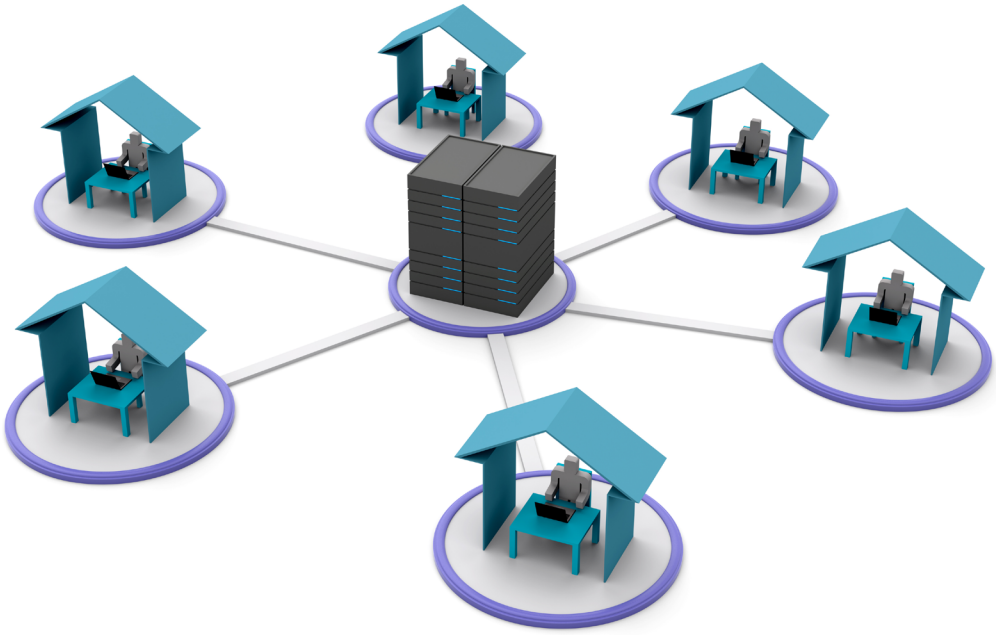
CONTACTBABEL



The Inner Circle Guide to Remote & Hybrid Working Contact Center Solutions

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The Inner Circle Guide to Remote & Hybrid Working Contact Center Solutions (US)

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Our cloud contact-center software solution enables your customers to contact you when and how they want—by phone, email, chat, text or other digital channels. With an internet connection, a PC and a phone number, your agents can work from virtually anywhere and collaborate in real time. Virtual Contact Centre can help improve the performance of your agents, control operating expenses and drive better business results.

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ABOUT THE INNER CIRCLE GUIDES

"The Inner Circle Guide to Remote & Hybrid Working Contact Center Solutions" is one of the Inner Circle series of ContactBabel reports. Other subjects include Agent Engagement & Empowerment, Customer Engagement & Personalization, Cloud-based Contact Centers, AI, Chatbots & Machine Learning, First-Contact Resolution, Omnichannel, Self-Service, Outbound & Call Blending, Workforce Optimization, Customer Interaction Analytics and PCI DSS Compliance, and can be downloaded free of charge from here.

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

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

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

REMOTE AND HYBRID WORKING IN TODAY'S CONTACT CENTER

Up until recently, the majority of US contact centers worked in a traditional, centralized model, with only 13% of agents working remotely at home.

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

As the pandemic comes to its end, some contact center agents are returning to the centralized environment, but many will be moving to a hybrid working model, with some time spent in the contact center and some at home.

THE PROS AND CONS OF REMOTE AND HYBRID CONTACT CENTER WORKING

The enforced remote working model that most contact centers have implemented within the past two years has both advantages and disadvantages. The new hybrid model emerging creates the opportunity to maximize the positives while reducing some of the negative attributes of remote working.

Figure 1: Remote & hybrid working: advantages and disadvantages

Advantages	Disadvantages
Agents may be sourced from anywhere in the country or the world, deepening the pool of talented labor	It is more difficult to on-board, train and coach agents when they are based remotely
Agents are more likely to be happy to work short shifts as needed, including in evenings and on weekends, improving scalability and flexibility	Remote agents can more easily become isolated disengaged from the company
There is a lot of research to show that employees appreciate the opportunity to work from home at least some of the time	Remote working often creates more security issues and fraud opportunities than working in a centralized environment
Improved control over schedules and work-life balance leads to more engaged agents and lower staff attrition/absence	Some agents may not have anywhere appropriate for them to work securely and comfortably within their own home. This is particularly the case with younger agents who may not have a dedicated space to work in
A hybrid model means that those people who enjoy having their colleagues around them are no longer isolated	A hybrid model is more complex to schedule, as physical space and team dynamics needs to be considered
A reduced commute is better for the environment, and saves money for the agent	Compliance with policies and regulations becomes more difficult when there is not direct supervision
Some businesses will have the opportunity to reduce the size and cost of their physical contact center	Home broadband connections are usually less reliable than corporate networks
Remote working means that people who do not wish to work in a typical contact center can also be considered for employment	Background noise and disturbances can create a negative and unprofessional customer experience

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

The main homeworking benefits have usually been reported to be about improving staffing flexibility and the 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 2: 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.

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 pandemic has reversed this opinion.

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.

Some publicly available figures on the effect of homeworking on productivity and performance:

The biggest issues that companies have with homeworkers are: (from the 2016 HomeAgent Survey)

- Effective communications (48%)
- Technology concerns (38%)
- Productivity concerns (24%)
- Trusting remote agents (18%)

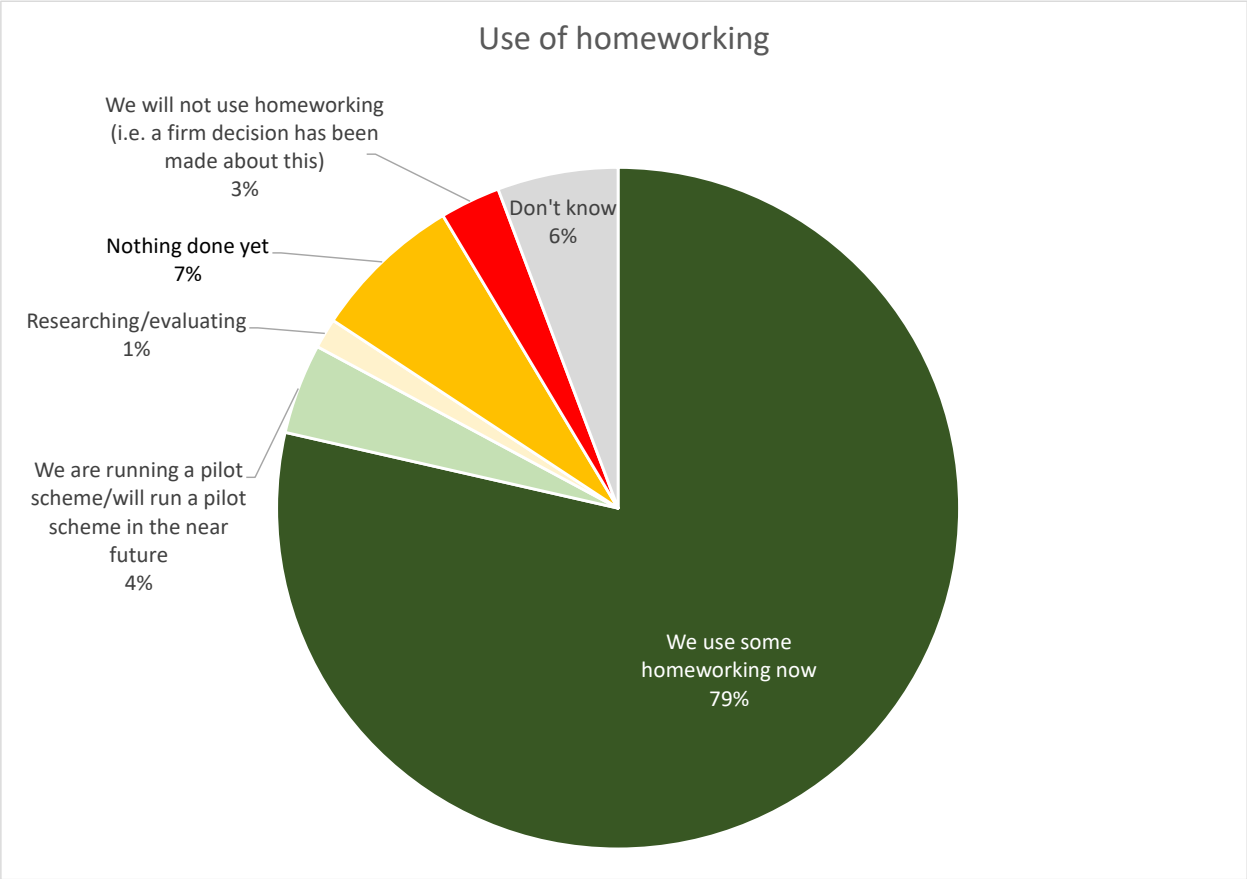
An article in www.smh.com.au recently that reported on a Stamford University study in a 16,000 -seat Chinese contact center found that home agents were 13% more productive. 9 of these percentage points were from working more minutes per shift (fewer breaks and sick-days) and 4 percentage points were from handling more calls per minute (attributed to a quieter working environment).

THE USE OF REMOTE WORKING

In 2019, 43% of survey respondents were using homeworking, with 5% running a pilot scheme or about to set one up. In 2020, driven by the need to react to the pandemic, these figures were 75% and 5% respectively.

In 2021, these figures increased further, with 79% of respondents using remote working (which includes hybrid home-office working), and 4% trialing it.

Figure 3: Use of homeworking (end-2021)



The following chart looks at the historical use of homeworking / remote working, and shows slight but steady increase up until 2020.

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 survey showed 93% of agents working at home at least some of the time, with 23% of survey respondents stating that all of their agents are currently still working at home.

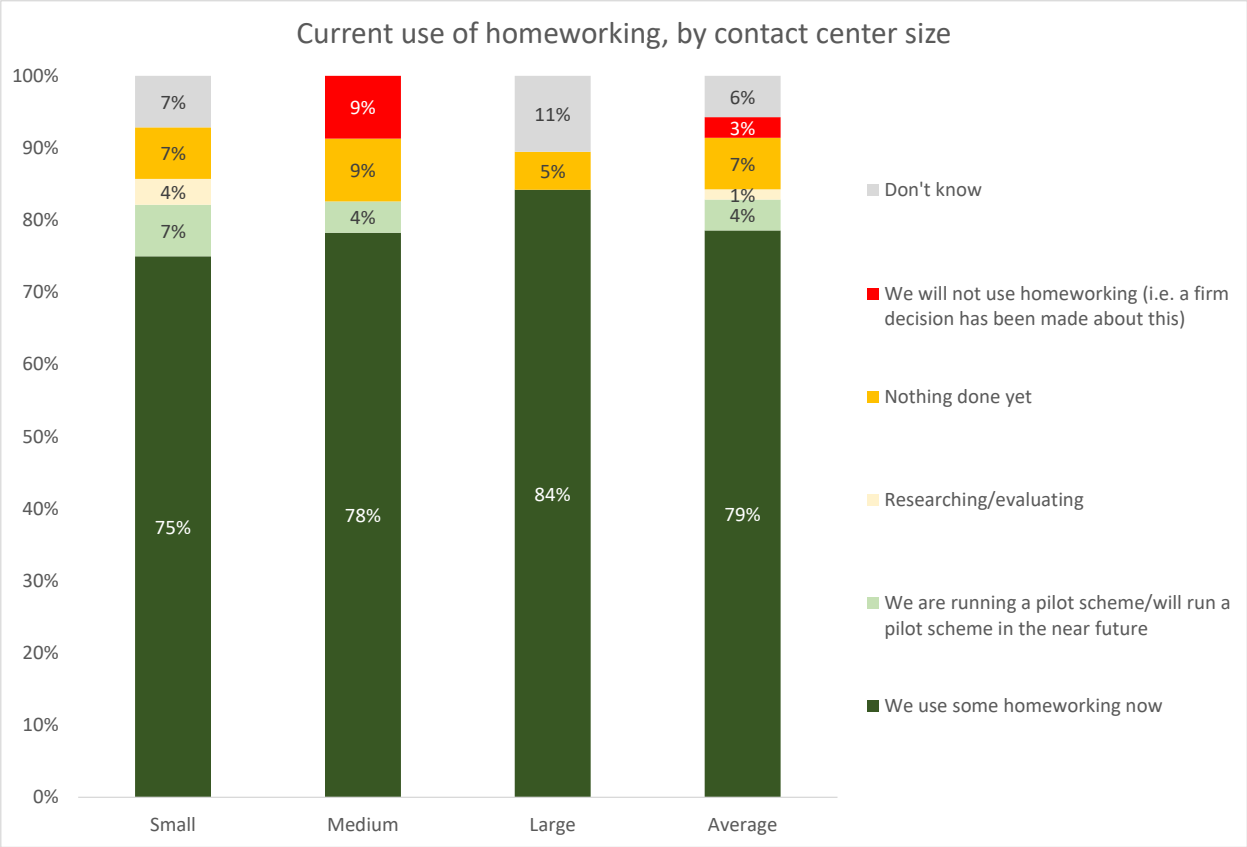
Figure 4: Changes in use of homeworkers, 2007-Q4 2022

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 5: Current use of homeworking, by contact center size (end-2021)

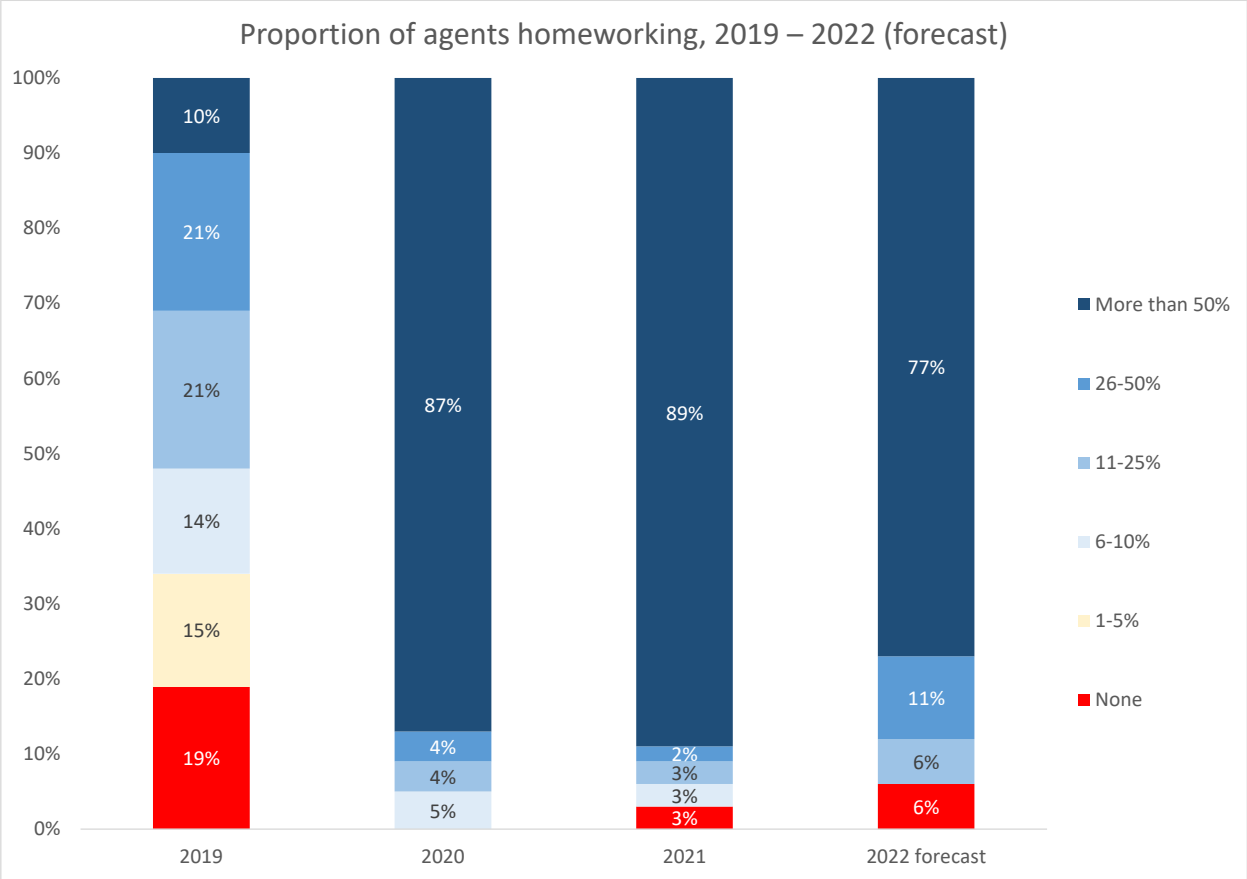


The massive growth in remote working can be seen in the following chart: in 2019, 19% of respondents did not use any homeworking, a figure which was zero in 2020 and 3% in 2021.

