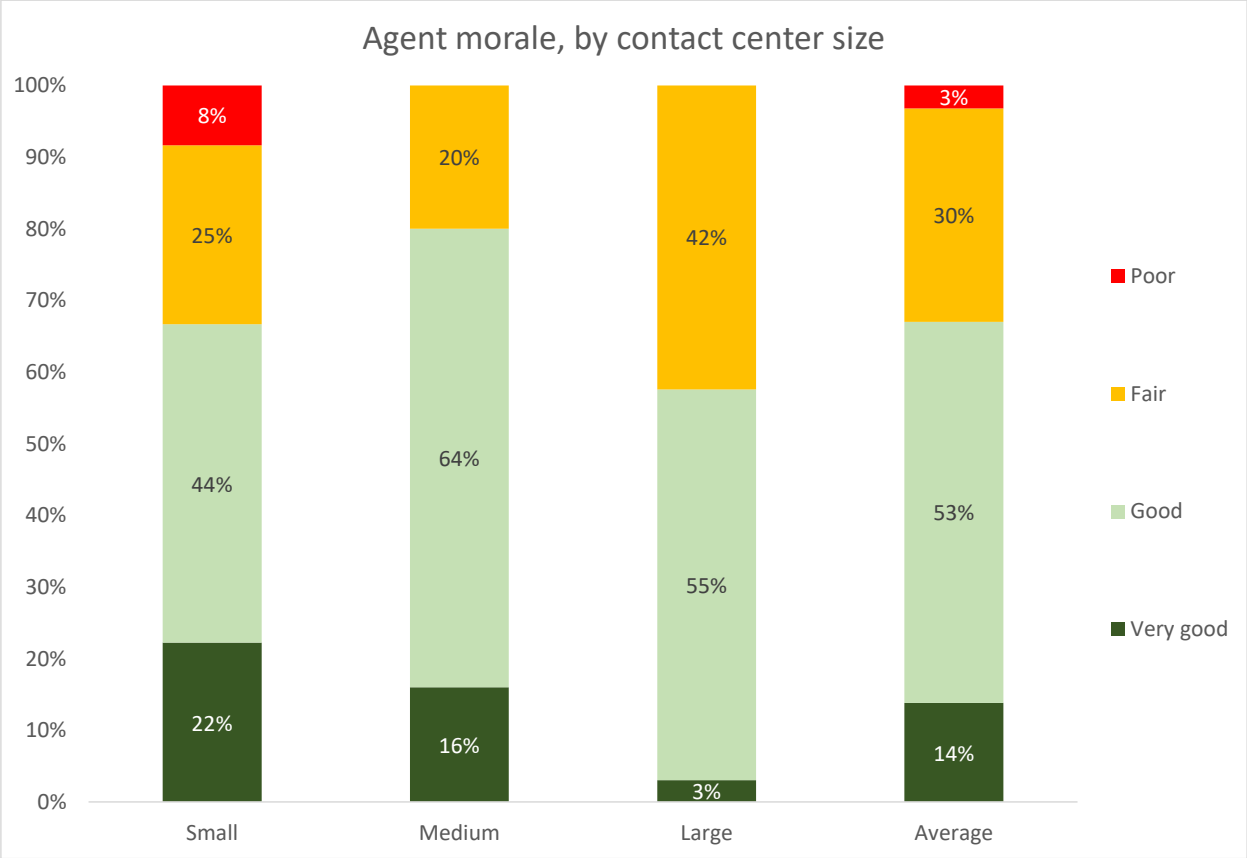
Motivating and keeping good agents in a working environment that is often stressful, sometimes repetitive and usually not particularly well-paid is a challenge the contact centers have had to face since their inception. As the nature of contact center work becomes increasingly complex, and customers' 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.

When considering how attrition and absence issues can be alleviated, bonuses and incentives are generally felt by most businesses to be a possible solution.

AGENT MORALE

Agents with low morale engage with customers less, provide lower quality work, take more unauthorized absences and end up leaving the company. Improving morale is good for business, and also good for other agents and the entire working environment: no-one wants to go to work in a miserable place.

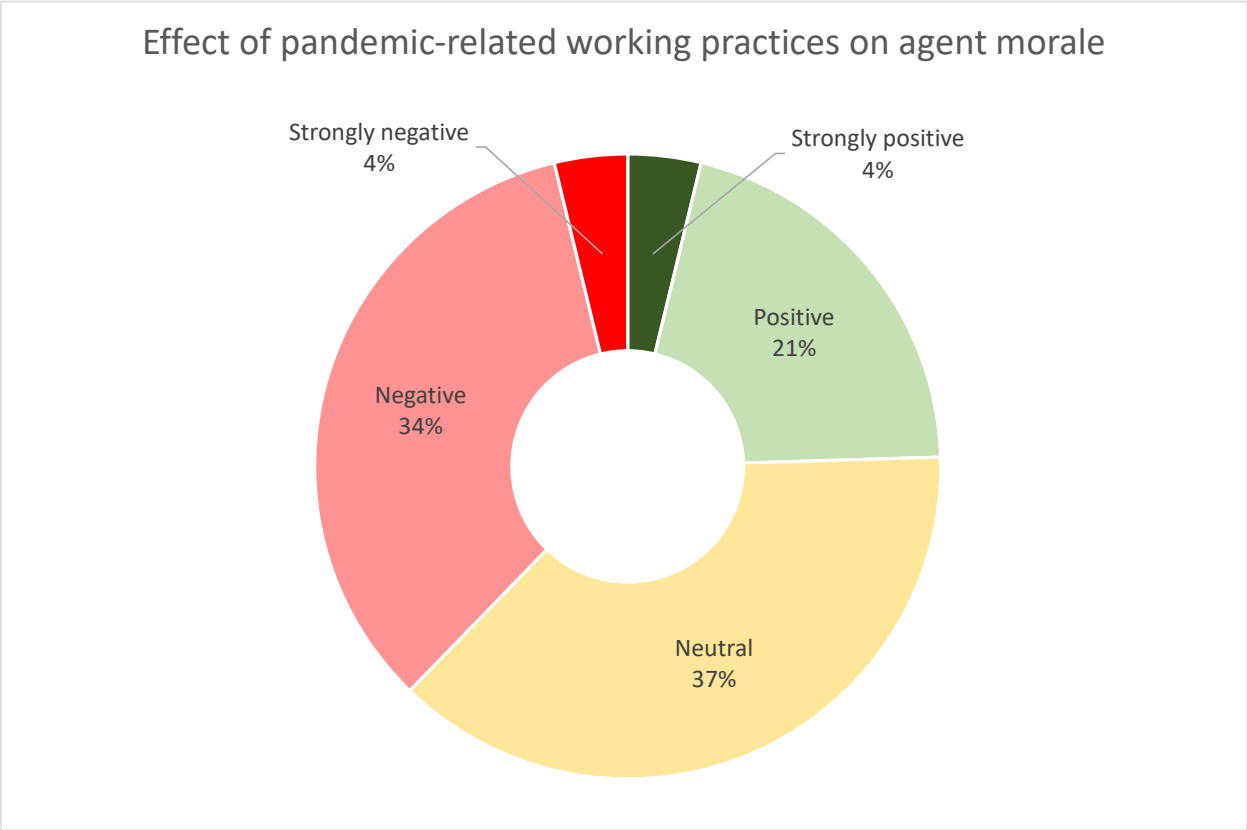
Figure 193: Agent morale, by contact center size



Looking at the previous chart, it seems that contact center morale is generally seen to be quite positive, with 67% of respondents stating that their contact center enjoys “Good” or “Very Good” morale, which is a little higher in mid-sized (51-200 seat) operations. Only 3% of survey respondents reported “Poor” morale this year.

With the widespread move to remote working and its risk of isolation and the attendant difficulty in supporting agents, 38% of respondents felt that it had a negative effect on agent morale, with 25% stating that it had been positive in some ways.

Figure 194: Effect of pandemic-related working practices on agent morale



Eight options to improve morale were set before respondents, who were asked to pick the top three that they thought were most likely to improve morale (although this question does not ask the agents what they themselves think of this). Although the most popular no.1 choice – higher pay – may not be a realistic choice for most contact centers, there is a correlation between salaries and attrition (and by extension, morale). Past research has shown that contact centers with less than 10% short-term attrition (i.e. within the first six months) pay new agents an average of 10% more than those contact centers with a short-term attrition rate of over 25%, a pattern that is consistent over the years.

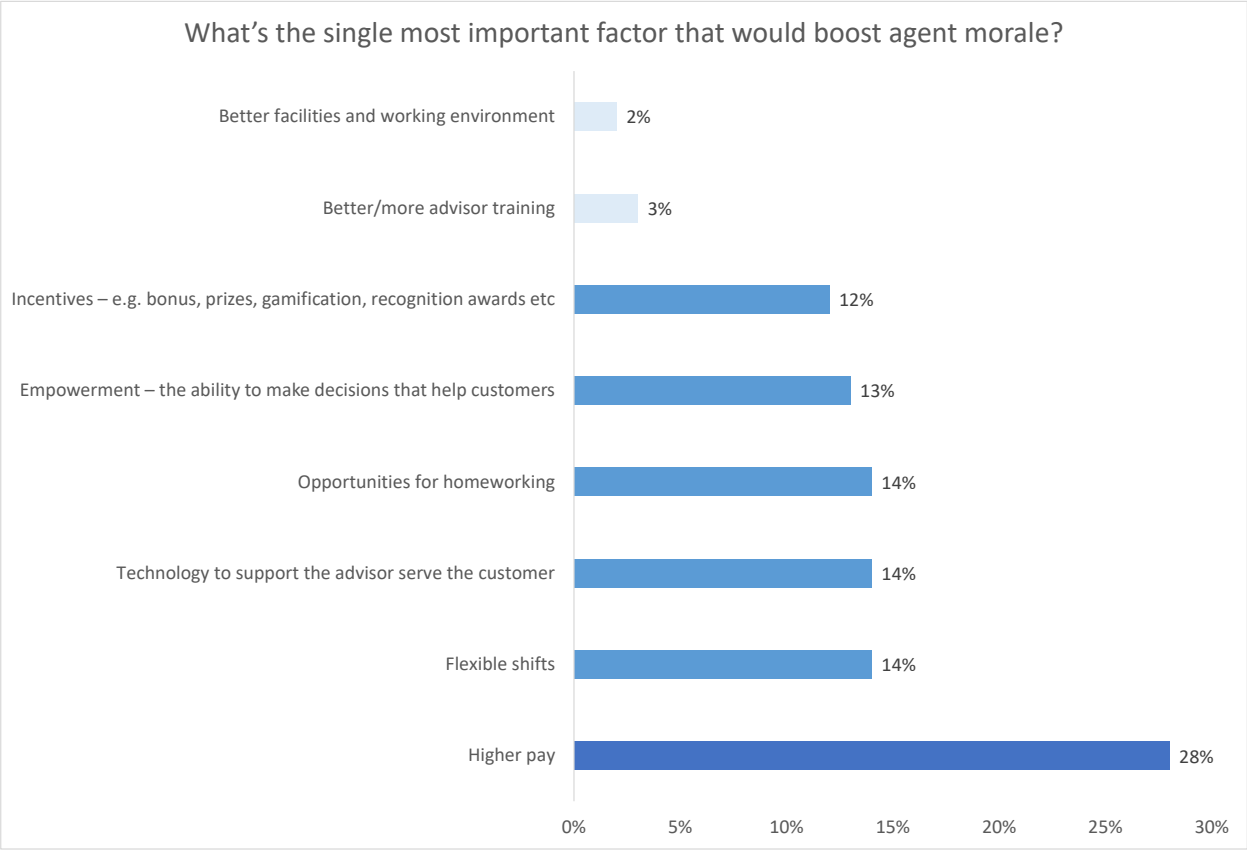
Giving agents the empowerment to make decisions that help customers is seen as having a positive effect on morale: empowerment – the support provided by the systems, processes and organizational culture required to help an agent solve the customer's query – is closely linked first-contact resolution, which as we have seen is key to customer satisfaction. First-contact resolution rate directly impacts upon morale: if agents are unable to help customers, they become discouraged which leads to higher levels of agent attrition and absence, as well as a greater number of callbacks and call transfers, which impact negatively upon contact center cost, performance, quality and customer satisfaction.