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.

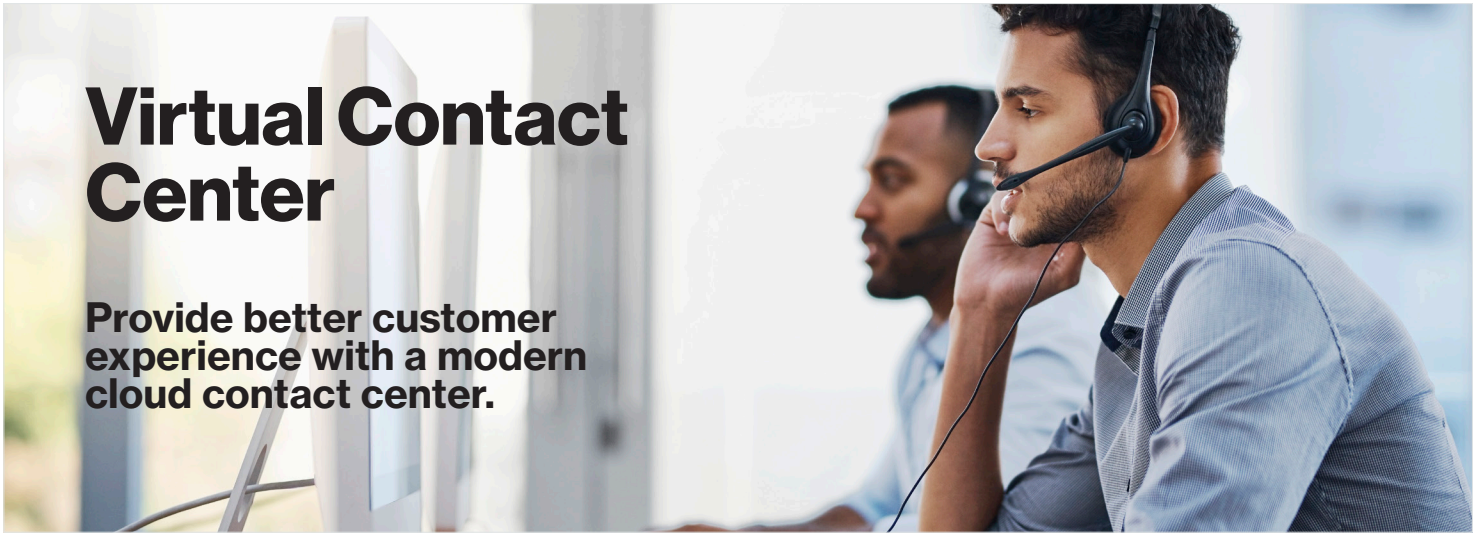
Figure 6: Proportion of agents homeworking, 2019 – 2022 (forecast)



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.



Virtual Contact Center

Provide better customer experience with a modern cloud contact center.

Verizon Virtual Contact Center

Provide better customer experience with a modern cloud contact center

Virtual Contact Center offers powerful features to improve your customer contacts.

Voice and digital channels

- Provide the omnichannel journey your customers increasingly expect
- Handle all interactions from one consolidated interface
- Add any channel quickly and seamlessly whenever needed

Advanced contact routing

- Powerful omnichannel routing quickly connects the customer to the proper agent or method of service
- Interactive voice response allows you to interact, gather information from callers and deliver the right data to the caller and agent

Outbound campaign dialing

Full-featured, campaign-based outbound dialing with Personal Connection™ technology delivers a unified agent experience, supported by automated outbound-to-inbound blending, to keep agents productive and engaged in call center activities.

CRM integrations and APIs for third-party applications

Customer relationship management (CRM) integrations and application programming interfaces (APIs) for third-party apps provide real-time customer insights that make it easier for the agent to respond—quickly and accurately.

Workforce optimization

- With Workforce Management tools, you can accurately forecast, schedule and direct your contact center resources
- Quality management closely ties your contact center and performance metrics to top-priority objectives, boosts operational efficiencies and taps into the potential of your employees
- Omnichannel recording allows you to automate quality by analyzing 100% of your interactions

Voice of customer tools

Use Feedback Management and customer surveys to improve agent performance and promote customer experience.

Reporting and analytics

- Interaction Analytics—an AI-powered analytics and reporting tool—identifies root causes and trends across 100% of customer interactions to guide measurable improvements
- Interactive reporting helps you make better decisions with on-demand insight into your contact center operations
- Interactive reporting also provides data that can be downloaded securely to Microsoft® Excel® for additional customization and analytics
- inView helps gamify your contact center operations, allowing agents to monitor their achievements with aggregated performance data in dashboards and compete against other agents for prizes

verizon

END-USER QUESTION #1: WILL CONTACT CENTRES RETAIN A REMOTE / HYBRID WORKING MODEL AFTER THE PANDEMIC?

verizon Yes, very much so. Agents learned to work remotely and feel proficient at it; many experienced agents do not see the investment required to get to and from the traditional office as a positive payoff in terms of efficiency and time management.

THE ENTERPRISE AS THE CONTACT CENTER

For many years, businesses have been encouraged to look beyond the four walls of a typical operation and consider how and when to involve other knowledge workers (or subject-matter experts – SMEs) 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 significant 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, shorter resolution times and fewer call-backs, as well as more intangible benefits like the ability of executives to listen to the customer first-hand and learn from the experience. The recent pandemic also saw some experienced customer service staff move out of the physical store in order to help customers over the phone or online. For remote workers to have access to these knowledge workers would be especially useful.

Usually, respondents in the TMT (telecoms, media, technology), utilities, services, public sector and housing vertical markets tend to report the greatest levels of contact handling by non-contact center staff (the TMT sector includes many IT helpdesks where subject matter experts can be brought in if needed). However, 2021's figures are very different, with a much lower-than-usual use of non-contact center staff across most verticals, probably caused by pandemic- and lockdown-related pressure on staff across the whole organization. It will be interesting to see if this rebounds in 2022.

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 7: 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 26% 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 omnichannel 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 21% 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 8: 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 BUSINESS ISSUES: QUALITY, COST & PERFORMANCE

After the initial rush to set agents up as homeworkers in order to keep operations running, there has been a movement towards supporting remote working as a genuine longer-term alternative to the traditional centralized model of work, including agent empowerment, communication and effective coaching and training.

END-USER QUESTION #2: HOW DO YOUR SOLUTIONS SPECIFICALLY ASSIST WITH REMOTE AND HYBRID WORKING?

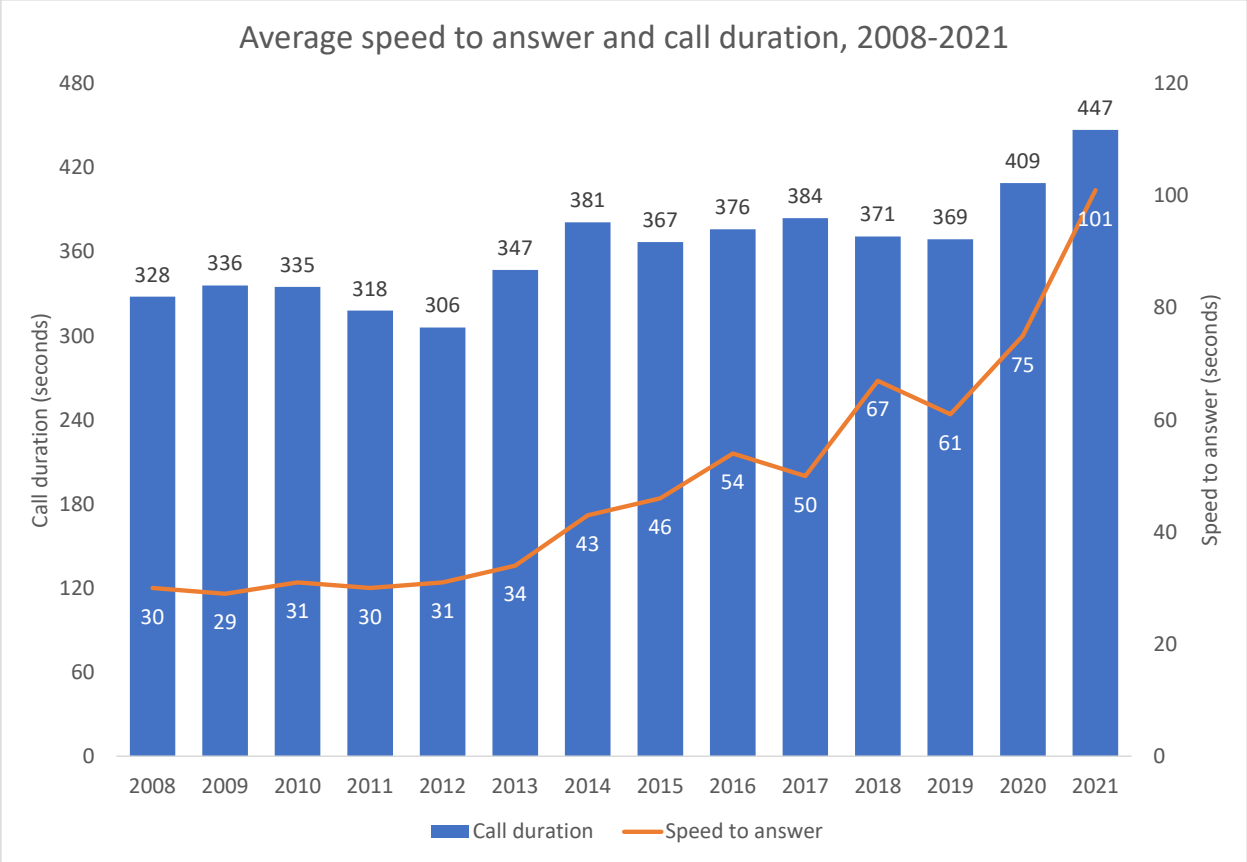
Yes, with Verizon Virtual Contact Center agents can log in from anywhere anytime and respond to customer needs. All they need is a PC and internet connection.

COST MANAGEMENT

Most businesses are under increasing pressure to manage their costs, driven by the need to bounce back after the pandemic, increasing inflation, pressure on consumer expenditure and an uncertain future.

These factors will drive the uptake of self-service and automation, and are exacerbated by the widespread decline in key metrics such as speed to answer and call duration that have been driven by the pandemic, as shown below.

Figure 9: Average speed to answer and call duration, 2008-2021



For those sectors trying to cope with increased contact volumes and staff absences, normal service level targets are proving almost impossible to get close to. In contact centers which are running a remote / hybrid working model where agent management and productivity is perhaps still a little fragile, the need to protect agents from having to handle unnecessary calls is even more important.

Some businesses are trying a variety of approaches to manage this, such as the triaging of calls (either by IVR or to live agents which may be outsourced); a very strong focus on self-service and asynchronous digital channels such as email; bringing in staff from underemployed departments; and a closer

understanding about what other areas of the business are doing in order to understand and push back against any activity that might cause call volumes to increase further.

It is noticeable that customer expectations are being reset through website notices and IVR announcements that inform customers that they can expect a very long wait for an agent, which should have the effect of discouraging all but the most urgent queries.

Contact centers using speech analytics are ramping up the 'discovery' function in order to understand better the subjects about which their customers are calling, in order to brief their agents and also to seed their self-service channels with the sort of information that will answer these queries without recourse to an interaction requiring an agent.

Ideally, businesses experiencing high contact volumes would look to extend opening hours in order to meet demand, but the reality for many businesses is that they are doing well to maintain their existing opening hours, with many actually reducing their contact availability to standard business hours, e.g. 9-to-5.

LIVE CONTACT AVOIDANCE

A reduction of the number of live telephony interactions into the contact center means a drop in costs, and also an easing of pressure on phone service levels. Looking at figures from hundreds of US contact centers, it seems fair to say that although there is some cost differential between email, phone, social media and particularly web chat, it is by no means dramatic.

There is still a relatively low level of digital channel automation being used in many businesses, which means that the cost differential across channels is nowhere near as large as it could be. It is also the case for emails 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 10: 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

These figures suggest that despite the omnichannel revolution, automation – whether through self-service or through automating digital channels – offers the greatest opportunity for the most dramatic cost savings.

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.

By far the most prevalent form of web self-service is that of the FAQ (frequently-asked question), which is used by 58% of respondents. The free text search of the document library is somewhat less well supported, at 24%.

Virtual agents are employed by 28% of respondents, more often those within large enterprises.

Perhaps the most obvious current potential use of AI in the customer contact environment is in handling digital enquiries, as web chats often take considerably longer than phone calls (due to agent multitasking, and typing time) and many email response rates are still measured in days, especially in times of crisis.

The virtual agent 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 many businesses believe it is best practice to identify clearly between virtual and real agents. 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.

The most sophisticated conversational AI 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.

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.

Many contact centers may consider a limited, low-risk use case which can be implemented quickly and relatively cheaply in order to demonstrate a quick win and assert the viability of AI within a customer contact operation. For example, increasing the number of self-service interactions through improved AI-enabled website guidance in certain defined cases is an example of a project which has a clear and easily measured metric which translates directly into call and cost reduction.

For example, a simple yet strategic roll-out may look similar to the following:

- Use a virtual assistant to improve the take-up of knowledge held within the FAQ database, by improving the search mechanism and offering a two-way conversation interface in order to provide more accurate answers. Capture the phrases used by customers in existing human web chat sessions to understand the questions they will ask your chatbot

- Place this virtual assistant upon the agent desktop in order to provide them with more knowledgeable potential answers within the call

- Meet customer requests over voice and text through the use of natural language processing, in order to assess customer intent, and provide answers or optimal routing strategies

- Improve efficiency, consistency and effectiveness of back office processes connected with the contact center through the use of robotic process automation

- Deploy analytical AI in order to discover patterns of data relevant to the business that would otherwise not be identified.

It is important for contact centers not to sell this to high-level management as being an opportunity to reduce headcount, as it is very unlikely that this will be an appropriate measurement of the success of an AI project, certainly in the short-to-medium term. It may be better for the project to be viewed as improving the customer experience through providing customers with an alternative to a frustrating web browsing experience, ending with an unnecessary and unwanted live call.

While it is important for the initial AI implementation to focus on achieving success within its own terms, it is also important that this is not seen as a tactical point solution with a single end in sight. For example, while the initial implementation may be focused on increasing the effectiveness of self-service in a defined area, the longer term view may be to roll out AI into the agent's sphere, assisting them while on live calls. As such, a roadmap of logically linked business cases can help to establish a long-term vision which can be shared with non-operational senior personnel to help them understand the strategic use of AI across the customer-facing parts of the business.

Once the process, objectives and outcome are clearly defined, the selection of a vendor and solution can then be approached. In a rapidly growing and heavily hyped market sector such as AI, it can be difficult to compare vendors with like-for-like solutions.

For example, in the case of chatbots, on the one hand these can be rule-based, have limited conversational capability and are unable to learn; on the other, they may use natural language processing, engage with customers in order to ask further questions to determine intent, and be capable of self-improvement. The development time, resource and cost associated with each of these types of chatbot are very different, and businesses must decide whether they are looking for a quick win, or whether they have a definite long-term AI strategy in mind.

Businesses should also consider the type of developer and implementation model that's most appropriate: some self-service chatbots can be based on off-the-shelf software which is then customized and implemented by an in-house development team, whereas some businesses may prefer to bring in third-party developers with greater experience in AI implementation. The rate of change within this technology sector is very high, so short implementations that are measured in a handful of months rather than longer would seem to make more sense at this point.

At the initial stage of the implementation process, datasets that the AI models will be learning from must be analyzed, cleansed and curated to provide a solid basis for the AI solution to learn from. Vendors will have dedicated examples of neural networks that work for various business cases such as providing answers to queries or estimating the time taken for a process to be completed. These can be used as a starting point for training the AI model, and to enable it to start making predictions of its own.

More information on AI and self-service is available in:

- The Inner Circle Guide to AI, Chatbots & Machine Learning
- The Inner Circle Guide to AI-Enabled Self-Service.

Both are available free of charge from www.contactbabel.com.

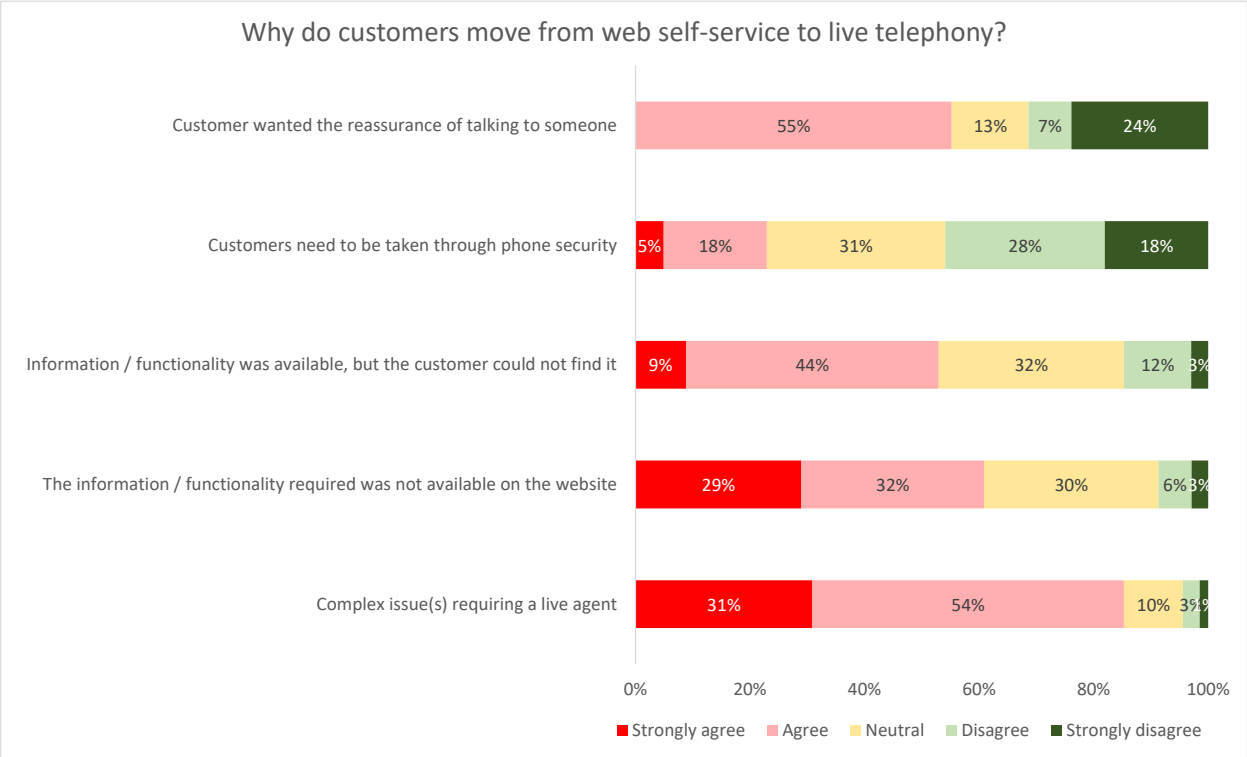
ESCALATING FROM WEB SELF-SERVICE

However, businesses expanding their web self-service capabilities and implementing chatbots / virtual agents should still be aware that their live service – whether through voice or digital channels – will still be a major part of their customer contact activity for the foreseeable future. Due both to some customers' preference for agent contact and the (sometimes unavoidable) shortcomings of self-service, live agent contact is not going to go away.

The following chart shows that the most important reason for moving from web self-service to live telephony was said to be that there was a complex issue requiring a live agent to complete successfully. In many of these cases, web chat can be used to provide live support in order that the customer does not have to break channel by picking up the phone, or waiting an unspecified time to receive an email response.

While chatbots can be deployed to handle some of these, complex issues are less likely to be able to be handled by automation in the short-term, so these are the types of contact that live agents should be focused on handling.

Figure 11: Why do customers move from web self-service to live telephony?



61% of respondents stated that the self-service functionality that the customer required was not available online, but interestingly, 53% stated that they received calls about issues that could be resolved online, but customers were unable or unwilling to do so.

For the latter type of self-service failure, stronger encouragement to use web self-service should be used: for example, warnings about queue lengths and prioritization of calls, along with the implementation of more user-friendly interfaces such as chatbots, and a greater focus on improving and updating the underlying knowledge base.

55% of respondents felt that customers wanted the reassurance that a live agent brings to a conversation. This is something that can be addressed in some ways through improving digital channels: sending customers the transcript of a web chat; emailing the customer immediately after a self-service session has been completed; sending a detailed confirmation of an action, including timescales for any agreed actions to be taken.

Few respondents believed that website security authentication was an issue in receiving inbound calls. Account-based self-service requires customers to log in, and many companies now ask for authentication through web chat which will allow chatbots / virtual agents to take customers through security without involving an agent.

PROACTIVE OUTBOUND

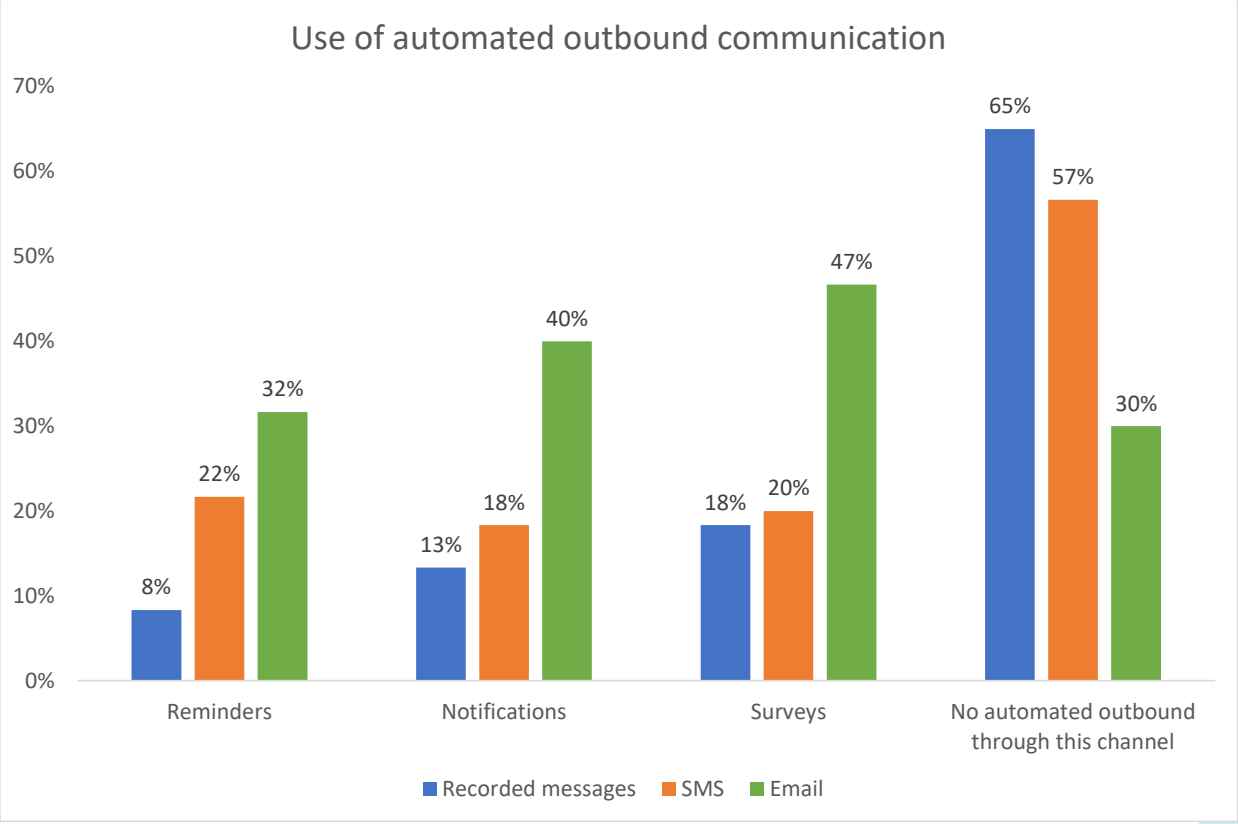
While the vast majority of targeted outbound contact is carried out by agents, the opportunity exists for automated outbound service to expand – such as sending reminders and notifications to customers through an automated process – thus significantly reducing the cost to the business while improving 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.

The use of analytics and AI to analyze the root causes for inbound calls gives the contact center the insight to understand where their proactive outbound efforts should be focused. This may case light on some elements of 'failure demand', including where processes or departments elsewhere in the company have not been able to deliver on the promises made by the contact center, encouraging the departments to work together to improve messaging and delivery.

Figure 12: Use of automated outbound communication



IMPROVING QUALITY

While cost management and the avoidance of unnecessary live contacts are a key part of contact center strategy, there is also the requirement to improve quality and customer experience at the same time.

For remote agents, there is not the opportunity to pause briefly to speak with a colleague sitting near them, and while supervisors are available virtually through team communication applications, getting real-time assistance is not as easy as it used to be. In these cases, it is vital for remote agents to be supported through up-to-date knowledge bases, real-time team communication and also through AI assistance delivered onto their desktop within the call.

AI-ENABLED AGENT ASSISTANCE

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. Advice on learning points has been restricted to post-call reviews, rather than realistically being able to improve the outcome of the interaction in real-time.

Agents cannot be expected to know everything about each product, issue or service, especially in high attrition operations where expertise is at a premium. Even where the knowledge is available to agents, they have to know where to find it. Within the call, the typical agent is likely to have to use multiple knowledge sources, which will also take longer and run the risk (especially for new agents) of missing vital information that is available but perhaps hidden away. Robotic process automation (RPA) can gather knowledge sources and provide them to the agent in a unified manner, and any updates to this information can be shared automatically across applications and systems (including self-service), providing an immediate, up-to-date and consistent source of information. RPA can assist with agent tasks in the background, provided guided assistance at specific stages of the call, including dynamic scripting and compliance hints.

AI offers an opportunity to provide timely and effective support to every agent as necessary, actually within the call. AI can provide the agent with suggestions about next best action, pull up relevant information from the knowledge base, make suggestions based on customer history and sentiment about optimal cross-selling and upselling opportunities, and even 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.

For many businesses, AI-enabled real-time analytics is becoming 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. This is particularly relevant in remote working scenarios where supervisors will not have the physical proximity with their agents where it is easier to coach and assist in real time, but instead can be made aware by real-time analytics that their input is required.

AI-enabled real-time analytics can be used in many ways:

- monitoring calls for key words and phrases, which can either be acted upon within the conversation, or have any relevant information 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
- quality checking the agent for speech clarity and speed and notifying them of any changes to be made
- offering guidance to the agent on the next best action for them to take, bringing in CRM data, AI and knowledge bases to suggest answers to the question being asked
- 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
- detecting negative sentiment through instances of talk-over, high stress levels, 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
- triggering reminders and scripts in times of high call volumes e.g. reading a list of actions or what happens next to manage customer expectations so as not to encourage premature call-backs.

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, as well as updating the centralized knowledge base that can feed this updated, accurate information to the channels where it is needed. 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.

KNOWLEDGE BASES

One of the keys to successful knowledge management is having a consistent knowledge base that is accessible across all channels and physical locations, including remote workers. Businesses interested in how AI can help service should aim for a symbiotic relationship between customer self-service and agent assistance, the focal point of each being a knowledge base which is continually refreshed, amended and added to by agent, customers, super-users and AI itself.

Depending on its sophistication, the creation, uptake and maintenance of a knowledge base may require a dedicated team, at least in its initial phase, of a user experience designer, data scientist and developer to build the model, with inputs from business experts to keep the model aligned with what the commercial requirements actually are.

Those looking to implement use-cases which are tightly focused upon specific high-volume queries and processes (e.g. chatbots), will need less intense support and can be implemented quickly in a crisis scenario. Solution providers may have editable templates and predefined applications for many popular business processes, or even have pre-trained bots. Key to success is remembering that this is about solving a business issue, not implementing impressive technology, so it is vital that both the user interface and implementation procedure are friendly for those other than AI specialists.

For many organizations, a knowledge base started off as a list of useful documents and files, which quickly grew into a wider, less coherent collection of information sources, requiring increased levels of expert management, amendments, editing, and deletion. However, the resources required to keep these knowledge bases up-to-date are very scarce, as the people within the business that have the capabilities and expertise to do so also have their own jobs to do. Very quickly, what started off as a useful and highly tailored information resource mushroomed into an expensive, out-of-date and increasingly less-useful collection of information of wildly varying quality. AI can assist in the management of knowledge bases by feeding back successful outcomes, and noting when the answers provided did not meet the requirement.