So how can agents become empowered? A few elements are:

- System support to answer any query, with access to the customer's history across every channel
- Desktop applications that provide all of the relevant information in one place – regardless of the channel the customer has used – without requiring agents to hunt it down
- Intelligent support to suggest answers to agents, and make sure that they comply with regulations and achieve the quality controls set by the business
- Recurrent queries are identified and answers disseminated via knowledge base / alerts
- Skills and capabilities, via ongoing training
- Trust and culture from senior management, including giving agents the time they need to handle the query without excessive pressure to meet internal metrics at the expense of solving the customer's issue.

Respondents were also of the opinion that improving the technology available to support agents would make a positive impact upon agent morale. Solutions such as knowledge bases, dynamic scripting, a 360° view of the customer and a single unified desktop also empower the agent to deliver a successful resolution first time.

Figure 195: What's the single most important factor that would boost agent morale?



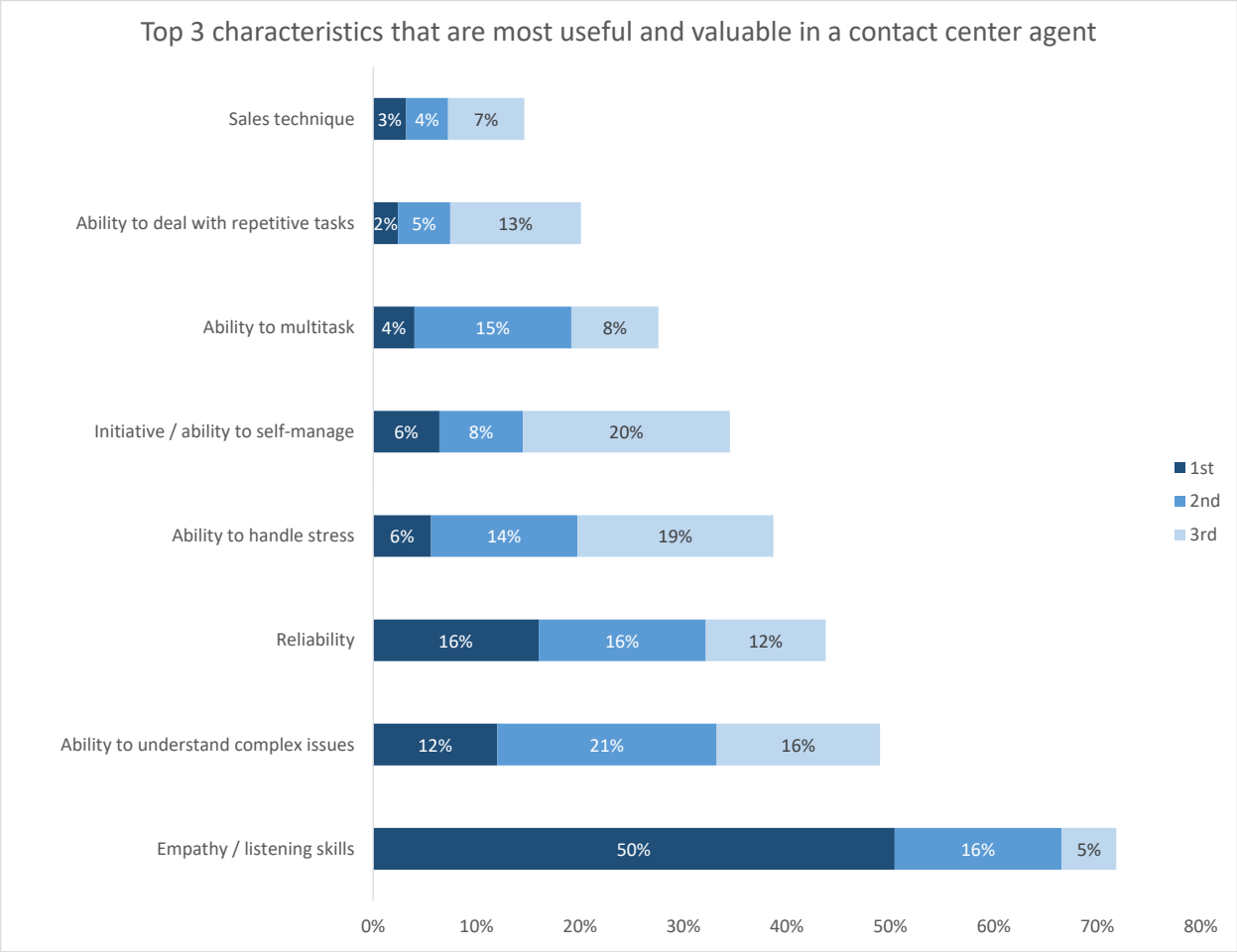
AGENT PERFORMANCE

Survey respondents were asked to rate the attributes that they believed were most useful and valuable in contact center agents.

By far the most important factor was empathy – the ability to listen, understand and help customers – which was placed in no.1 position by 50% of respondents. Of course, empathy is only really useful when the supporting systems and processes allow and empower the agent to handle the interaction as they need to: there is no use in valuing empathy in an agent if they are not permitted to spend the time required to fulfil the customer's request, or the systems prevent them from achieving their goal.

An ability to understand complex issues is also very valued, and will continue to increase in importance as self-service handles more of the straightforward customer requests, leaving more complex and tricky work for human agents (it's worth noting that this factor was ranked only 5th most important in 2014). Initiative and self-management are also seen as vital, and are of particular value in remote working environments where self-starting is an asset, and where outside help may be more difficult to access.

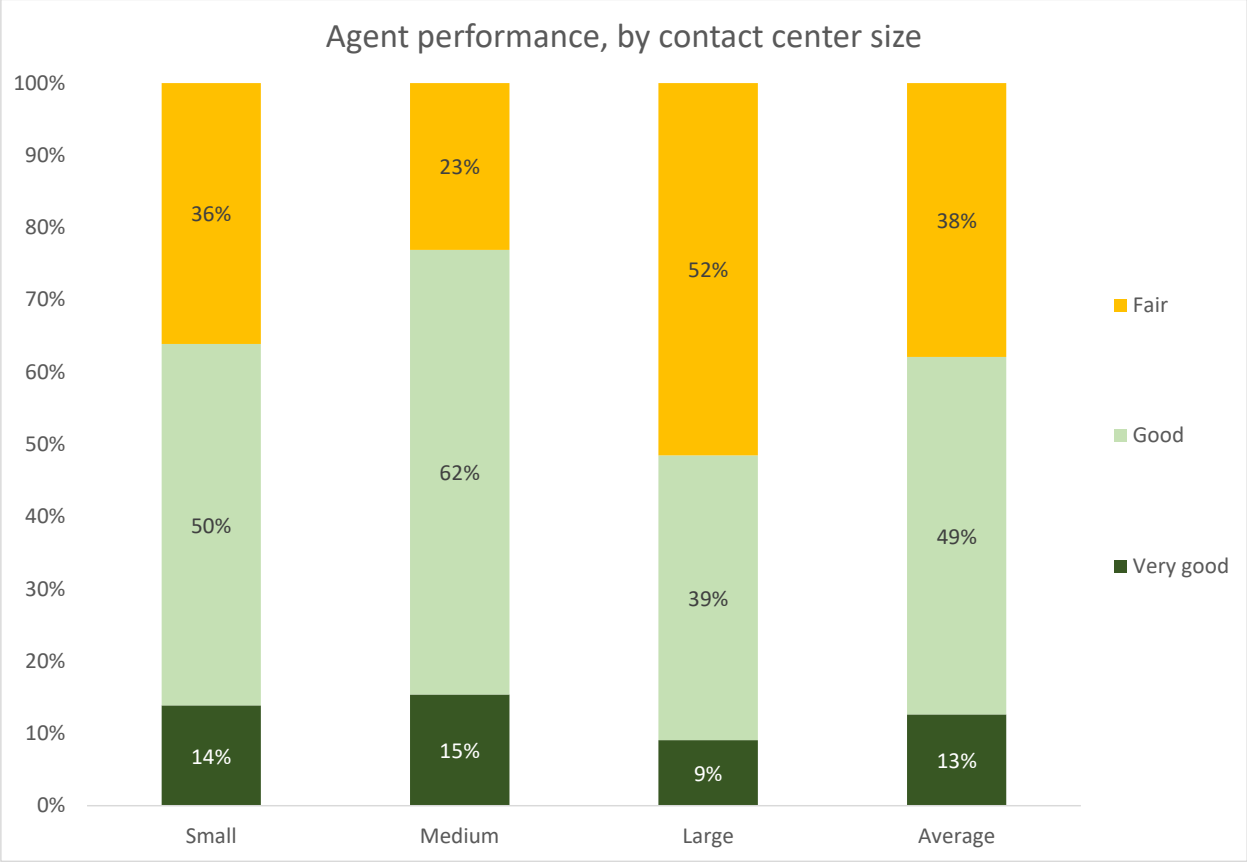
Figure 196: Top 3 characteristics that are most useful and valuable in a contact center agent



Looking at agent performance, survey respondents in large contact centers tend to be more likely to feel that there is room for improvement.