On an ongoing basis, feedback from agents and customers will identify gaps in the knowledge base which will need to be filled by product experts. Some knowledge bases will require full-time, dedicated resource to manage them, whereas others will rely on automated systems making dynamic changes depending on callers' and agents' requirements. It is often the case that large businesses with many products and services to maintain will have numerous editors across many departments who can make suggestions, although it may only be a small handful of people who will verify and publish this information. Businesses may want to consider allowing certain contact center agents to create new entries based on their communications with the customer. Understanding which documents are being used the most allows the maintenance efforts be focused on the most important areas.

If a customer's search for information began on the website, some knowledge management tools can capture the search history, enabling the agent to see what they have searched for already so that time can be saved on avoiding giving answers which they have already seen if the customer then moves to assisted live service. Such tools are often accessible through a web browser, meaning that the knowledge available to a centralized agent is also available to a remote worker.

In the coronavirus crisis, some businesses chose to put the answers to their one or two major issues on a very prominent part of the website (e.g. on a red banner at the top, or even in a pop-up). Many urged customers not to make non-essential calls, specifying those classes of customer who will be prioritized, and warning of long delays.

The common plea from businesses that the pandemic is impacting service levels is now less likely to get a sympathetic hearing, but it is still worth considering if publicizing the answers to one or two very common issues on the homepage and/or in the IVR announcement will impact positively upon call volumes.

So as not to frustrate customers even more, it is best practice not to hide contact details on the website: customers' own self-interest in not wanting to wait for very long periods unless they have an urgent request should be enough to dissuade most unnecessary communications.

REDUCING POST-CALL WORK

In post-call wrap-up, a lot of time and effort can be 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. For less experienced agents who may be working remotely, the chances of making a mistake are considerable.

With 96% of US contact centers 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. RPA-assisted unified agent 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.

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 significant negative 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.

It makes sense to suppose 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.

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 initiates 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. Robotic Process Automation (RPA) is set up to handle these processes in a consistent, accurate and rapid manner.

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.

Unlike simple scripting, RPA may use machine learning and natural language processing to recognize products and processes that have been recently added, 'understanding' that while it may be unfamiliar with a new product, that it should treat it in the same way as any other product, recognizing the type of datum or process for what it is and acting accordingly. Natural language processing (NLP) may be used to identify and understand exceptional written notes on an order – a special request, for example – and be able to process the work without having to mark it for manual intervention.

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 that cannot be handled by AI-enabled RPA being flagged to human supervisors who can investigate why a particular task could not be completed as designed.

RPA 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
- Recording processes in ticketing systems
- Reviewing 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.

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.

Other methods of reducing post-call work include note-taking during calls so agents can type them in immediately after the call, using widely understood acronyms and implementing desktop-level speech recognition to allow agents to speak long entries rather than have to type them in.

THE ROLE OF CLOUD IN THE REMOTE / HYBRID WORKPLACE

Remote agents, whether working at home, or in a telecottage (small, remote sites), are part of the larger virtual contact center through being linked to the main operation via broadband or a dedicated 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. In terms of technology, agents usually need only a PC which may also act as a softphone, a headset (or IP phone) and a broadband data connection.

Generally speaking, remote contact center workers do not require complicated or expensive technology in order to become productive almost immediately. Most cloud-based contact center solution providers state that a relatively low-specification PC/laptop, reasonable broadband speed and a USB headset/softphone are all that will be needed by the typical remote worker.

The remote working model can be supported by using a headset and IP audio processor (that links the headset and PC), rather than an IP phone. This method is cheaper than an IP phone, is simpler to support, and has the added advantage that if the PC locks up, the employee can continue to speak and be heard. An a potentially noisy home environment, the use of noise-cancelling microphones and headphones can also play a significant part in improving the customer and agent experience, while reducing the necessity for repetition and the chances of mishearing which can lead to downstream business process failures. A PSTN landline or mobile phone should also be available as a backup if possible.

In an ideal world the company would provide all the technology that a remote working agent needs, being able to standardize equipment, performance and software that would support the same level of security across the remote working environment (e.g. having computers that did not permit the use of external storage devices). However, in times of crisis, this is not always been possible, so IT departments have had to judge whether the agents' personal devices are viable.

Most cloud-based solutions do not require excessive amounts of processing power, nor the most up-to-date operating systems to be installed or very high bandwidth broadband to be available. However, agents may require access to other CPE systems as part of their work so this should be tested thoroughly before going live, including having access via virtual private networks. A realistic broadband speed test should also be carried out at the agent's home at a time when any other family members are present and also using their own technology, and the procurement of Wi-Fi hotspots or improved broadband should be considered if necessary.

If possible, agents should standardize on the Internet browser stated as being optimal for the cloud solution being used, especially if an integrated softphone is being used which may only be supported on specific browser types. Antivirus and malware software should be installed and processes put in place to ensure that these are updated regularly and cannot be paused by the agent.

Some businesses may wish to have control over remote working applications by using virtual desktop infrastructure (VDI) which hosts desktop environments on a central server and delivers desktop functionality over the network. Businesses should check with their cloud-based contact center solution provider that VDI environments are supported as their support team may not be able to assist customers in enabling or troubleshooting VDI in a remote working scenario.

Agents may be using technology with single sign-on functionality, and may not remember all of the passwords that are required for every application: check that all remote agents have reset their passwords if required, and that they do this on a regular basis.

Consideration should be given to how your IT support staff will be able to troubleshoot any issues that remote working agents have: remote access and control of the PCs would be preferable. Businesses may also reach out to prospective IT partners to see if they offer support on an as-needed basis.

While the technology required by actual homeworkers is usually not excessive, businesses have to make decisions about the features and capabilities of the underlying system. While this is a decision which does not have a single correct answer, many businesses will have a wish list which will include:

- Flexible and scalable: the ability to add and remove agents quickly, possibly across multiple countries

- Easily integrable: while a basic, rapid-reaction solution may only provide bare bones of functionality, over time businesses will want to access all the same functionality which they have in a centralized environment

- Transparent: one of the greatest concerns around homeworking is that managers and supervisors will not have access to the same performance and quality monitoring capabilities that they are accustomed to within a centralized environment. Homeworking solutions should not only allow managers to allocate the right employees with the right skill sets the right time, but should also provide enough management information at an individual and operational level in order to make confident decisions

- Ease-of-use: the agent desktop and management information systems should be quick to deploy and easy to understand.

Cloud is the key to remote working technology, and the following section looks at which companies are deploying it, for what, and how.

CLOUD: TERMINOLOGY AND DEFINITIONS

The modern contact center has a multitude of applications supporting it, with hardware, middleware and networking equipment around and inside it. The traditional method of deploying these resources has been on a CPE (customer premise equipment) basis, with the business's IT resource implementing and maintaining it. Now, the vast majority of this equipment, functionality and supporting resource is available in a third-party hosted environment, through one of the various types of cloud-based delivery.

Broadly, there are five types of functionality that contact centers use:

- Contact center functionality: ACD/PBX-type functionality (including interaction routing and queuing), CTI, IVR (routing and self-service), outbound dialing
- Desktop applications: CRM, customer management systems, helpdesk applications, agent desktop, knowledge bases, multichannel handling applications, scripting, web chat & collaboration
- Management applications: workforce management, QA/QM, call recording, interaction analytics, reporting, MIS and business intelligence, eLearning, workforce optimization, customer experience feedback
- Enabling technology: security, databases, payment technology, middleware, IP networks and other common architecture or hardware infrastructure
- Other hardware: IP phones, PCs or desktop terminals, headsets, etc.

Cloud-based solutions are the latest in a line of alternatives for businesses to owning and running their own technology. Here are explanations of some of the terms that readers may have encountered in researching cloud-based contact centers.

- **Cloud** is the delivery of computing and storage capacity as a service to different business, organizations and individuals over a network. The acronym CCaaS (Contact Center as a Service) is now widely used, and may 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 cloud 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 its 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 and hosted internally or externally. The costs are spread over fewer users than a public cloud (but more than a private cloud), so do not gain as much from cost reductions. It may be a more appropriate deployment model for departments within government or public sector bodies, than within commercial organizations, for example a department offering Contact Center as a Service (CCaaS) to other departments or agencies within their network

- Hybrid cloud is a composition of two or more clouds (private, community, public or a linked cloud/CPE solution) that remain unique entities but are bound together, offering the benefits of multiple deployment models. By utilizing "hybrid cloud" architecture, companies and individuals are able to obtain degrees of fault tolerance combined with locally immediate usability without dependency on internet connectivity. Hybrid Cloud architecture requires both on-premises resources and off-site (remote) server based cloud infrastructure.

- **SaaS (Software as a Service)** is a model of software deployment whereby a provider licenses an application to customers for use as a service on demand. SaaS software vendors may host the application on their own web servers or download the application to the consumer device, disabling it after use or after the on-demand contract expires. The on-demand function may be handled internally to share licenses within a firm or by a third-party service provider sharing licenses between firms.

On-demand licensing and use alleviates the customer's burden of equipping a device with every conceivable application. It also reduces traditional End User License Agreement (EULA) software maintenance, ongoing operation patches, and patch support complexity in an organization. On-demand licensing enables software to become an operating expense, rather than a fixed cost at the time of purchase. It also enables licensing only the amount of software needed versus traditional licenses per device. SaaS also enables the buyer to share licenses across their organization and between organizations, to reduce the cost of acquiring EULAs for every device in their firm.

Using SaaS can also conceivably reduce the upfront expense of software purchases, through less costly, on-demand pricing from cloud providers. SaaS lets software vendors control and limit use, prohibits copies and distribution, and facilitates the control of all derivative versions of their software.

- **CPaaS (Communications Platform as a Service)** is a cloud-based platform that allows the embedding of real-time communication functions into a business's own applications and workflows: voice, video and SMS can be integrated into mobile or web-based applications by way of APIs, eliminating the need to build infrastructure or individual interfaces.

- **CCaaS (Contact Center as a Service)** is a wide description of contact center software that is hosted or built natively in the cloud instead of on client premises, and will usually include ACD routing functionality, IVR and often analytics, dialing functionality etc.

- **Hosted** solutions have similarities to SaaS in that the application is hosted off the customer's premises, but may not actually be managed by the service provider. A hosted solution may be an individual instance of an application running on a single server dedicated to the customer, restricted in scalability by its finite nature. Although this may allow greater control and flexibility, it can be more expensive and there is less redundancy. It may be thought that all SaaS solutions are hosted, but not all hosted applications are SaaS.

- **Network-based solutions** are marketed as solutions with equipment physically located in multiple locations, permitting users to access the various services via a combination of the contact center's internet connection and the standard PSTN networks. This allows complete geographic independence and disaster recovery solutions.

- **Multi-tenancy** refers to where a single instance of the software runs on a server, but serves many customer organizations. Clients' data and configuration are separated virtually but the same actual hardware, software versions and databases are used. This deployment model is likely to be able to offer functionality at a lower cost due to the economies of scale possible.

- **Multi-instance** occurs where separate software instances or versions (and possibly actual physical hardware) are provided for each individual business. This deployment option is considered effective for complex and deep integration, but is unlikely to be offered at a similar cost to a multitenant option.

- **Hardware virtualization** masks from users the physical characteristics of the platform, hosting multiple isolated instances of an application on one or more servers. The same image can be used on multiple sites, whether customer-owned or hosted.

Apart from the delivery of customer communications to the remote agent desktop via cloud, businesses should also consider:

- on-boarding tools can validate that the home office is compliant and that technology meets the required specifications
- collaboration and communication tools that provide both one-to-one and team level support
- security frameworks that can prevent hackers accessing remote workers' own technology and regulates the access to only those applications which are required by the agent, as well a secure authentication and login
- whether the solution requires the use of any third-party security (e.g. a virtual private network – VPN) or IP white-listing
- workforce scheduling and performance applications
- the use of multiple ISPs to reduce the chance of voice downtime.

Further detail on cloud solutions is available in the Inner Circle Guide to Cloud-based Contact Center Solutions.

CLOUD PRICING AND IMPLEMENTATION

Many cloud contact center solution providers state that they can deploy even large-scale remote working capabilities within a timescale of 2-3 weeks or sometimes just a few days. Pricing is often calculated on a per agent per month basis. In pandemic times, many solution providers stated that they could deliver a basic workable solution within 48 hours.

Pricing will of course depend on the features and functionality that client choose to use, although the following table gives a very rough idea of what users can actually expect to pay. Generally speaking, when comparing similar levels of functionality, price points have come down over the past three years. Cost tends to be 10-20% higher for small operations on a per-agent basis. Businesses should note that per-minute telecoms charges are not usually included in the monthly cost.

Figure 13: Pricing examples

Functionality / size	Price (typical $ per agent per month)
Basic - voice only, may have recording, some outbound functionality	$20 - $70
Advanced – may have routing, automated outbound, reporting, basic WFM	$45 - $100
Enterprise - full blended and omnichannel, may include WFM, disaster recovery, quality management, analytics	$85 - $160

We have also seen examples of pricing such as $1.25-$1.75 per logged-on agent hour (including inbound / outbound; chat; SMS; basic IVR; recording; reporting).

Further notes on pricing

- Potential cloud clients should also check and include the cost per minute of delivering and making calls, as well as any additional platform usage fee (e.g. per logged-in agent minute)
- Non-standard service requests (such as customization, extra reporting etc.) will also usually be charged for separately, with a rate of $80-$120 per hour being typical
- Multichannel functionality may be added on a per-seat basis, including email, social media and chat. Extra pricing of $20-30 per agent per month per extra channel can be expected
- Potential customers should also take into account any per supervisor/manager license costs

- Most cloud-based providers offer pricing based on concurrent users, rather than specific named users, which reduces wasted license fees

- Most cloud vendors offer pricing on a per-seat/per-month basis, but some offer the even more granular approach of per logged hour or even per minute, which is of particular interest to outbound telemarketing companies and outsourcers, for whom this directly impacts upon profitability, with daily viewing of billing offered by some vendors

- Businesses may be charged separately for connectivity to the data center which may be on a per minute basis, so will need to make sure that any request for quotation includes the same levels of access, data and voice traffic. Solution providers also note that prospective customers should ask about minimum call charges, per second billing, per digit billing and the rounding up or down of telco charges

- Standard service level agreements start at around 99.7% guaranteed availability, with some vendors offering 99.999% on a premium contract. If these SLAs are not met, vendors will offer reduced rates as compensation. Service levels offered by some vendors may differ depending on contact type, although with the multi-tenancy approach everyone gets the same service levels.

Contact centers will experience significant reductions in one-off implementation costs, as there is little or no hardware or software to be deployed in the contact center environment. It is likely, especially in multitenant environments, that any maintenance fee will either be included within the package, or at least much less than the typical CPE maintenance charge, which can be around 15-20% of the original license cost per year).

Solution providers comment that the majority of savings realized in the first year are due to the elimination of maintenance and implementation costs, particularly in environments where there is a single cloud provider delivering all of the services, rather than the organization still running some functionality itself, which would still require maintenance and effort to keep software levels compatible between products.

The length of the contract is also an issue. Cloud solution providers will prefer long-term multi-year contracts, and offer significant discounts to encourage this, enabling them to predict their revenues more accurately and thus be able to invest in the solution with some confidence. Those customers which are new to cloud may prefer to have shorter contracts, with the option to break, at least until they become familiar with the offering. In theory, longer-term contracts benefit everybody, in that customers of businesses which are financially secure are more likely to benefit from the stability and consistent levels of R&D that such a supplier can provide, as well as not having to re-engineer their customer contact environment and processes every few years.

TCO assessments of cloud vs on-premise deployments generally reach a conclusion that cloud-based cost savings are proportionately larger with increasing contact center size, and also where the level of functionality is greater too. However, some solution providers report that longer-term, the depreciation associated with on-premise solutions means that the TCO gap narrows, so that after 7 years or more, the difference is much less, if not wiped out totally.

Other factors influencing pricing include: number of agents/supervisors; functionality required (e.g. outbound only, blended, call recording, multichannel etc.); number of logged-in agent minutes per month; number of outbound minutes dialed per month (split by landline, international and mobile); number of SMS sent; length of contract.

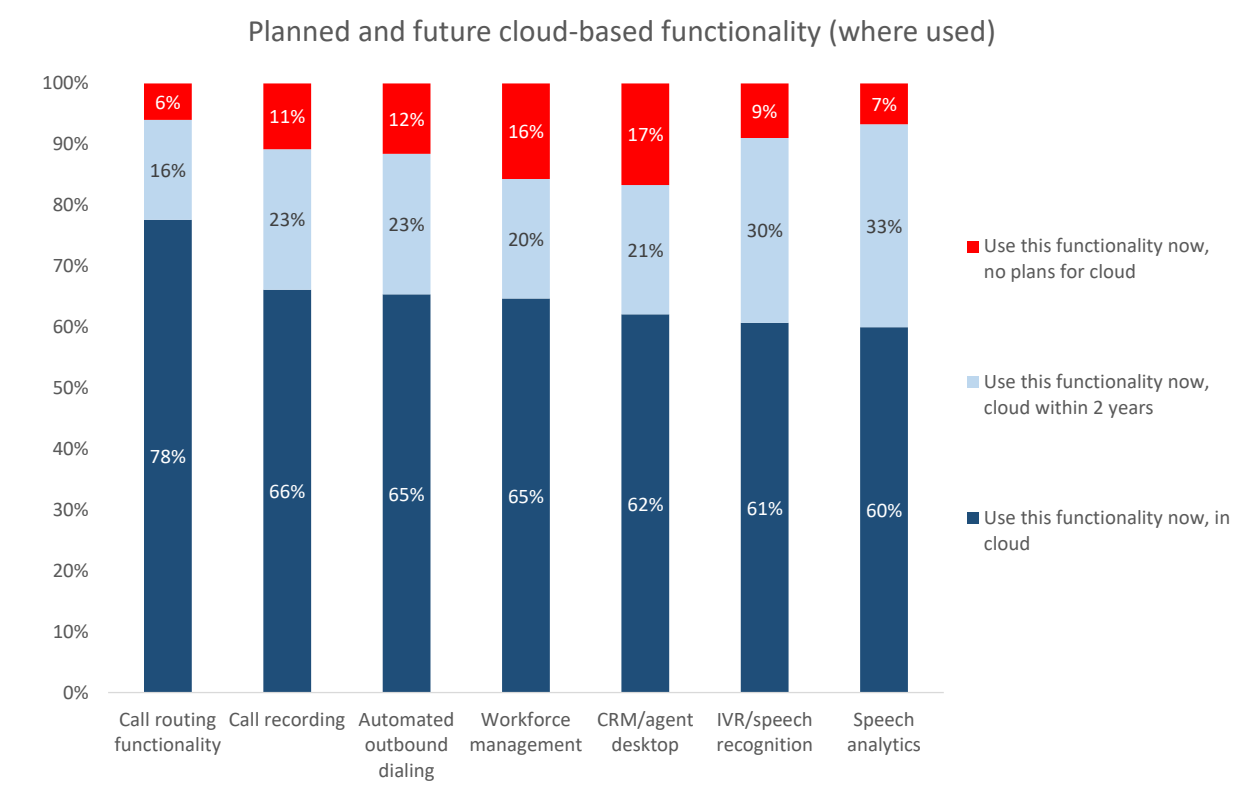
CURRENT USE OF CLOUD IN THE CONTACT CENTER

Survey respondents were asked about the contact center functionality that they had within the cloud, and what their plans were for the next two years. The chart below shows only those respondents that actually use these applications, regardless of which deployment option they use.

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 14: Planned and future cloud-based functionality (where used)



FLEXIBILITY & SCALABILITY

The 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), the nature of outsourcing contracts or companies which have to react quickly to handle event-driven call spikes (e.g. an emergency weather situation affecting utilities companies, or a pandemic).

Scalability is key: many contact centers want to be able to gear up and down to suit business demands and cope with peaks and troughs without unnecessary expenditure, and with cloud-based solutions they can do this on a daily or even intraday basis if necessary, instead of spending on capacity that they may not use for months.

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. Some solution providers report that hybrid is an effective and popular way of offering an elastic demand capability and disaster recovery, whereas others have found that in their experience, hybrid is more of a stepping stone to pure cloud implementation, used as reassurance and proof of concept by businesses that were not 100% convinced or not yet in a position to move entirely to cloud.

TIMESCALES

In a traditional CPE project, the project lifecycle can take well over a year, from the scoping of initial requirements through to implementation and use. Cloud offers the opportunity to reduce this greatly, and with the fast pace of customer contact technology, businesses are rightly concerned about missing the next wave of innovations.

The time required to implement a cloud-based solution will differ hugely depending upon the level of complexity and functionality required, the level of integration and customization and the cloud deployment method chosen. As a general rule of thumb, solution providers have indicated in the past that a cloud-based implementation will tend to take around half the time of an equivalent CPE deployment, as there are fewer delays while companies purchase hardware and upscale their teams.

The more ‘cloudy’ the deployment model (e.g. multitenant/public cloud rather than private cloud, multi-instance or hybrid), the quicker the deployment tends to be. This quoted time period has reduced very significantly since the outbreak of coronavirus, with many solution providers estimating that implementation can happen within a couple of days. Of course, this is likely to be providing a fairly low level of functionality as a basis for future development and integration, but shows what can be done in a hurry.

While the actual technical implementation stage may last only a short time, the move to the cloud environment is a potential opportunity for businesses to re-evaluate the extent to which their customer contact operation supports the goals of the business. When conditions allow, it may be beneficial to carry out a root-and-branch exploration of current contact center operations and supporting business processes, identifying any gaps in functionality or process that the move to cloud would give an opportunity to improve. The timescale for this, which will include the functional design specification, is unlikely to be measured in days or even weeks. Once the organization is satisfied with the direction in which it wishes to go, the vendor selection process may be carried out, using the results of this assessment to guide the decision-making process.

Once the decision to proceed with a specific vendor's cloud solution has been made, the next step is to implement. While every project is different, and depends upon the size, functionality and complexity of any integration, most solution providers report that cloud-based contact centers can be operational within a matter of a few weeks (or even less if the implementation and integration is relatively simple).

In normal times, implementation may be divided into the following stages (some of which may run concurrently), which will differ greatly in length due to the size and complexity of the organization and its required functionality:

- Discovery: 5-10 days
- Build, training and reporting: 5-20 days
- Implementation and testing: 5-20 days
- Fine tuning and adoption: 2-10 days
- Bespoke agent and management training: 3-5 days
- eLearning and training support as appropriate (likely to be 1-2 weeks).

Post implementation support is becoming an increasingly important element of the overall package, and 24/7/365 support with dedicated account / technical contacts is much more common.

INTEGRATION & CUSTOMISATION

Some solution providers may state that much of the integration required within the legacy CPE environment is unnecessary within a wide-ranging cloud-based solution, as the various components and functionality are architected to work together from the beginning. However, while out-of-the-box, plug-and-play application functionality is possible, the reality is that some level of integration with legacy applications and data sources will be required in order to fulfil the business's needs, and solution providers offer API connectors to CRM systems and other applications to this end. It may be that some historic CPE customizations are no longer necessary, as the functionality now exists in the cloud-based solution, or with a standard integration.

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, and one which is still of great concern to many organizations. As all businesses are unique, there is no generic solution to this, but many cloud providers have pre-built integration with leading CRM applications and web service APIs enable customers and technology partners to create tightly integrated contact center applications. This API framework also enables new customizations such as persona-based and role-driven desktops, blending agent and CRM desktops into a single view.

Many users of cloud solutions require interaction routing based on data extracted directly from an enterprise data source, or through interaction with a web service or Java API. It is important to deploy a strategy that keeps data in the most suitable locations and which can be linked through the use of unique identifiers. If dynamic routing or voice self-service is required, there may well be some software development required to link the cloud solution with back-end systems, but the use of open web-based interfaces rather than proprietary client/server protocols to transfer the CTI-type data will reduce the effort of integration.

Depending on the requirements of the business and the application involved, solution providers note that there are numerous ways of integrating: by transferring data periodically in data batches through real-time communication on the server side or by actioning real-time requests from the workstation.

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. Other solution providers state the private cloud is far more suitable to very large customers, and that the 'democratization' of technology offered by multi-tenancy means that everybody gets the most up-to-date functionality at the same time.

END-USER QUESTION #3: WHAT ARE THE BIGGEST TECHNICAL INHIBITORS TO REMOTE / HYBRID WORKING, AND HOW CAN THEY BE OVERCOME?

Not having the right tools for the agents. You need a cloud contact center that enables remote working and allows the agents to collaborate when needed.

REMOTE WORKING BUSINESS ISSUES: SECURITY

Remote working creates some new issues around 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.

FRAUD AND DATA PROTECTION

The consequences of a data breach can be severe for businesses, both in the short- and long-term:

- **Financial**: if customers lose money as a result of a data breach, compensation must be paid. There also be significant cost associated with investigation and legal fees, and there may be very substantial fines to pay, particularly in regulated industries. Individual customers may also sue the business for not keeping their personal data safe
- **Reputation**: data breaches can be quite high-profile and damage the company's brand, impacting upon both new sales and renewals
- **Disruption to business**: cyber attacks can take down websites, and business may be paused while the weaknesses in the current security operations are addressed.

All contact centers handle significant amounts of sensitive customer information including personally identifiable information (such as date of birth, mother's maiden name, customer address etc.) which can be used fraudulently elsewhere. The contact center may also hold financial information such as payment card numbers and bank details.

Younger and less experienced agents, especially those working remotely, may be more vulnerable to social engineering attempts and less likely to recognize phishing attacks.

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 2017 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 remote agents include:

- Agent hardware needs to have the same level of strong password, 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
- Any device used that stores customer data should be encrypted so that it cannot be accessed in case of physical theft or virtual attack
- Calls should be made on VoIP rather than mobile phones, which can capture or record data and be hacked
- 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)
- Security protocols for remote working may need to consider scenarios which are not relevant to the centralized contact center model, e.g. a visitor to the home overhearing sensitive information or virtual team meetings held outside where others can hear
- 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. Consider using a VoIP firewall to prevent Telephony Denial of Service (TDoS) attacks, which can effectively block legitimate customers from calling the contact center
- 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. The agent should be working in a private area if at all possible
- Train agents on how to recognize social engineering attempts and phishing messages, along with providing up-to-date regulatory information
- Provide agents with the minimum access to the data that they need in order to do their job
- Consider using chatbots and IVR to capture personal information, rather than using oral Q&A
- Use call and screen recording and analytics in order to identify suspicious agent activity, and be aware of who is logged into the systems, including their IP addresses
- Carry out tests and try to find the vulnerabilities in your network security. Then close the loopholes and run regular tests on an ongoing basis to make sure that security remains tight.

CUSTOMER IDENTITY VERIFICATION

There is an enormous hidden expense in the contact center world which is beginning to be addressed by some leading companies, often in the finance sector. The expense is driven by the growing need to identify and authenticate customer identity: industry-wide, a mean average of 66% of US inbound calls are stated to require caller identity verification.

89% of respondents who authenticate identity do so through an agent, taking an average of 39 seconds to do so.

In a large proportion of instances, respondents that use IVR or speech recognition also use the agent to double-check customer identity, wasting the caller's time and increasing the contact center's costs.

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[1] 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**

Identity verification using agents is slow, expensive, prone to error, open to fraud and disrupts the customer experience. Clearly, a reliable and cost-effective method of customers identifying themselves through self-service would be of huge benefit.

[1] ContactBabel, "US Contact Centers 2021-2025: The State of the Industry"

VOICE BIOMETRICS

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 many businesses now allow smartphones to be used as trusted devices to log into mobile apps through thumbprints or face recognition.

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 analyzing spoken words to calculate vocal measurements of a caller's speech, which is influenced by physical and behavioral factors, including vocal tract, pronunciation, emphasis, accent and speech rate, thereby creating a unique digital representation of an individual's voice. 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 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 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 no customer effort: the first few seconds of a call should be enough to match the customer's voiceprint against those on record
- Open up wider options for self-service as the business can be sure about who the customer is
- 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 analyses the background audio of the call
- Avoid bad publicity for your brand through high profile data breaches.

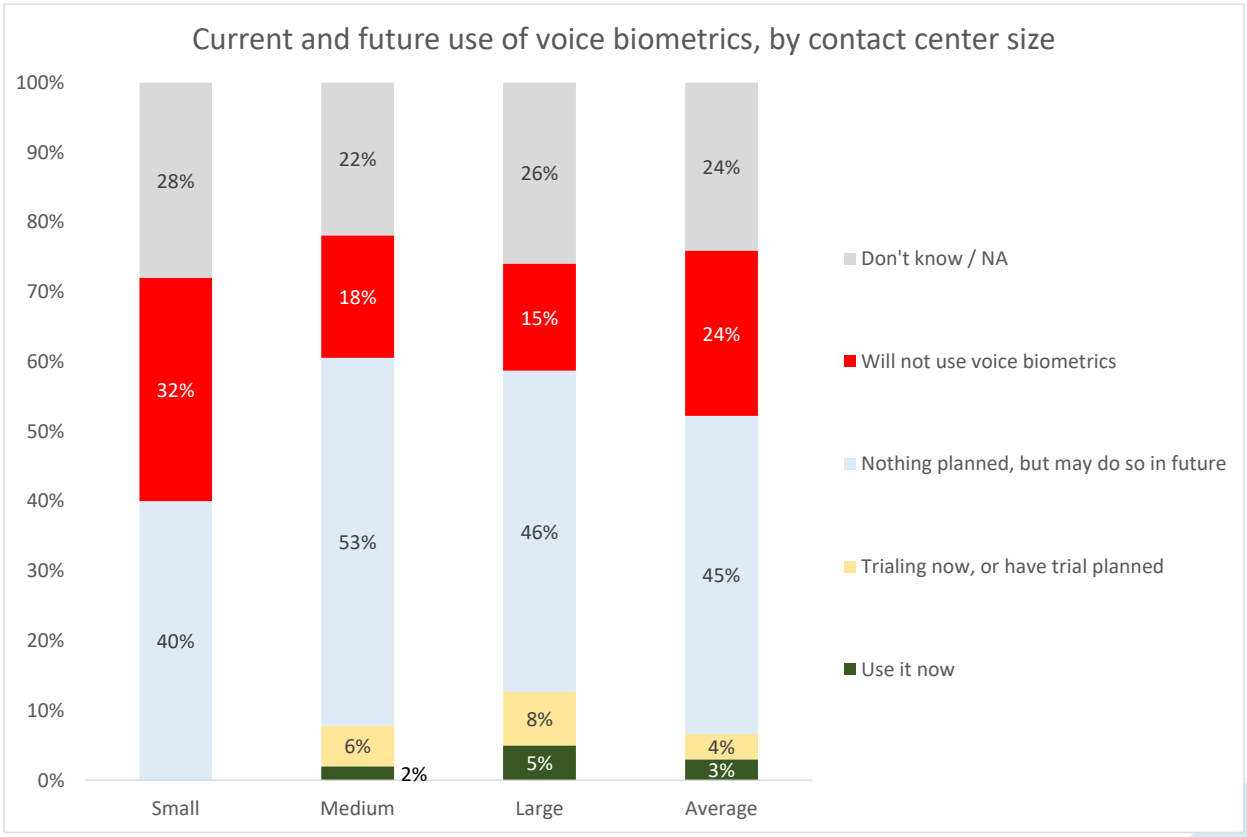
The latest Payment Services Directive (PSD2) means that European businesses involved in financial transactions have to use multi-factor authentication: effectively, two of something the customer knows (e.g. a password), something they have (e.g. a number-generating token) and/or something that they are (e.g. biometrics).