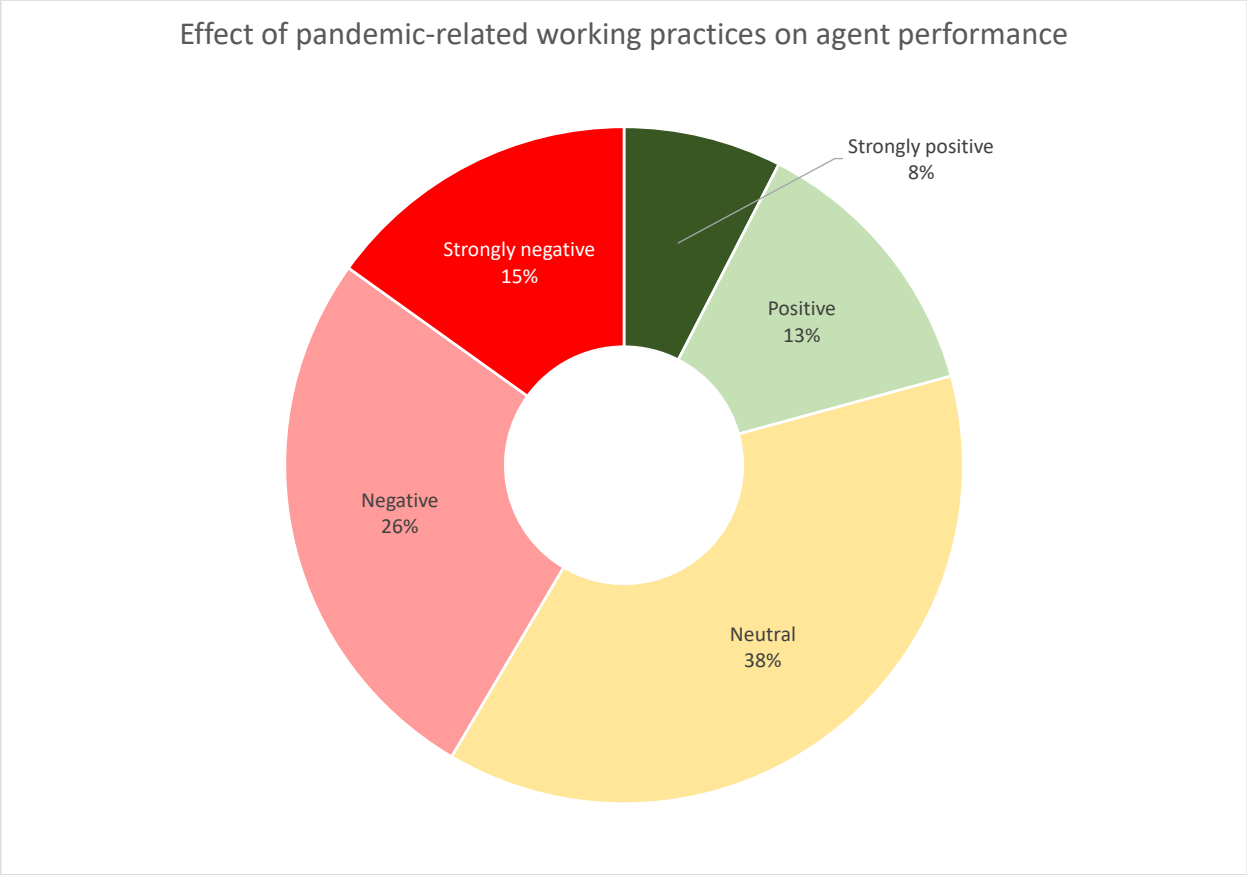
Generally, although 13% of those surveyed felt that their agent performance was “Very Good”, 38% stated that theirs was only “Fair”, which is a decline from the result of last year’s survey.

Figure 197: Agent performance, by contact center size



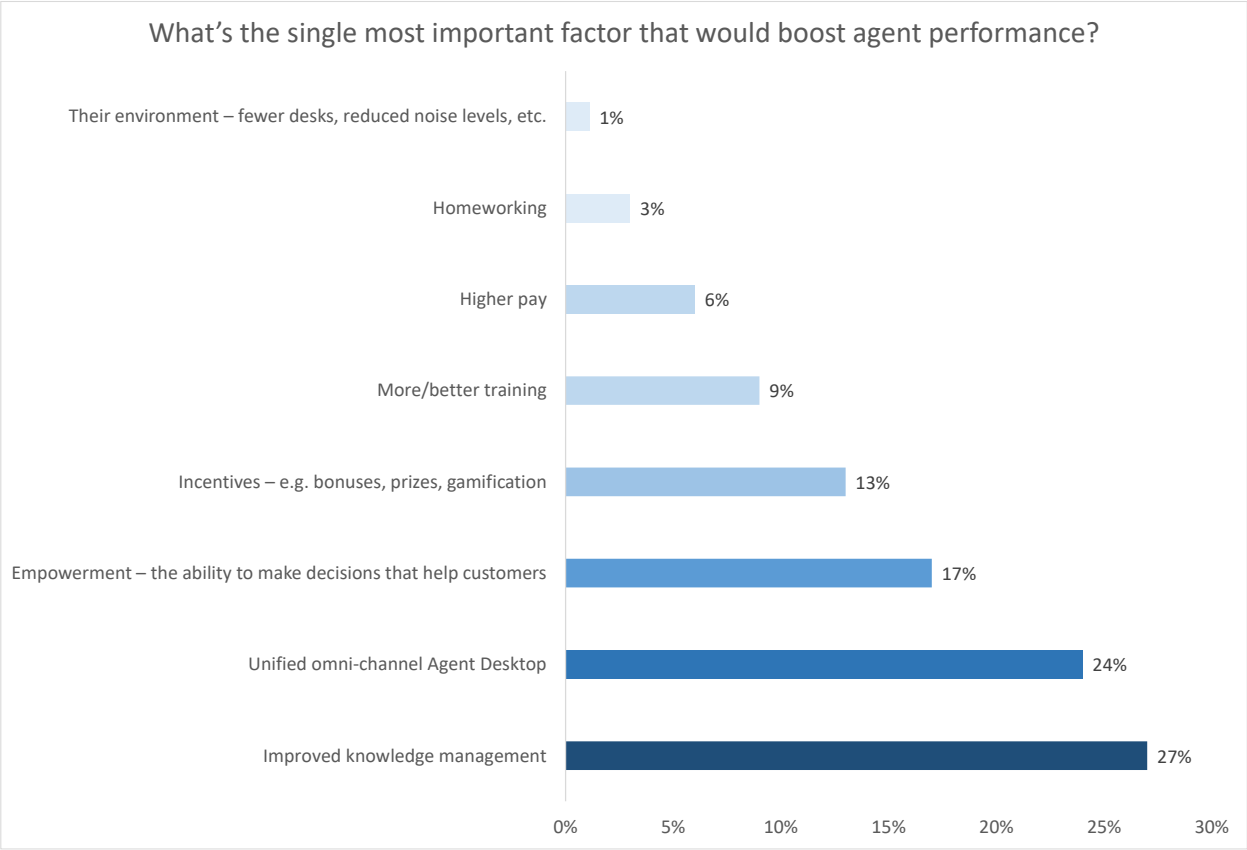
This decline in performance can be in large part attributed to the pandemic: 41% of survey respondents reported that it has had a negative effect on agent performance, although 21% believed that agent performance had improved.

Figure 198: Effect of pandemic-related working practices on agent performance



As with agent morale, respondents were presented with a list of factors that could improve agent performance and were asked to give their top three.

Figure 199: What's the single most important factor that would boost agent morale?



Empowering agents to make decisions that help customers – which increases first-contact resolution rates – was once again an important factor in increasing agent performance. As respondents also stated that this would improve agent morale, contact centers should focus upon the tools, processes and culture that supports agent empowerment. Improved knowledge management applications – the most popular top 3 factor – help with this, as they attempt to provide the agent with the information required to solve the customer's request while on the call, rather than requiring call transfers or callbacks.

A unified omnichannel agent desktop, providing agents with all of the information that they require on a single screen, also empowers agents and help solve the customer's issue first-time.

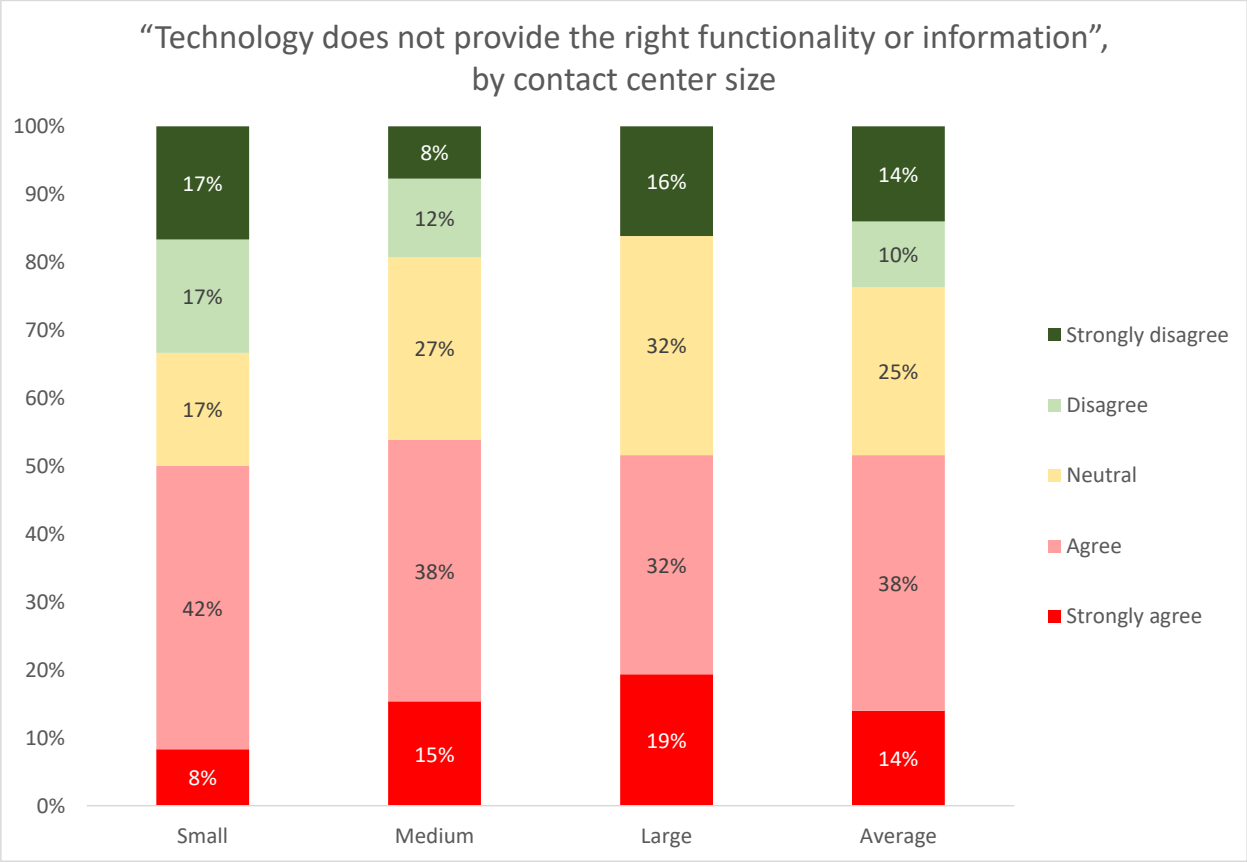
Higher pay, despite being viewed as a major boost to morale, was not seen as an effective way to increase performance: keeping the same staff, technology and processes while paying agents more won't make any major difference to performance. Incentives were also viewed as improving morale rather than performance, although they are useful in particularly high attrition environments such as many of the largest contact centers and those running outsourcing operations.

WHAT'S HOLDING BACK AGENT EMPOWERMENT?

Being seen as one of the keys to both morale and performance, agent empowerment – the ability to make the decisions and carry out the actions that would actually help customers – requires the business to trust the agent to do the job to the best of their ability, supporting them through culture, process and technology as needed, and is closely linked with first-contact resolution, which as we have seen elsewhere in this report is key to customer satisfaction.