In cases where two-factor authentication is required, voice verification can be combined with a 'something you know', such as an answer to a memorable question. Real-time agent guidance prompts agents to ask a further security question if the process requires it. Some biometric solution providers offer continuous authentication throughout the call rather than assuming that the person initiating the call is the same as the one who is asking to transfer money into a different account, for example.

Contact centers may consider combining voice biometrics with phoneprinting or call signaling analysis for a multi-layered solution. These solutions rely upon 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, giving another layer of protection.

Usually it is the largest contact centers with the greatest call volumes who are most interested in voice biometrics, although some smaller operations are now also showing interest. Large operations can benefit not just from fraud reduction, but also from the significant cost savings associated with secure customer authentication on a large scale.

Figure 15: Current and future use of voice biometrics, by contact center size



CARD PAYMENTS & PCI COMPLIANCE

Fraud continues to be a widespread concern both for retailers (merchants) and the finance industry.

New technology solutions are available that can facilitate and protect mail order, telephone order (MOTO) payments and allow smoother customer journeys. They enable an agent to advise the customer that an additional level of validation is required, rather than simply saying the transaction has been declined. Card holder identity can be established using a variety of validation methods, including 3D Secure which is an additional security layer used in ecommerce credit and debit card transactions. As well as helping to combat fraud, the result is increased transactions, reduce costs and a positive customer experience – a high priority for any contact center.

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).

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 and supersedes version 3.2 which was retired at the end of 2018. PCI DSS v4.0 is targeted for release in Q1 2022[2].

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 'non-attended' variations – effectively self-service – are becoming more prevalent as the PCI regulations encourage businesses to take their employees out of the scope of PCI altogether.

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

It is important to note that PCI DSS does not recognize any difference between remote working and centralized contact center environments: the same security is required regardless of where the payment is being taken. A key achievable objective for businesses using remote workers is to avoid any instances of customers reading out payment card information over an insecure telephone line or giving the opportunity to an agent to record or write those details down, and there are numerous proven methods to avoid this risk entirely.

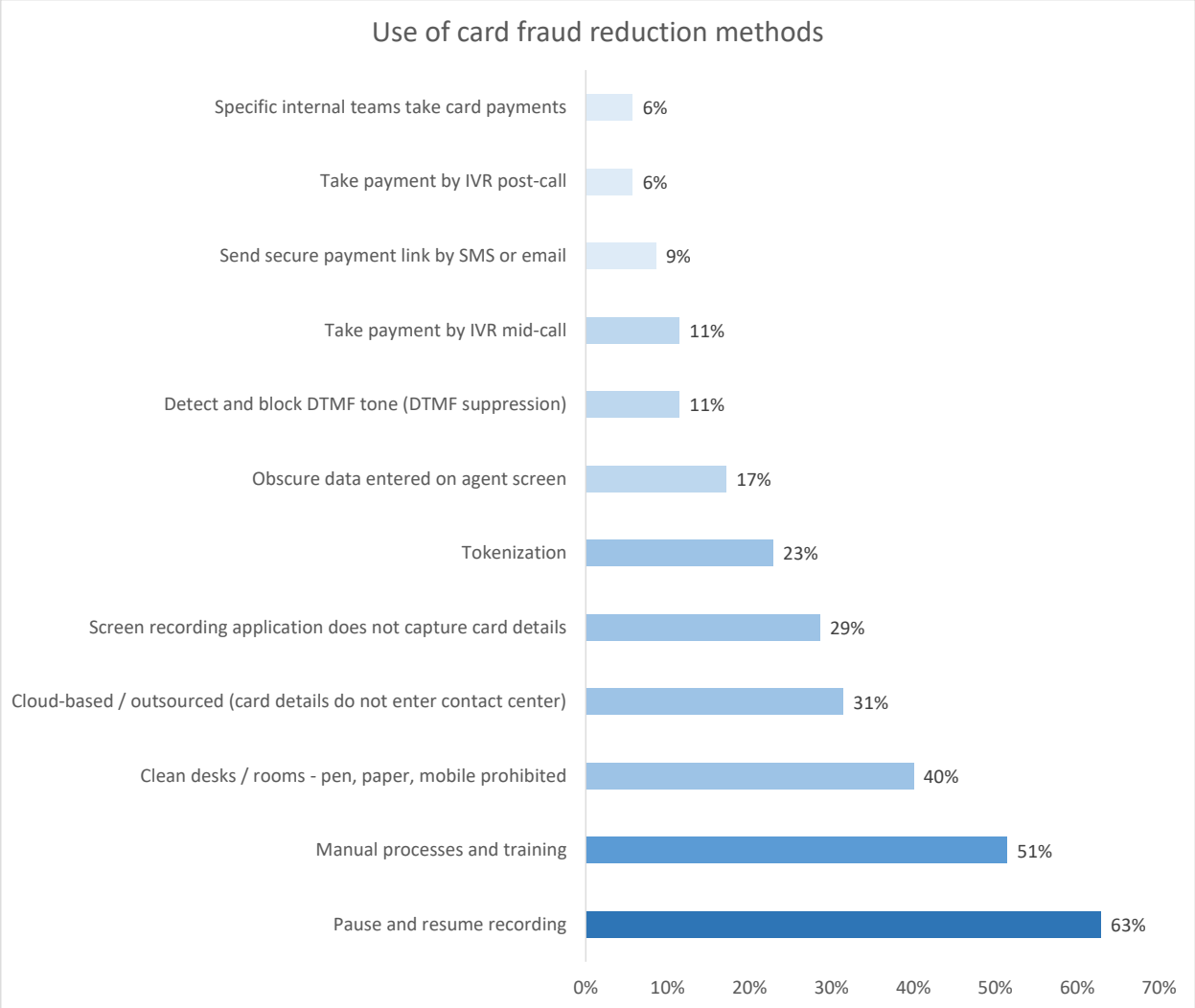
The PCI DSS guidelines state: “As a starting point, consider whether the organization should aim at excluding telephone-based card payment data entirely…for organizations committed to taking payments over the telephone, consideration should be given to techniques that minimize exposure of PAN and SAD 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”.

METHODS OF PCI COMPLIANCE AND FRAUD REDUCTION

Survey 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.

Pause and resume recording and clean desk/room policies were the main methods used to reduce card fraud, with cloud-based solutions and manual processes / training also being widely seen.

Figure 16: 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[3].

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.

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

THE ROLE OF THE CLOUD IN PCI COMPLIANCE

31% of US survey respondents use third-party cloud-based payment solutions. Using a cloud-based solution to collect 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 solution, it relies heavily upon the security processes and operational effectiveness of the service provider, although the PCI DSS attestation of compliance and external audits, along with regular penetration testing may well show superior levels of security over what is present in-house. Some cloud-based solutions may require greater levels of integration or configuration 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. This option has become significantly more popular with businesses which wish to take card payments but not have to invest in technology or manage the processes that ensure PCI compliance.

Level 1 PCI DSS cloud-based payment service providers have to meet very specific standards on a regular and ongoing basis, which may well be in excess of what a merchant / organization is set up to do:

- 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.

Cloud-based payment service providers offer the ability to scale up and down, depending on business requirements, and allows payments to be taken from any location (including homeworking) through a virtual terminal payments solution. This also means that the payments element of disaster recovery is covered.

A cloud-based payments provider can also offer a number of payment channels (e.g. web, IVR, SMS, live phone, etc.), and enable recurring payments to be made securely without having to repeat card entry, through tokenisation.

Several cloud-based payment service providers report that setting up a secure payment agent panel and configuring and integrating it with the business's payment service provider can be set up within 2 to 3 weeks, if not sooner.

DEVICE SECURITY

Wherever possible, businesses should provide remote agents with company-owned hardware and preloaded standardized protective software (e.g. antivirus, firewall, anti-phishing, etc.), as the use of personal devices and unsecured home networks is a major threat to data security. However, this is not always possible and businesses should implement a strict Bring Your Own Device (BYOD) security policy in cases where agents need to use their own laptop.

Agents using their own device should use a separate work account with settings and login that is kept apart from their own personal data and accounts. Access to the device should be restricted through the use of passwords and through having the device go to sleep if it is unused for a certain amount of time. The hard disc should be encrypted in case the device is lost or stolen. Updates to security and software patches should be enforced remotely.

Most laptops will have a built-in camera and microphone, which can be hacked. A physical camera cover should be used where possible – assuming no use of video – and the laptop's microphone should be deactivated, with the default use of a wired headset as the microphone.

Other device security elements to consider are:

- Disabling Bluetooth to prevent the automatic connection to unsecured public networks if the laptop is used outside the home
- Using multi-factor authentication and single sign-on
- Preventing the use of USB sticks.

THE ROLE OF CLOUD IN DATA SECURITY

In the first market stage of cloud, security tended to be the greatest concern expressed as naturally businesses will tend to think that they can look after their precious data better than anyone else, having 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 used to operate.

Yet cloud-based solution providers have invested very heavily in physical and logical security – which many organizations have not done themselves – as it is in the solution providers' own best interests to do so: fear of a substantial data breach, and the consequent damage to brand and any financial penalties means that taking security shortcuts creates great risk for the viability of the solution provider. For an enterprise to set up its operations with a similar level of security and disaster recovery is extremely expensive, and the increasing number and stringency of regulations means that this is unlikely to change at any time in the near future.

Cloud security is a shared responsibility, and cloud service providers have created the cloud shared responsibility model in order to show their customers who is responsible for what[4]. Basically, cloud service providers are responsible for the security of the cloud, while customers are responsible for the security of their data in the cloud, but responsibility differs depending on the type of cloud service required (e.g. IaaS, PaaS, SaaS, etc.). With IaaS, the customer manages the guest operating system, applications and the firewall configuration, as well as their data, permissions, identities and access. The cloud providers handle physical, infrastructure and network security. With PaaS, cloud service providers also handle the operating systems, and with SaaS, the cloud service provider manages the infrastructure and applications as well. Customers are still responsible for managing their own data, as well as user access.

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.

[4] See: https://aws.amazon.com/compliance/shared-responsibility-model/

Businesses should make sure to ask their cloud provider what data encryption levels are operated, and whether the customer is given control of the data encryption key. Data should be encrypted at all stages, when travelling over the network between business and the database, and also when it is in the database and any back-up databases too. US organizations may wish to check that providers have the appropriate level of FIPS 140-3 certification[5], and are compliant with PCI-DSS[6], Sarbanes-Oxley[7], HIPAA[8] and any other regulatory requirements.

A cloud deployment may be more likely to be associated with security risks as there may be the assumption that the transmission of data will be over the public Internet, and that data from multiple customers may be held on shared hardware in place physically separate from the business. This is not necessarily the case: businesses may choose to have a private circuit such as an MPLS network, or to secure the Internet connections by using IPsec VPN tunnelling. In any case, the physical and logical security offered in an offsite, dedicated location may well be superior to the business's existing IT/IS environment.

Different architectural approaches may be appropriate: virtualization offers a separate single customer, multi-instance environment in the data center; the hybrid, local control model may offer the option to keep voice traffic and customer data (including recordings) locally within the business's own private network.

Agents working at distributed locations and at home may require controls such as audit and fraud programs, functionality to control what agents can hear or view, strong and regularly updated protection of the PC environment (including anti-malware, anti-virus and firewalls), as well as screen and voice recording.

Some elements to ask about include:

- Security: the cloud provider must have a strong security management system based on an internationally accepted security framework, to include physical security measures and secure data center facilities. Relevant policies, certifications and standards include the ISO/IEC 27000 family[9], PCI-DSS Level 1 Service Provider, and ISAE 3402[10] (or SSAE 18 in North America). It should be noted that with the increased use of homeworkers, security controls should be data centric, rather than location centric. 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 GDPR concept of "Privacy by Design" means that organizations need to consider privacy both at the initial design stage and throughout the development of new products or services that involve the processing of personal data.

[5] https://csrc.nist.gov/publications/detail/fips/140/3/final
[6] https://www.pcisecuritystandards.org/pci_security/
[7] https://en.wikipedia.org/wiki/Sarbanes%E2%80%93Oxley_Act
[8] https://www.hhs.gov/hipaa/index.html
[9] https://www.iso.org/home.html
[10] https://en.wikipedia.org/wiki/ISAE_3402

- Access: access to the service provided using industry standard encryption, or via a VPN or static IP address for remote workers. Data in transit should be encrypted using strong encryption. Remote workers may minimize risk by using strong Multi-Factor Authentication (MFA) access to business applications via their personal devices, which can be deployed quickly

- Connectivity: if applications and data are stored in a CPE environment and accessed both by remote workers and centralized workers, this can create a bottleneck which will impact negatively on performance. Cloud-based applications and data should alleviate this issue, but it is important to make sure that remote connections have a reliable VPN and the bandwidth available for agents to use the cloud rather than feeling that they have to store their work locally as the network is too slow to keep up with what they want to do

- Usage: make sure customer data is used only as instructed or to fulfil the cloud service provider's legal requirements and that governance and role-based access management policies, and ongoing process testing procedures are in place. This should include user profile controls; all data having a unique key for its owner; authentication; deactivating unused accounts; automated alarms; logging; audit; penetration testing and regular changing of encrypted passwords

- Data ownership: make sure the cloud provider claims no ownership rights to customer data

- Payment functionality: see The Inner Circle Guide to Fraud Reduction and PCI Compliance for full details on the payment card solutions available in the cloud, as well as an earlier section of this report

- Disclosure: the cloud provider must only disclose customer data where required by law

- Geographical data location: the cloud provider must specify the locations and countries in which data will be stored. Physical protection of the data center(s) should also be considered. Data centers in multiple physical locations will offer disaster recovery options if servers are fully mirrored

- Auditing: the cloud provider must use third-party auditors to ensure compliance, both physical and technological, and should submit to audits by their clients' IS teams as required.

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.

The General Data Protection Regulation (GDPR) came into effect in May 2018, and brought with it a host of new challenges for businesses and cloud providers, the latter of whom are now brought under the data protection umbrella as data processors. It would be the work of a whole separate report to cover the issues fully, but a good overview of the changes can be found here and here.