Survey respondents were asked what was holding back agent empowerment: by far the most important factor was that the technology used does not deliver the required functionality or information, preventing even the most capable and empathetic agent from reaching their potential, with 52% of survey respondents agreeing that this was the case.

Figure 200: "Technology does not provide the right functionality or information", by contact center size



37% of respondents agreed that some agents lacked experience and 27% blamed the contact center's internal focus on hitting metrics such as call duration and throughput, but sub-optimal technology is certainly seen as the major culprit for a lack of agent empowerment.

Figure 201: "Agents lack the experience to go the extra mile", by contact center size

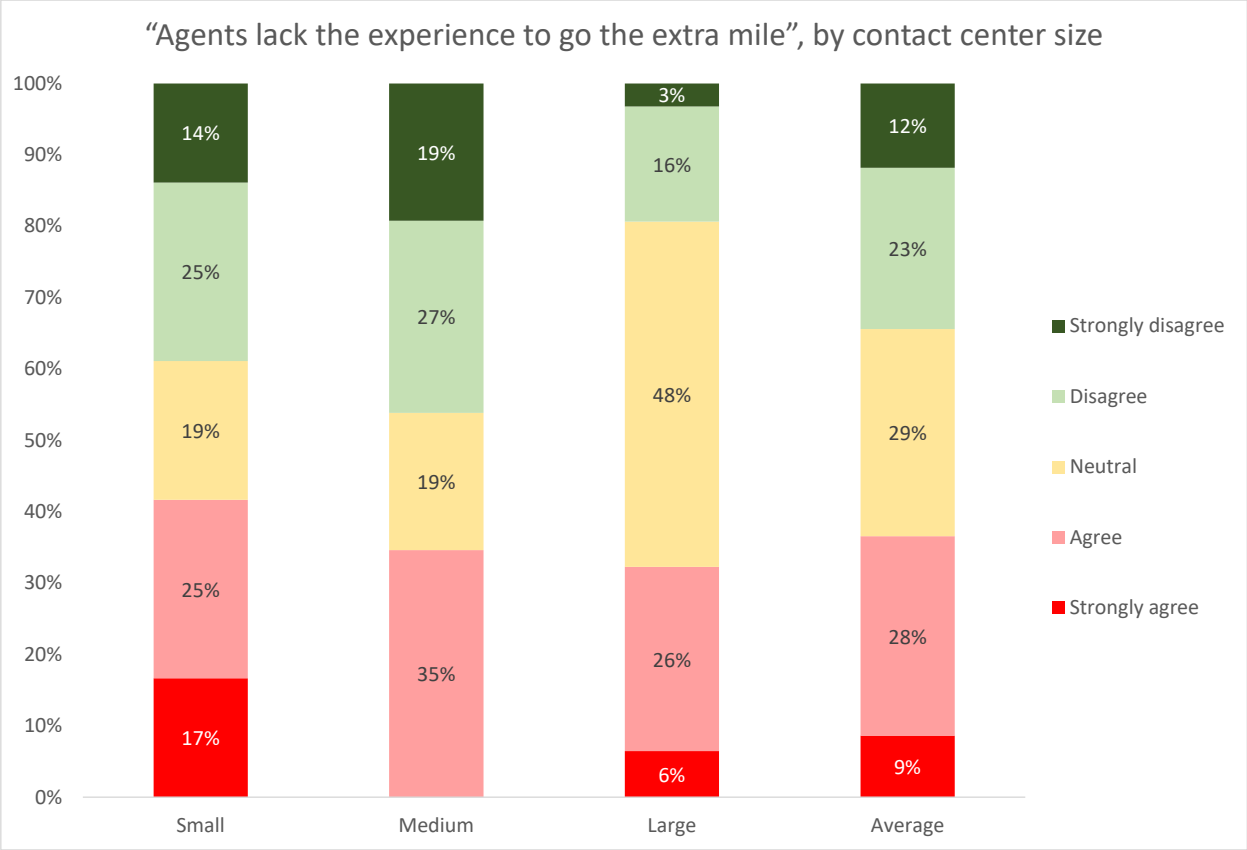
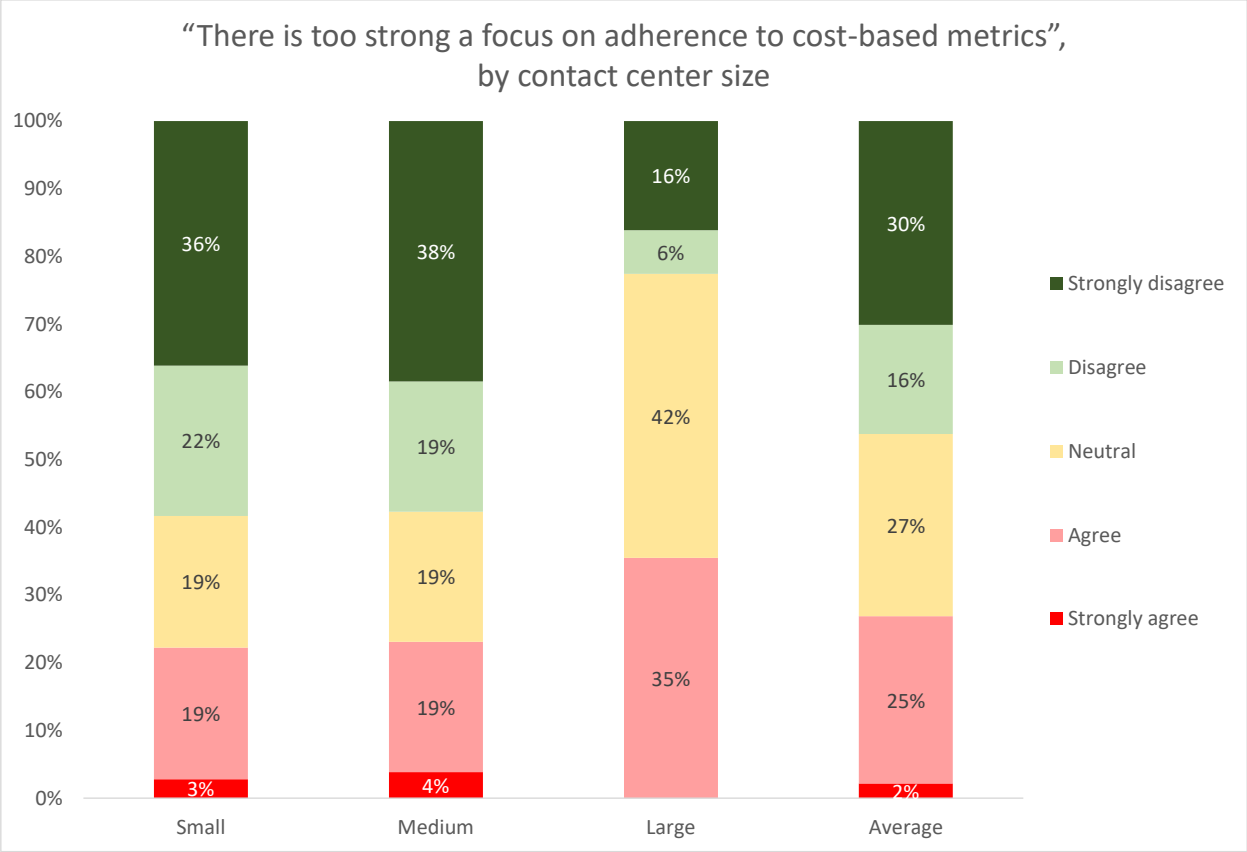


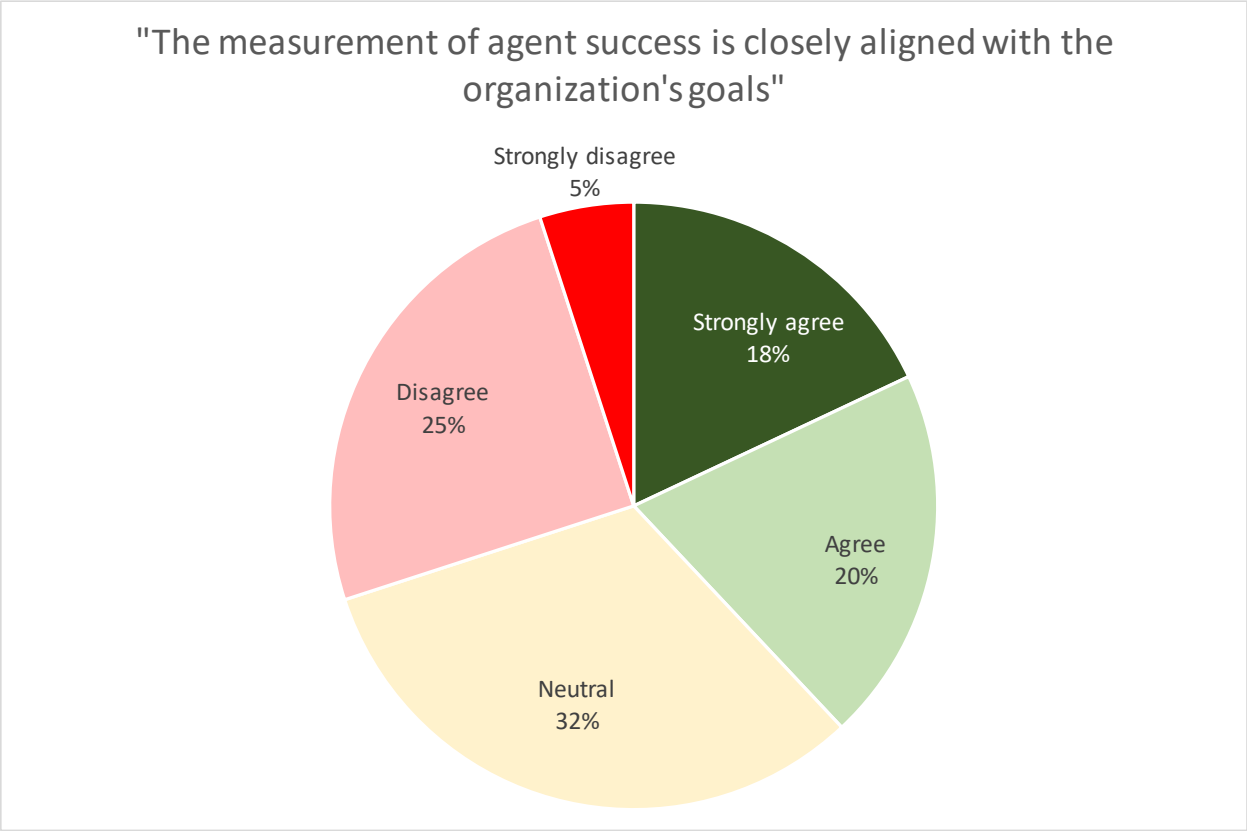
Figure 202: "There is too strong a focus on adherence to cost-based metrics", by contact center size



ALIGNING THE AGENT WITH THE BUSINESS

Only 38% of survey respondents believe to any extent that agent work is actively aligned with the strategy of the wider business, with almost a half in large operations actively believing that there is a misalignment: that agents are measured on metrics and outcomes that are not in line with what the organization actually wants to achieve with its contact center.

Figure 203: "The measurement of agent success is closely aligned with the organization's goals"



It might reasonably be expected that the agent engagement/reward program will directly support those characteristics and achievements that are most highly valued by contact centers and businesses: specifically, customer satisfaction, attendance and punctuality, and customer service-focused metrics such as first contact resolution rates.

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 (ranked by the greatest number of top 3 positions). The characteristics and achievements on which **rewards are actually based**, are placed on the right (ranked by the highest proportion of respondents stating that the characteristic was 'greatly' or 'somewhat' rewarded).

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 their performance 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 only the sixth-most important to be encouraged, but rated as the third most important characteristic to be actually rewarded. In this way, we can see that the characteristics needed and characteristics rewarded are somewhat disconnected, putting them out of alignment with the needs of the wider company.

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

Figure 204: Comparison between characteristics encouraged, and characteristics rewarded

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

The next section considers gamification in more depth.

CURRENT AND FUTURE USE OF GAMIFICATION

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.

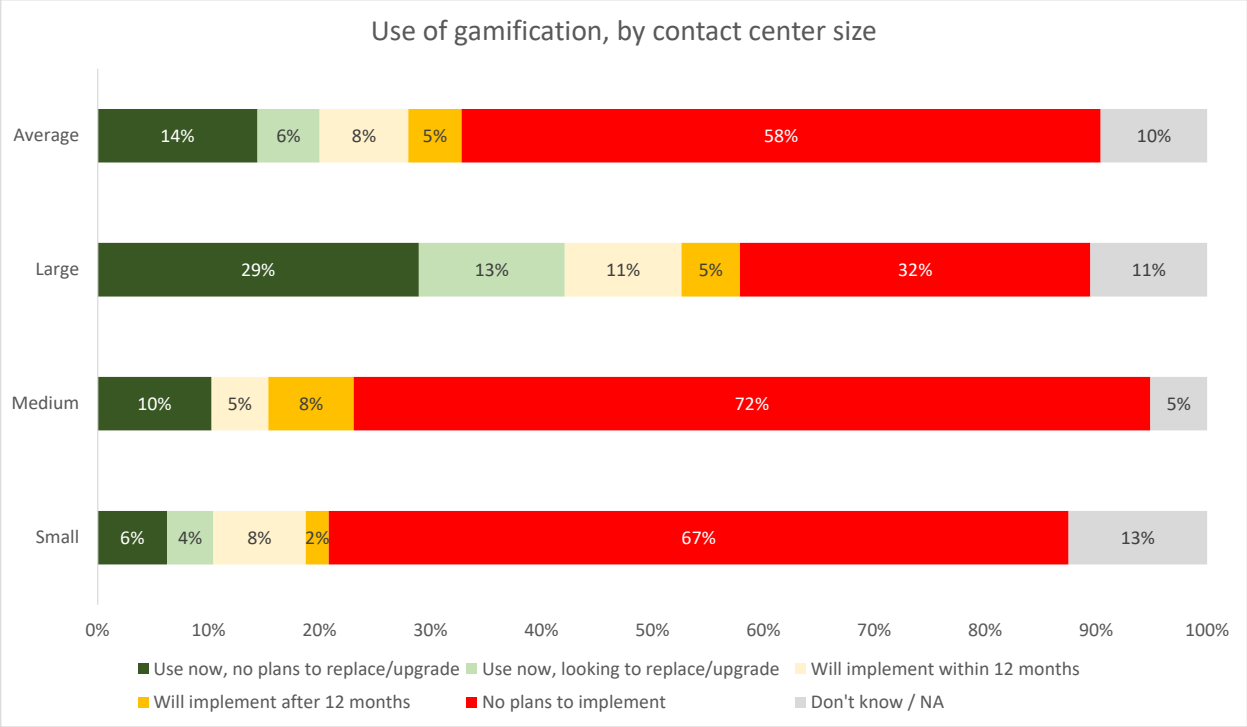
For businesses which want to achieve specific results, gamification can assist through:

- 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.

20% of respondents currently use gamification within their contact center operations, and a further 8% believe that they will implement this within 12 months.

The use of gamification is much more prevalent in larger operations, but there is some intention to implement it in the short-term in medium and large operations.

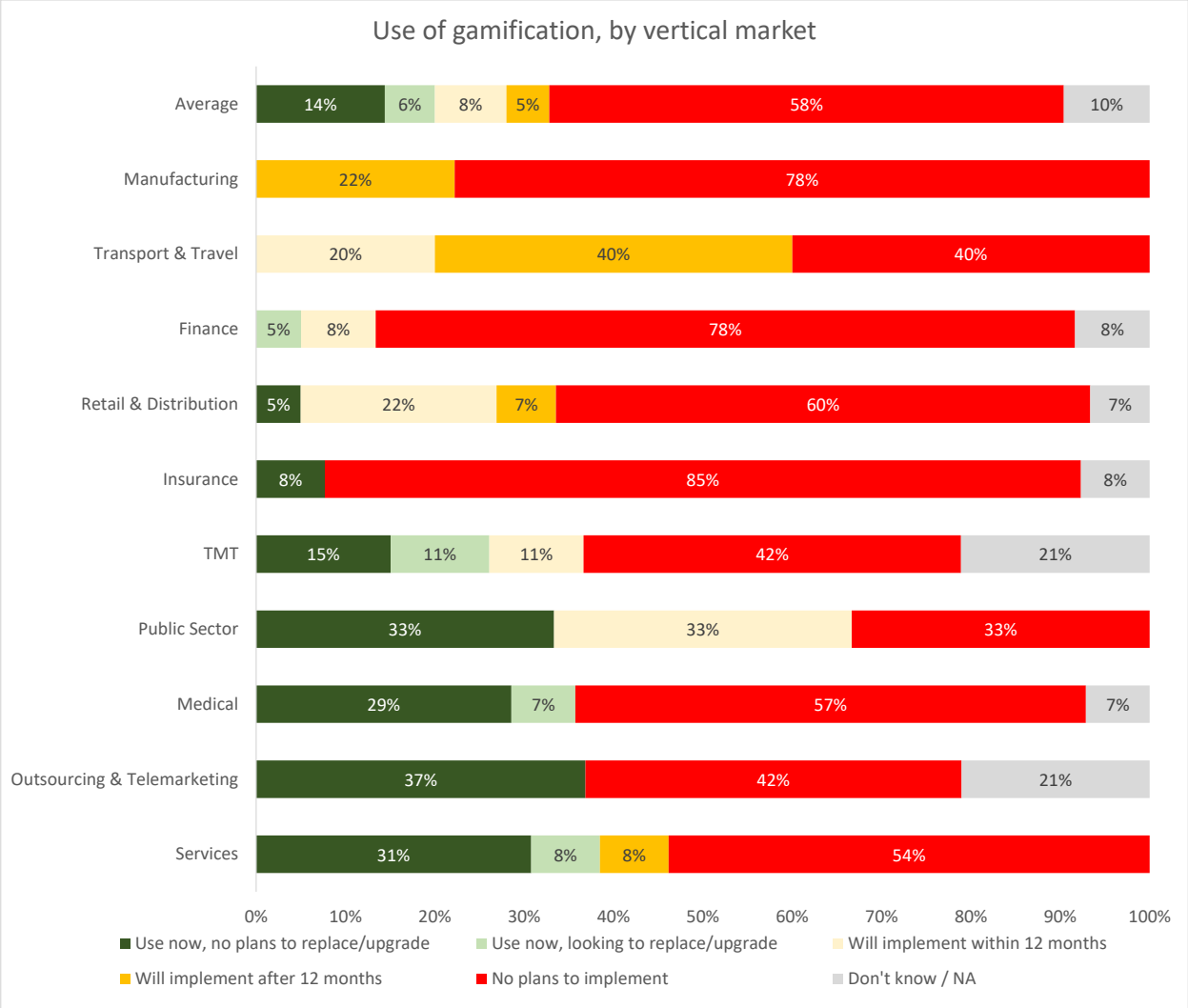
Figure 205: Use of gamification, by contact center size



There is a danger in over-analyzing data where the segments are too small, and this can be the case when considering vertical market implementations of an emerging solution.

However, it is interesting to note that the services, outsourcing and medical respondents from this year's survey are the highest current users of this solution, and the transport & travel, public sector and retail respondents report a strong interest in implementing gamification in the short-term.

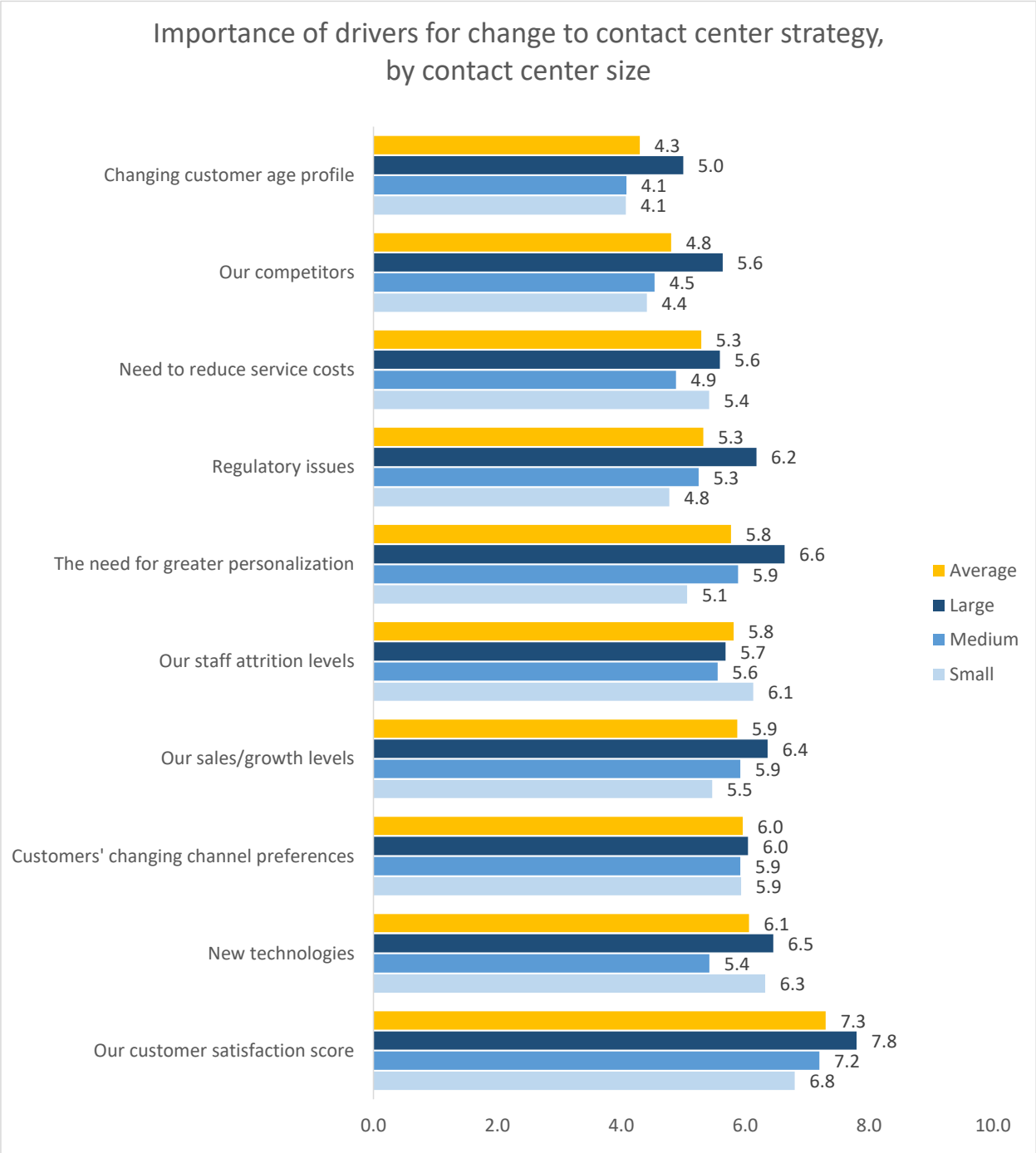
Figure 206: Use of gamification, by vertical market



Looking at the activity type of respondents, those with some sales activity – which are already culturally used to the public, competitive practice of sharing sales targets and achievements – are usually more likely to be using gamification.