It is worth noting here that the greatest risk to security does not usually come from technical malfunctions or sinister attacks on a company's infrastructure, but rather through human error, failing business practices and a lack of understanding where the greatest risks are. For example, even if a cloud provider can demonstrate the highest levels of security, infosec is still at risk if the contact center's agents are scribbling down customers' payment details on Post-It notes.

As such, security can be less about technical elements, and more about governance and processes in place within the organization. Having said that, some solution providers note that while the business-level executives tend to believe the cloud security isn't a problem, the IT department is concerned about opening its firewall.

REMOTE WORKING BUSINESS ISSUES: MANAGEMENT & COMMUNICATION

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

- the health and safety of employees working away from a centralized location
- effective workforce management, if possible including the flexibility to alter scheduling on an ongoing real-time basis
- the supervision and measurement of performance and quality
- effective team and individual communication
- targeted and effective coaching and training
- motivating remote working / hybrid staff.

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: 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. As detailed in the previous section of the report, this could 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.

This section of the report considers ways in which remote workers can be supported through management and communication processes in order to maximize performance, quality and morale.

END-USER QUESTION #4: WHAT ARE THE BIGGEST HR / MANAGEMENT INHIBITORS TO REMOTE / HYBRID WORKING, AND HOW CAN THEY BE OVERCOME?

verizon

Ensuring that the right tools have been provided to the agents to enable them to do their job better. An agent is our front liner to providing or improving customer experience. If they are unable to access customer information or data to provide the service the customer needs, it leads to frustration. Ensuring that the agents also feel connected to the organization even though they are working remotely. A happy agent/employee is key to improving customer experience.

HEALTH & SAFETY

When a contact center decides to adopt remote working, the health and safety of employees is a major consideration. Despite the fact that agents are working at home, the employer is still responsible for their health and safety, despite in times of crisis not being physically able to check the agents' home environment. Health and safety criteria include checking lighting levels, ensuring a minimum size of room, the presence of sufficient ventilation, and a safe exit in case of emergency. Confirm with the agent that they will be working in an in closed room away from family and pets, and that there will be no loud noises within the vicinity. Businesses may decide to announce within the IVR message or on their website that the agents are working from home and that consequently customers may expect a different experience than usual.

Ideally, an employer would provide a workstation kit including a desk, ergonomic chair, laptop or PC with the required hardware and software specification and telephony equipment including a noise-cancelling headset, all of which would have passed the required national and international safety standards. The agent and the employer should formally agree upon what is being provided by whom, and any recompense due.

It is important to specify the employer's and employee's responsibilities within a contract: while the employer should be responsible for health and safety directly related to the remote working environment, they cannot be expected to extend this responsibility into other areas of the home or for activities within the working environment that are not related to the work itself (for example, tripping over a rug in the home office and twisting an ankle).

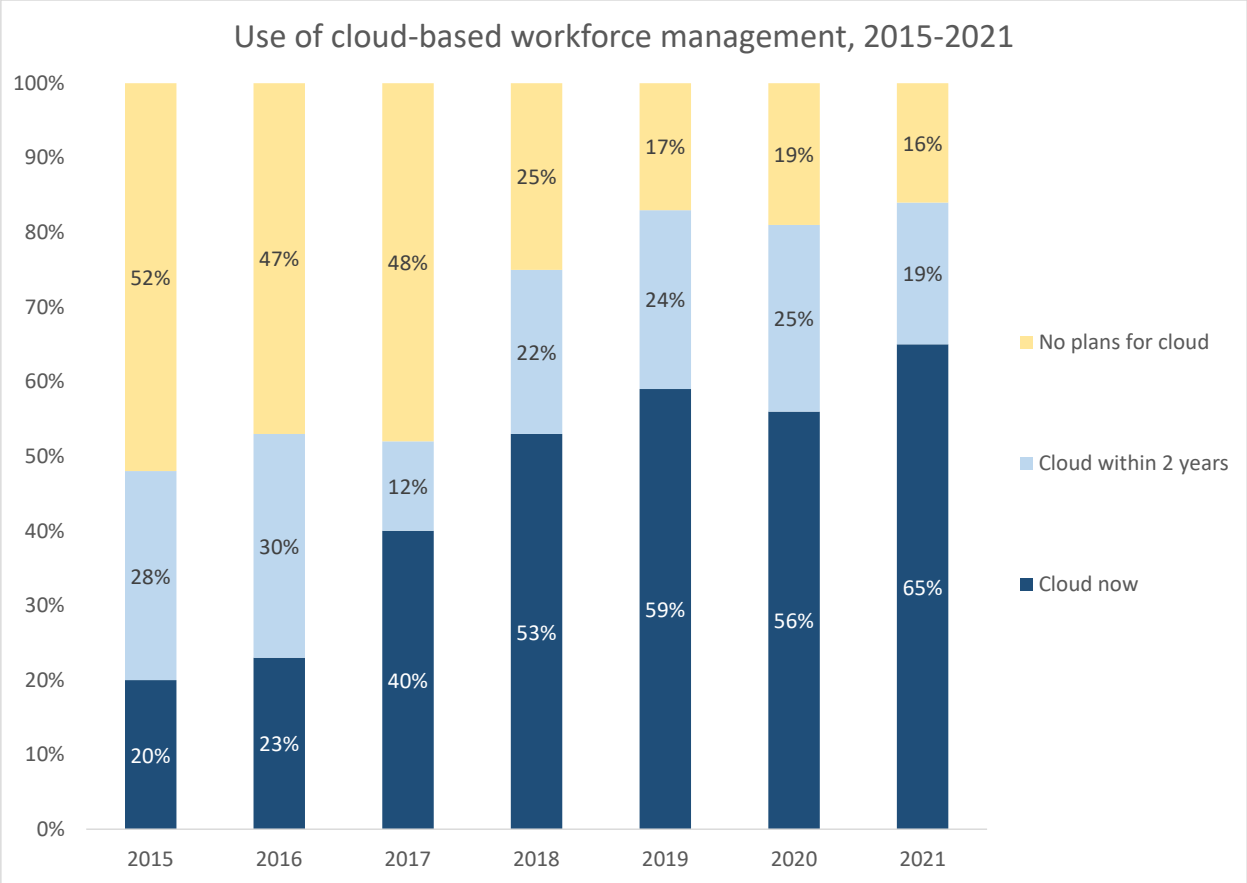
If it is not possible to have the equipment and working environment installed by an expert, you may wish to use video collaboration in order to check that equipment has been installed safely, that there are no trailing wires that could be tripped on and that any ergonomic standards (e.g. height of desk, keyboard type, screen position, appropriate seat) have been met. This should be signed off by the agent and installation expert, and the agent advised that if they experience any discomfort they should immediately inform their team leader, and that any change to the installation must be notified to and approved by the appropriate authority within the business. Businesses should check with agents regularly that the setup is still appropriate and comfortable, and provide a written email trail to that effect.

WORKFORCE MANAGEMENT

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 in the past seven years, with a major jump in 2019 that has been sustained in the past two years.

Figure 17: Cloud-based WFM, 2015-21 (NB - only in businesses where WFM is used)



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. Even in times of crisis, the back office needs to remain operational in order to work hand-in-hand with the front office in order to deliver on promises made to customers.

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.

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.

Contact centers as a whole are now certainly less centralized than in the past: virtualization and homeworking are well entrenched in many organizations – 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. Agents are now used to flexible routines that take into account their personal circumstances, and will be unwilling to go back to a rigid schedule enforced by the needs of the contact center.

This attitude towards work, and the increased empowerment of individuals will mean an increase in WFM functionality that allows shift-swapping, vacation bidding and short-notice shift changes, 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 we expect any business to be considering this.

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. WFM will support this by identifying quieter periods of the day where coaching, training and administrative tasks can be carried out with minimal disruption of the performance of the contact center.

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
- agent should check their schedule 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 / hybrid 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.

TEAM COMMUNICATION

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 instant messaging and team communications applications (e.g. MS Teams) 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 managers 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.

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 had 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.

Key attributes and skills for managing remote workers include:

- **Accessibility**: by the nature of the work, remote agents can need assistance and advice at any time and cannot ask the person sitting next to them for help.
- **Proactivity**: a good manager will check in on their team members regularly, even if they seem to be coping well. They will also encourage and facilitate collaboration between team members.
- **Empowerment**: be careful that regularly checking-in with team members does not look like a case of micro-management. Agents should be given autonomy within a framework of limits, and the team should be made aware of expectations you have, and when is the right time for them to reach out for assistance or reassurance.
- **Empathy**: remote agents, especially inexperienced ones, are likely to feel isolated at times. Supervisors and managers have to listen closely to what's being said to understand exactly what the agent is communicating, beyond the actual words being used.
- **Supportiveness**: for remote workers, the supervisor is often by far the most important link to the rest of the company, so agent have to feel as though the supervisor is in their corner. This should also include keeping them up-to-date with what is happening in the wider company, as well as with factors affecting the individual agent.

Whereas the majority of team communication is done through individual chats or team meetings in the centralized contact center, remote working requires different channels to be used. Each has its place in the successful remote / hybrid model:

- Telephone: best used when the urgency of the issues means that immediacy is important
- Team collaboration tools: MS Teams, Zoom, WebEx etc. are now familiar to almost everyone who has worked remotely, combining the benefits of audio and visual communication and offering a virtual meeting place for team building, sharing information and idea generation
- Email: best used as a written record of conversations and meetings, in order to clarify the record and identify any issues which need to be followed up
- Video: one-to-one use of the team collaboration tools means that this takes the place of a physical face-to-face meeting and is useful for individual coaching and private conversations.

It's important to remember that remote working during the pandemic is likely to be viewed differently from remote working afterwards, both by agents and management. The sense of camaraderie – after all, everyone was in the same (often difficult) situation – may be replaced by a feeling of 'us and them', both from people within the centralized structure who may be envious of homeworkers, and from the homeworkers themselves who may feel they are missing out on opportunities, networking and team bonding.

It is important to give remote workers and centralized workers the same opportunities, and to listen to both sets of workers the same. It is even more important to be seen to be doing so.

Another change post-pandemic is that some of the metrics which are entirely appropriate to use within a centralized contact center structure were detrimental to the performance and morale of remote agents, so management often concentrated on outcomes rather than other metrics in order to reduce the stress upon agents.

As we emerge from this period, it is now a suitable time to replicate the metrics of the traditional contact center in the remote working environment, so remote working agents should be made aware that their performance will become judged on multiple customer-focused indicators, possibly including CSAT, NPS and first-contact resolution as well as the basic metrics used in the pandemic era of remote working.

Managers should be provided with the tools to monitor remote workers effectively through permission-based dashboards, some of which should also be shared with team leaders and agents, and which provide automated real-time alerts if performance is dropping below set standards.

It may well be worth considering implementing gamification in order to encourage healthy competition and to remind agents that they are part of a wider group, and this is discussed further later in this section of the report.

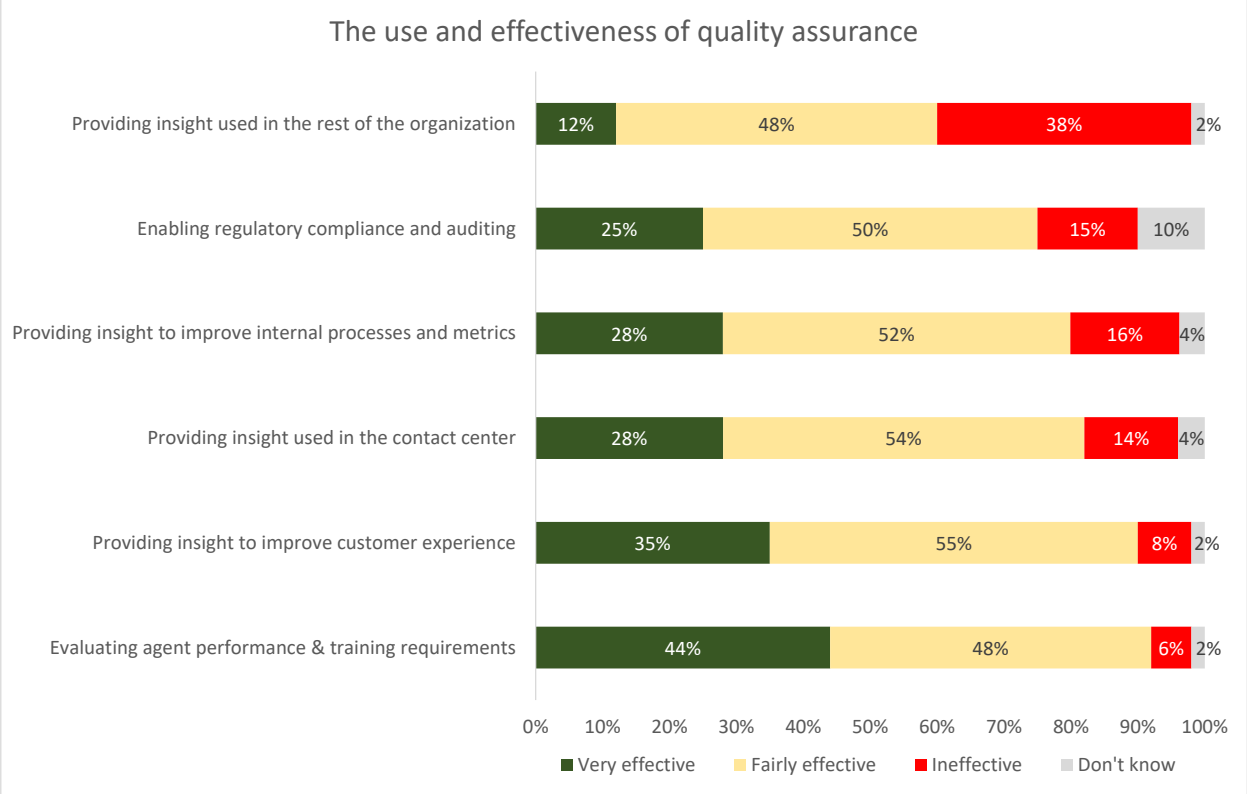
QUALITY ASSURANCE

Just because agents aren't always physically in the contact center doesn't mean that their performance can't be assessed in the same way as colleagues working centrally. Modern QA applications mean that physical location is no boundary to measuring all agents against exactly the same criteria and to the same standards.

The majority of US contact centers have team leaders and line managers involved in scoring agent calls manually, with most large operations having a specific, dedicated quality team involved as well. Large and medium operations are also more likely to have coaches evaluating calls, which will also feed into the process of understanding each individual's need for specific improvement, as well as developing the wider training program.

A significant minority of operations have the contact center manager involved in evaluating calls as well, although especially in the case of larger contact centers, these may well have gone through an initial process of identifying calls relevant to the specific business or operational issue. Around half of large operations have a compliance team evaluating calls, and are much more likely to use a business process improvement team as well to learn from the QA output.

Figure 18: The use and effectiveness of quality assurance



35% of survey respondents 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.

Speech analytics offers the capability to monitor and score 100% of calls automatically, and machine learning can use this large pool of data in order to analyze patterns of agent behavior and characteristics connected with best outcomes, in order to develop performance and training programs always down to the individual agent level.