CONTACT CENTER STRATEGY DRIVERS

Figure 207: Importance of drivers for change to contact center strategy, by contact center size



The previous chart shows the average score that was given by respondents to the question: "How important are these drivers for strategic contact center change, where '1' is very unimportant, and '10' is vitally important?".

Although agreement occurs across size bands in some areas – changing customer channel preferences is important, although customer age profile is much less so, some differences emerge: large contact centers place far more emphasis on personalization and regulatory issues for example.

The raw scores previously shown are ranked below in importance to give a clearer picture of what each size band states is most important to their strategic decisions. It can be seen that large operations state that regulatory issues are a much more important driver for their contact center strategy than they are to small operations.

All contact center size bands report that customer satisfaction scores are the most important factor driving their strategy, which is a very positive finding.

Figure 208: Importance of drivers for change to contact center strategy, by contact center size (ranked)

Driver for change	Small	Medium	Large	Average
Our customer satisfaction score	1st	1st	1st	1st
New technologies	2nd	6th	3rd	2nd
Customers' changing channel preferences	4th	2nd	6th	3rd
Our sales/growth levels	5th	3rd	4th	4th
Our staff attrition levels	3rd	5th	7th	5th
The need for greater personalization	7th	4th	2nd	6th
Regulatory issues	8th	7th	5th	7th
Need to reduce service costs	6th	8th	9th	8th
Our competitors	9th	9th	8th	9th
Changing customer age profile	10th	10th	10th	10th

Historically, 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. Many solution providers note that as part of their sales engagements, they will typically carry out a business process review. They often find that staff are typically committed and capable, but are hamstrung by legacy applications, data systems and inefficient processes. 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 some contact centers still do not have much in the way of a champion at the higher levels of the business.

The need to measure and improve customer experience and satisfaction, and its impact upon profitability, has become an obsession throughout the industry, which is positive for customers and businesses. The explosive growth in digital communications has made all contact centers realize that effective customer contact cannot exist in a siloed environment, but only as part of an omnichannel contact strategy.

Driven by digital communication, the industry is still growing in terms of increased volumes of interactions, although headcount has stalled, 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 years. With the intense interest in AI, far more is being done via web self-service, taking low-value work away from agents and freeing them up to do more profitable, valuable and difficult work, not just through the voice channel, but also via high-value email and web chat interactions. Technology discovery projects will typically highlight several opportunities for self-service and call deflection, but the customer satisfaction element of a poorly implemented self-service application also needs to be considered. Businesses have to ensure that they choose the right areas to self-serve, and then do it well.

For businesses where self-service is not seen as a viable option, many 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 – has gained in popularity, especially in very large contact centers with multiple, complex processes and legacy systems, and this is leading to a greater focus on optimizing associated back office processes.

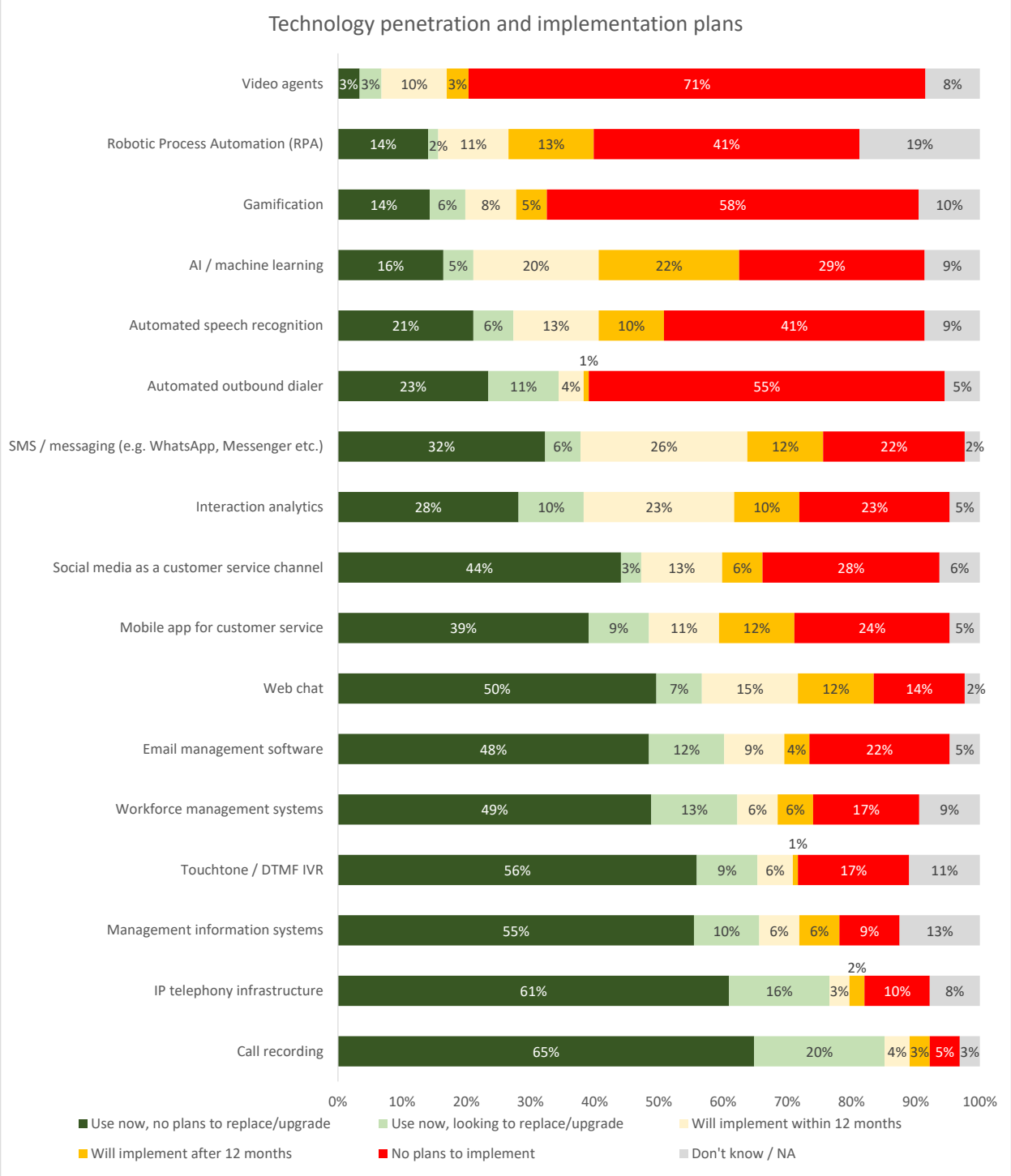
Interaction analytics offers businesses a major opportunity to understand why customers are calling, and to gain real commercial insight that will impact at the heart of the business, and with AI-enabled analytics very much in vogue, the opportunity to increase functionality and insight has never been higher.

Open systems and infrastructure now make the implementation of automated identity verification and CTI-like processes far more cost-effective and simpler to deploy. Linking with cloud-based CRM applications, the agent desktop can unify all of the legacy applications within a single customer view, significantly reducing agents' post-call wrap-up activities and overall call handling time.

Customer satisfaction and improved customer experience 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 satisfaction and reducing customer effort, the drivers of where the contact center industry is headed long-term.

The following chart shows respondents' current and future use of specific contact center solutions.

Figure 209: Technology penetration and implementation plans



Call recording, IP infrastructure and workforce management are amongst the most likely to be upgraded or replaced in the next year, with a significant proportion of respondents using interaction analytics and email management also looking do so. Many legacy call recording solutions are moving to the cloud, removing the need for on-site storage and maintenance, security management and improving operational flexibility.

In terms of new implementations, messaging, interaction analytics, web chat and AI are singled-out in the short term, with AI and RPA also receiving a very high level of attention in the longer term considering their low current usage.

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, compared with a similar question asked to survey respondents five years ago.

Figure 210: Top 5 most important areas of contact center IT expenditure in the next two years (proportion of contact centers placing solution in their top 5, 2016 & 2021)

Technology solution	2016	2021
Omnichannel (i.e. single view of the customer across channels)	47%	56%
Artificial Intelligence	n/a	51%
Web Self-Service	19%	32%
Performance & Quality Management	37%	30%
Speech Analytics	21%	30%
Desktop Automation & Analytics	26%	27%
CRM / Agent Desktop software	43%	22%
Hardware (including PCs & servers)	7%	22%
Homeworking	24%	22%
Workforce Management	37%	19%
Email Management	22%	17%
Social Media	16%	17%
Back-Office Integration	21%	15%
Telephony Infrastructure (including IP)	13%	15%
Cloud	17%	14%
Virtual Contact Centers	19%	14%
Web Chat	28%	14%
Call Recording	32%	12%
Mobile Service	12%	12%
Telephony Self-Service (includes DTMF IVR, speech recognition and visual IVR)	19%	12%
Gamification	8%	10%
Management Information Systems	18%	8%
Headsets	7%	7%
Interaction Routing (including ACD/CTI-like functionality)	9%	7%
Outbound Automation	9%	7%
Video/Web RTC	5%	5%
Voice Biometrics	5%	5%

The percentages in the previous table are based on the proportion of respondents placing the specific solution within their top 5 from a list of 27 possible contact center solutions (AI has only been added as an option since 2017). By showing this historical data, patterns will emerge showing the solutions that are gaining the most interest over the years, and those which are losing their appeal.

Omnichannel – which has been defined within this part of the survey as getting the various channels to work together – is placed within the top 5 priorities by 56% of respondents again this year,. And has retained top place for many years. The various supporting applications, such as web chat and email management systems still have significant proportions of respondents placing them within the top 5. The interest in implementing web chat has dropped significantly since 2016 as it is in place in many operations today.

CRM (including improvement to the contact center agent desktop and contact management system, as well as company-wide CRM) was in no.1 position for a number of years, although it lost its no.1 spot in to omnichannel in 2016. Artificial intelligence is almost as important as omnichannel, with more than half of respondents choosing this as a top 5 priority for them.

After some years of relative stagnation, interest in web self-service has grown significantly since 2016, driven in large part by the promise of artificial intelligence and chatbots providing a superior self-service experience than had previously been the case.

Back-office integration has dropped in importance and is now the 13th highest priority. While respondents are still very aware of the need to underpin the entire customer contact infrastructure – both front and back office – with a robust, stable and non-siloed infrastructure that allows a single view of the customer, the resurgent interest in omnichannel and new enthusiasm for AI-enabled self-service has pushed this down the list.

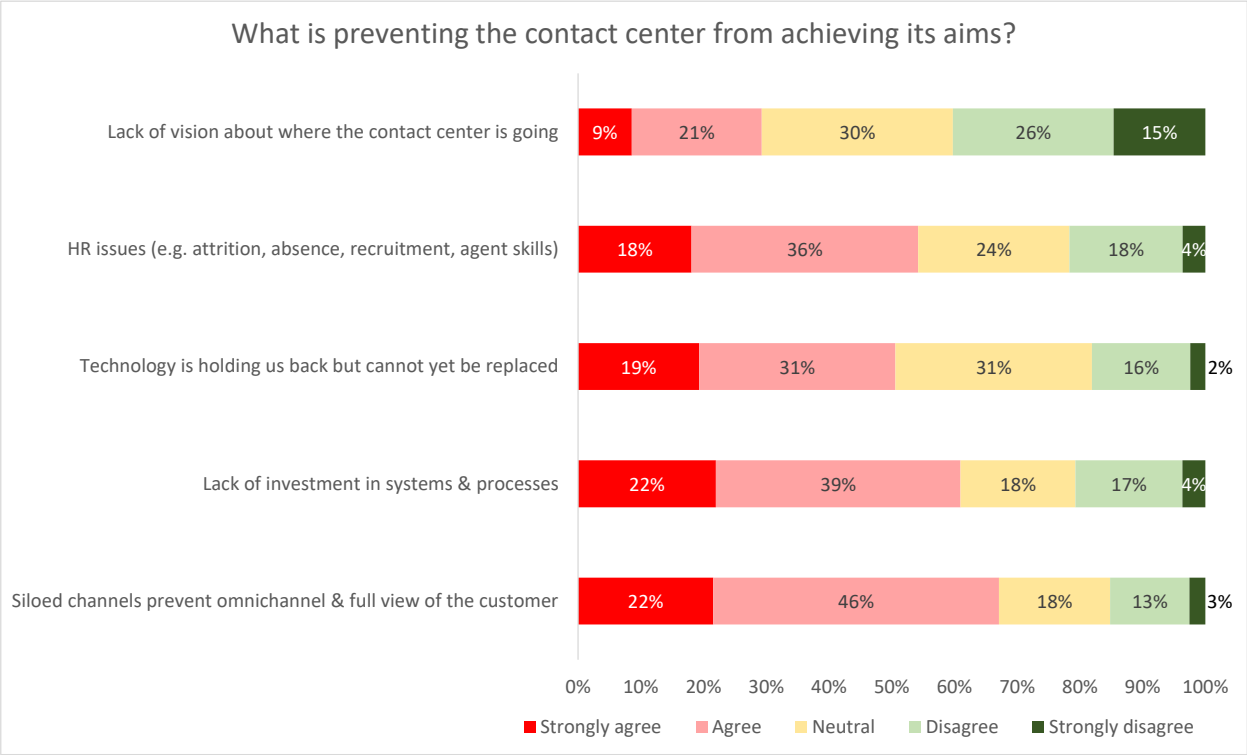
Surprisingly, homeworking is a priority investment for only 22% of businesses, perhaps as so many have already had to make this expenditure in the past two years.

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, with contact centers feeling they were being held back by multiple factors, although fewer stated that a lack of vision was hindering them.

Figure 211: What is preventing the contact center from achieving its aims?

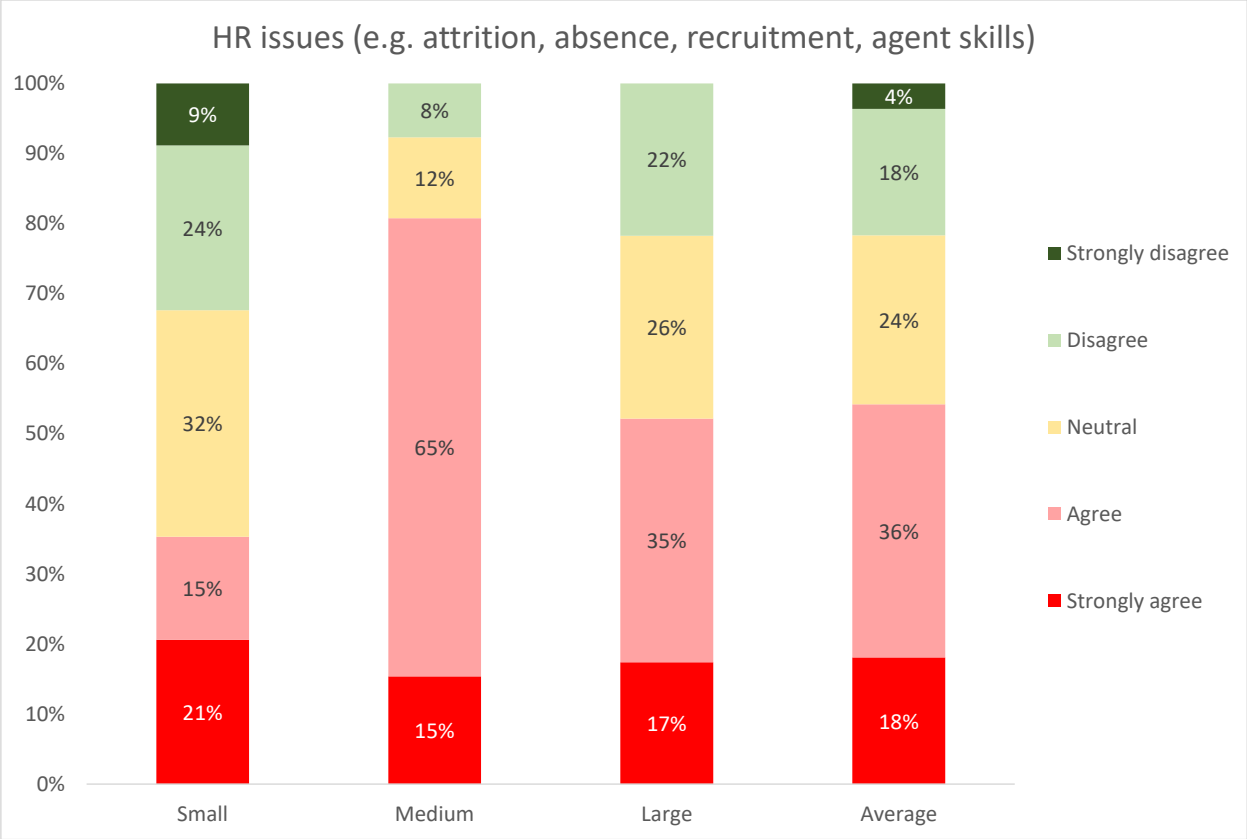


In order to make more sense of these findings, it is necessary to examine contact center's views in the light of the size of their operations.

Despite the vast majority of survey respondents feeling that their agents were skilled enough to handle the work being given, 54% of respondents agreed to some extent 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.

It is very noticeable that mid-sized and larger contact centers are far more likely to feel that HR issues are holding them back from what they want to achieve. Larger operations have a far higher average agent attrition rate than small contact centers, and losing 40% or more of front-line staff each year makes it very difficult to move forward.

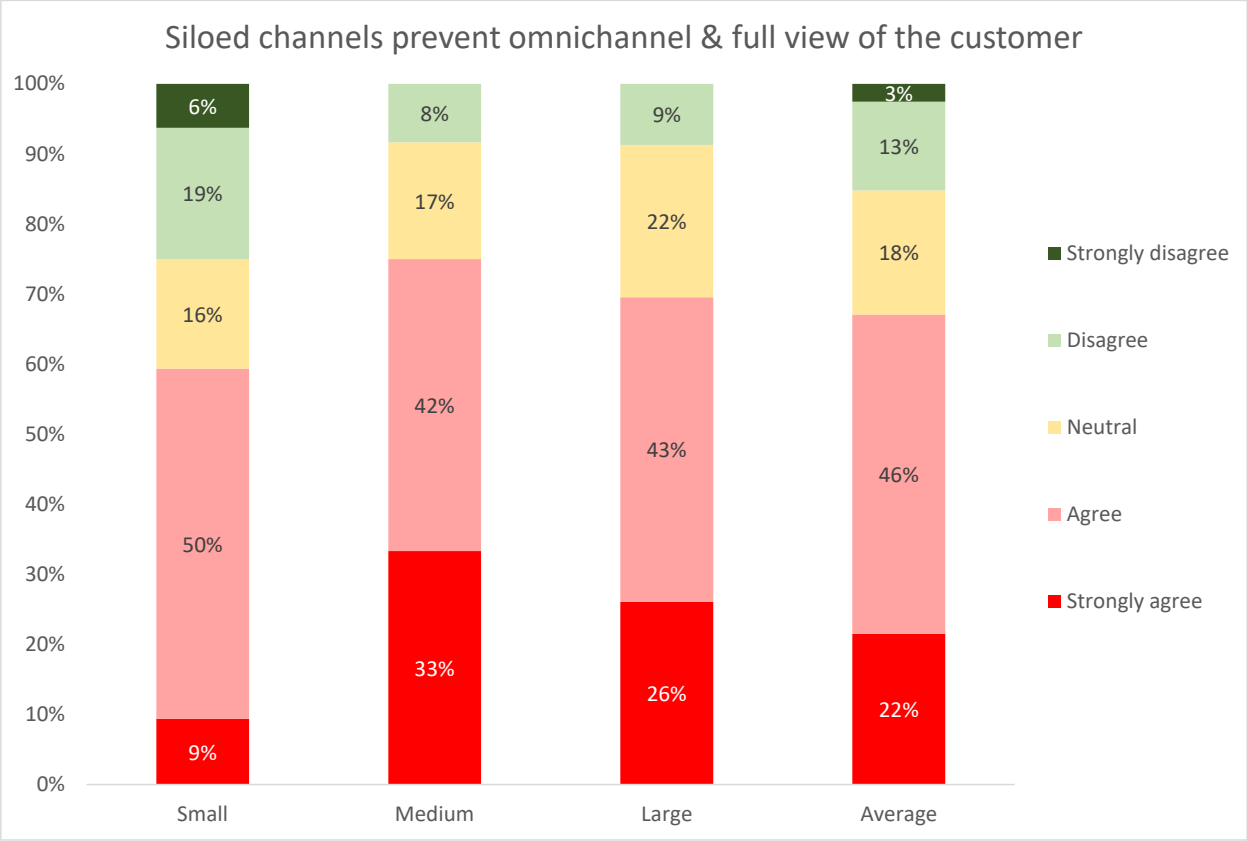
Figure 212: What is preventing the contact center from achieving its aims? (by contact center size) - HR issues (e.g. attrition, absence, recruitment, agent skills)



Although only 22% felt very strongly about it, concerns over siloed channels were viewed as an issue by 68% of respondents, a result of many organizations hitting problems as they move to an omnichannel environment. This is felt across all size bands.

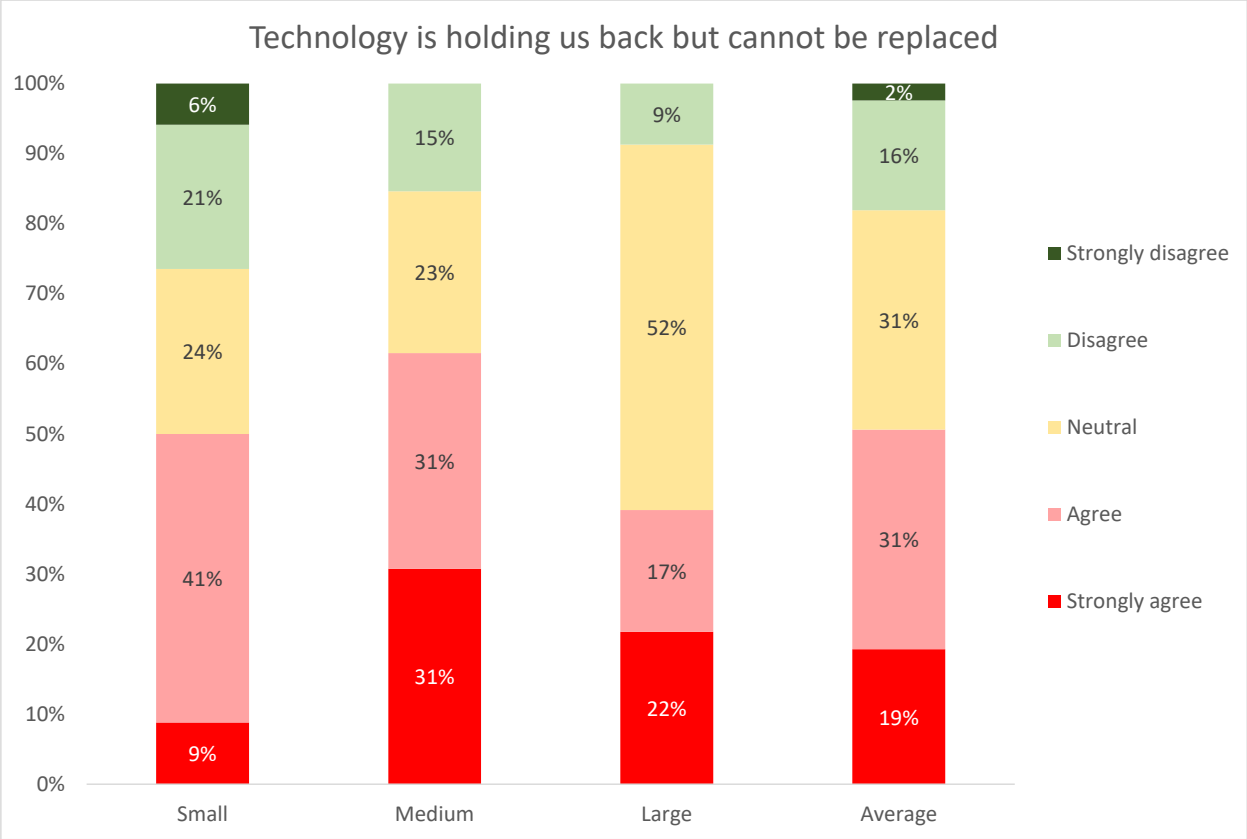
Most of the non-telephony channels were added and integrated in a piecemeal fashion, and may require changes to underlying infrastructure and business processes in order to provide an omnichannel experience.

Figure 213: What is preventing the contact center from achieving its aims? (by contact center size) - Siloed channels prevent omnichannel & full view of the customer



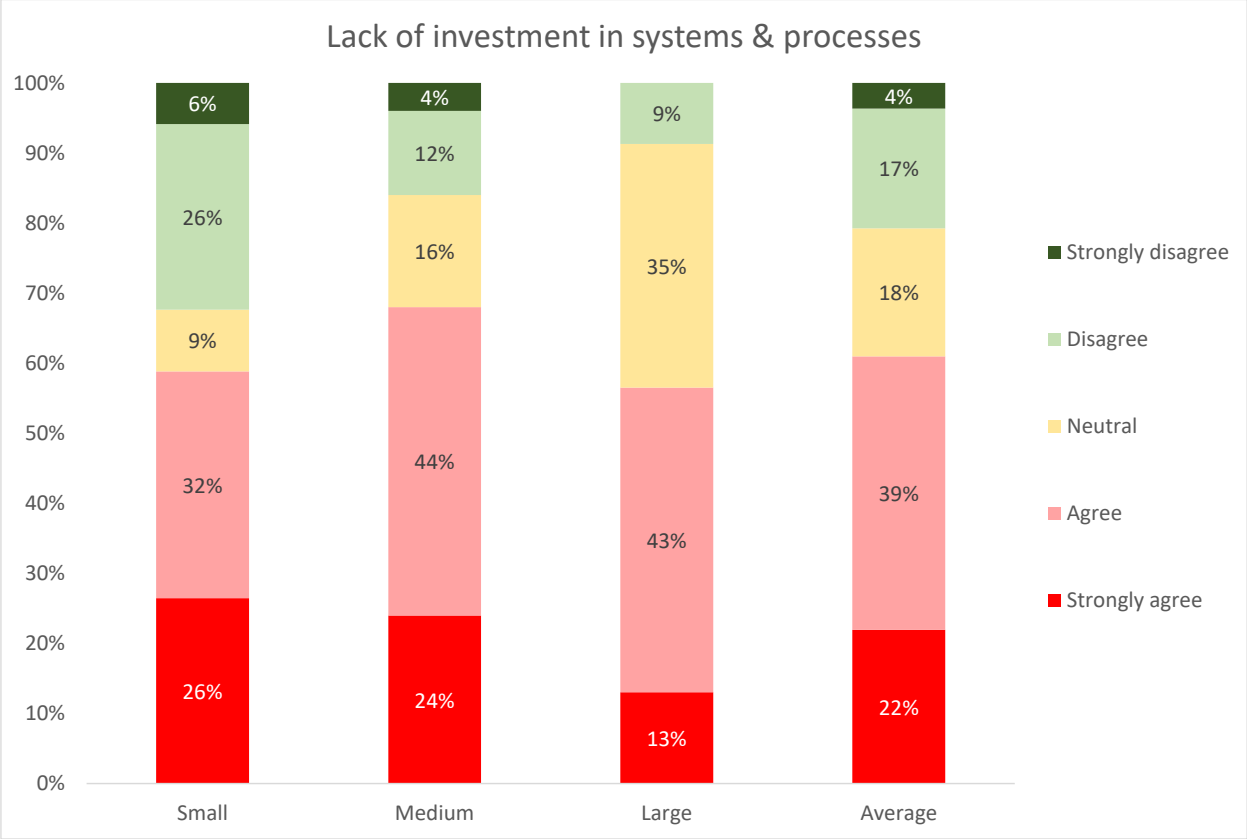
Half of survey respondents felt to some extent that their existing irreplaceable systems were holding them back being associated with the highly customized and bespoke legacy environment that the business may require to operate. This is felt most strongly by the mid-sized operations.

Figure 214: What is preventing the contact center from achieving its aims? (by contact center size) - Technology is holding us back but cannot yet be replaced



A feeling that budgets and investment are lacking is widely held across all contact center sizes and only 4% of respondents state emphatically that budget is not a problem for them at all.

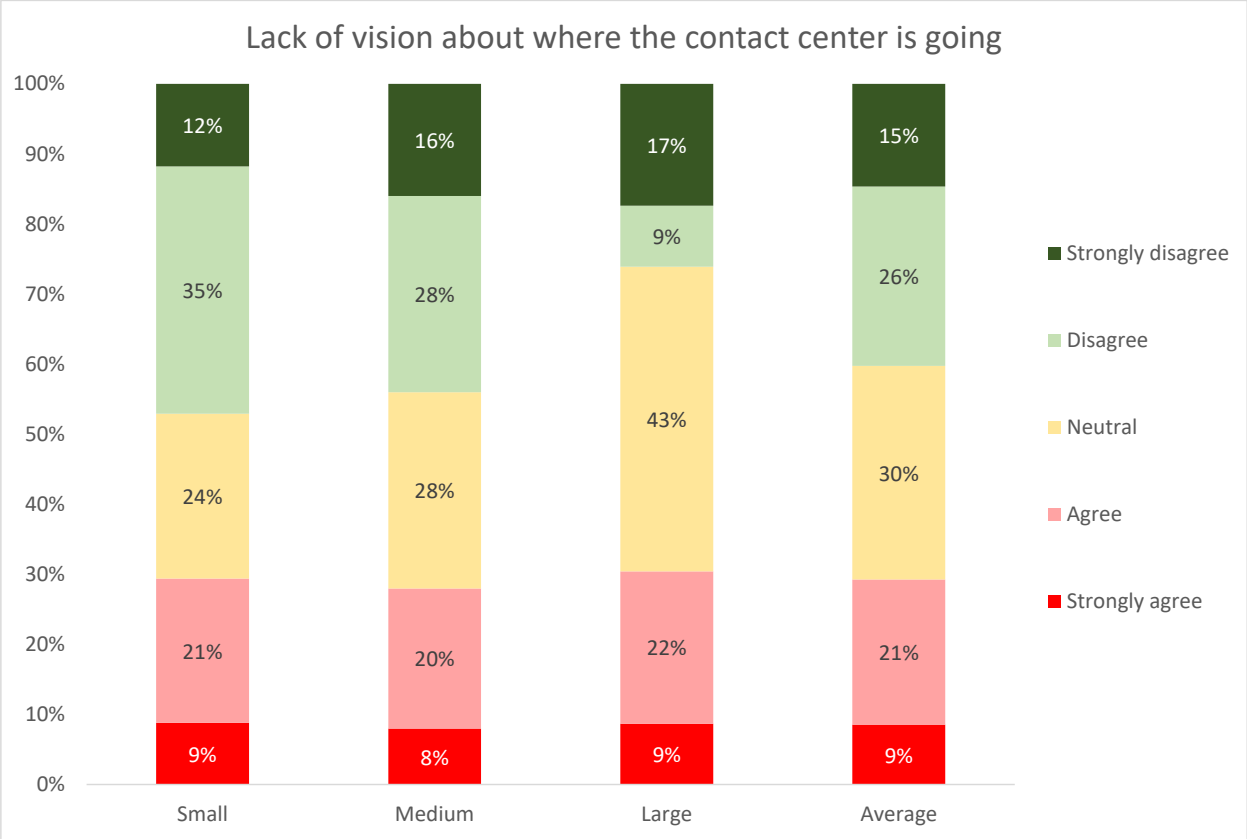
Figure 215: What is preventing the contact center from achieving its aims? (by contact center size) - Lack of investment in systems & processes



It was positive to find that only 30% of respondents felt that there was a lack of vision about where the contact center was going, compared to 41% that did not consider this a problem.

It seems that the inhibitors are connected with investment, HR issues and existing technology, rather than any lack of knowledge about where the contact center should be heading.

Figure 216: What is preventing the contact center from achieving its aims? (by contact center size) - Lack of vision about where the contact center is going



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