Specific gaps in knowledge or capabilities can be identified and addressed based on thousands of calls, rather than relying upon manual evaluations which can only process a handful of calls from each agent. Being able to score every call through an automated AI process means that the quality assurance team is able to review specific calls that have been flagged up as being potentially important, rather than hoping that they stumble across them in a random assessment.

This may include calls where specific language is used, has long pauses, or where the agent or customer raises their voice or talk across one another. The AI system can be trained to understand which calls are “normal”, and which are outliers more likely to require input from the quality management department. In an unfamiliar environment such as an enforced remote working scenario, implementing analytics for quality purposes can be a major step towards regaining control over the quality and performance of the agents and the entire contact center.

ANALYTICS

A ContactBabel survey from 2016 found that less than 10% of speech analytics implementations were cloud-based, whereas over 60% of call recording took place in the cloud.

The most recent data from 2021 showed that this had changed dramatically, probably as a result of pandemic-related working practices strongly encouraging the move to cloud. Our most recent survey found that 66% of call recording is now cloud-based, and that 60% of contact centers using speech analytics now use cloud-based applications to do so.

Solution providers comment that cost reduction has often been the initial driver for customer contact analytics, particularly through automating the QA process as contact centers look for an alternative to making decisions based on minimal data and monitoring quality manually and patchily. Some solution providers report that automating the QA/QM process has enabled large contact centers to decrease headcount of these teams by as much as 75%, making very significant cost savings.

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

Scorecards based on 100% of calls rather than a small sample are much more accurate, and support better training and eLearning techniques, and have great potential to cut the cost of manually QAing calls. Analyzing all interactions also means that QA professionals are made aware of any outliers - either very good or very bad customer communications – respectively providing great opportunities for the propagation of best practice, or identifying urgent training needs.

By monitoring and scoring all calls automatically, the opportunity exists to connect analytics, quality assurance and performance management, collecting information about, for example, first-contact resolution rates, right down to the individual agent level. Automatic evaluation of all calls means that businesses will no longer rely on anecdotal evidence, and will be able to break the call down into constituent parts, studying and optimizing each element of each type of call, offering a far more scientific, evidence-based approach to improving KPIs than has previously been possible. This automated scoring means that agents – regardless of whether they are based centrally or remotely – realize that they are being judged against the same criteria as the rest of the virtual team. Examples of particularly good calls and best practice can be shared easily within virtual team meetings.

Further detail on the business applications of interaction analytics can be found in "The Inner Circle Guide to Customer Interaction Analytics". However, apart from automated QA, there is another application of analytics that may be use in the remote / hybrid working scenario: discovery.

'Discovery' is a term used within the customer contact analytics industry to refer 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 analytics users to find calls that are similar to each other, perhaps through similar groupings of words or phrases, and explore these links to discover the issues driving them.

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

Many analytics 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.

For remote working, discovery can be used to understand the nature of the calls that are coming into the contact center, some of which will be of a type and nature unfamiliar to the typical calls received in more normal times. This will allow the contact center to coach agents more effectively on what to expect, optimize the web self-service to deflect unnecessary calls, and alter IVR messaging to educate callers about any popular issues without requiring a live agent.

Sophisticated analytics solutions now offer speech and sentiment analysis, which is often used in real time to identify customers in danger of churning or making complaints. It can also be turned around to note which agents are showing signs of stress or disengagement, and offer support to them either within the call, or through coaching and discussion with management at a later date if patterns emerge.

COACHING

Remote agents are likely to feel more isolated emotionally as well as physically face-to-face meetings over video can help with this, especially for assessment and feedback where agents may be feeling out of the loop and uncertain about themselves. Recording all or part of the feedback session may also be useful for the agent to review in their own time.

It's vital to note that supervisors require detailed training and guidance on how to manage remote employees. This has not been forthcoming in many cases, as prior to the pandemic few companies used much in the way of remote working. It is likely that supervisors will benefit from detailed training from consultancies which specialize in this area, and that return on investment will be easily proven through improved agent attrition rates, performance and engagement. It may be necessary to alter the supervisor-to-agent ratio as some businesses have found that remote workers require more scheduled supervisor time than their centralized colleagues do.

Additionally, some types of agent 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 that they feel comfortable with.[11]

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.

In a hybrid environment, there is the opportunity for typical face-to-face coaching and feedback sessions which most agents and managers and already used to, and doing this may take away a lot of the isolation felt by agents during the pandemic.

[11] See http://www.salesmatch.com/downloads/transferring-to-home-working.aspx for more information on identifying, managing and motivating agent types

END-USER QUESTION #5: HOW CAN REMOTE / HYBRID CONTACT CENTRES MAINTAIN THE PRODUCTIVITY AND AGENT ENGAGEMENT SEEN IN A CENTRALISED MODEL?

The ability for managers to coach, train and measure through Quality and Performance Management is critical. Contact Centers also need to address capabilities from virtual agents and other AI driven tools to redirect non-essential questions away from human agents, and to develop guidance tools to help human agents deliver faster, better responses.

GAMIFICATION

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. This is especially the case in the remote / hybrid working model, where agent isolation can be a major issue for some employees.

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.

A new agent, while perhaps feeling uncertain about their ability to do tasks, is usually willing to learn and is engaged in their work. Assuming that the initial training period is effective, their competence will increase but there is a danger that some will 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
- cutting down on the amount of time required for new agents to become competent, providing real-time feedback in order to encourage positive behaviors
- reducing the amount of management time required to run incentives programs, and delivering them more fairly and objectively
- focusing 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 – should be a key goal of gamification. 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.

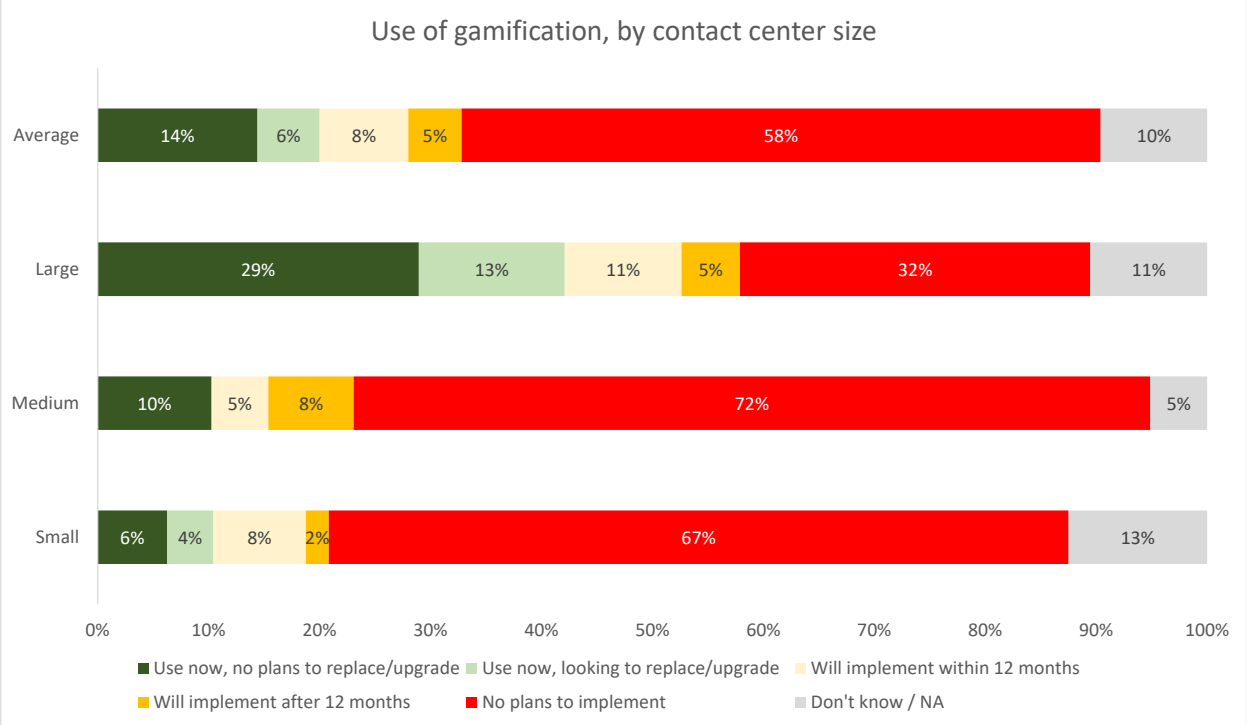
Gamification rewards, for example gained by collecting points over a set period of time, can include:

- Paid time off
- Gift vouchers
- Electronic items
- Experience days.

20% of respondents currently use gamification within their contact center operations, and a further 8% believe that they will implement this within 12 months.

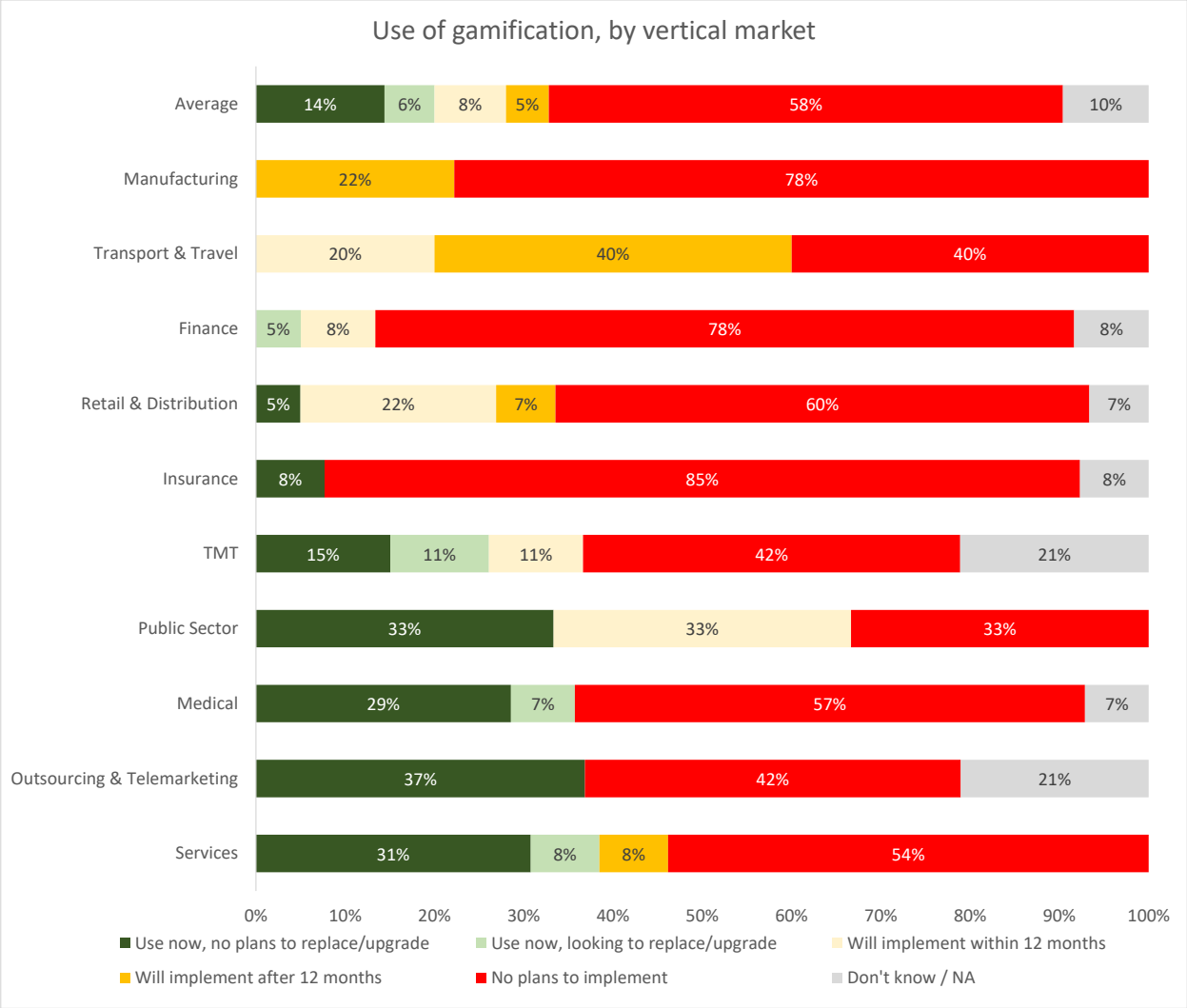
The use of gamification is considerably higher within large contact centers, where 42% of respondents from large operations currently use it and a further 11% intend to implement it within a year.

Figure 19: Use of gamification, by contact center size



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 20: Use of gamification, by vertical market



Looking at the activity type of respondents, those working in the sales or mixed sales/service environment (which are already culturally used to the public, competitive practice of sharing sales targets and achievements) are much more likely to be using gamification today, although the relatively small sample size of pure sales operations involved in this survey should be considered. However, as this pattern is also found in UK contact centers and has been found in past years too, it may well be the case.

More information on strategies and methods to promote agent engagement and empowerment can be found in "The Inner Circle Guide to Agent Engagement & Empowerment", available free from www.contactbabel.com.

VOICE OF THE EMPLOYEE (VOE)

Gamification will not be appropriate for some businesses, and even amongst those businesses that use it there are other methods to consider when trying to motivate agents.

A major one to consider should be Voice of the Employee (VoE) programs, which aim to understand how employees feel about their work and the organization, with the end goal to improve outcomes for employees and the business. They can be used alongside Voice of the Customer (VoC) programs to optimize the wider customer experience through improving employee engagement.

This is especially important to remote workers, who otherwise may not have any effective way of expressing their opinions, and who may become disengaged from their work as a result.

Some of the purposes of VoE include:

- improving employee performance and retention
- identify areas of underperformance in the organization
- understanding and addressing the causes of boredom and burnout in front-line employees
- improving employee engagement and motivation, and aligning them with business strategy and culture
- as happy and engaged employees directly affect performance and customer experience, making the workplace and culture more pleasant will benefit everybody.

VoE programs can survey employees through tailored questions in order to gather insight about current levels of engagement by role, team, department, etc. Not only do front-line employees appreciate being listened to, but to be able to see any changes and improvements made as a result of their comments is very motivating. Employees can also be asked to give feedback through less formal channels, for example through suggestion boxes, open-door policies or supervisor meetings.

Employees are also able to add to the VoC program through identifying particular customer patterns such as frequently asked questions or escalations, or through identifying technological or process barriers to service, making them feel an important part of the business as well as improving the customer experience.

Team and individual development plans can then be published, progress tracked and results shared. VoE survey findings can provide insight to other parts of the WFO suite (e.g. coaching/eLearning, and also gamification and performance), and also be connected to other metrics including absence, attrition and customer-focused scores, as well as feeding into the VoC program.

VoE helps organizations understand what their best-performing employees are thinking and engage with them to keep them loyal. It is important for any VoE program to be set up so as to be able to release actionable insight: not just answers to questions such as 'How engaged with the business are you?', but also **why** this is, how it can be improved and what effect on the business will this have.

VoE in the contact center should answer questions around whether agents have all the tools they need to deliver a successful customer experience and whether they are encouraged and empowered to own the customer's issue or feel as though they are managed and judged solely by internal metrics.

Many contact center employees are finding that the calls they are now handling are becoming increasingly complex, as many of the simplest interactions are being resolved through self-service. Where support systems and training have not been upgraded accordingly, this can lead to stress and demotivation as not been able to help customers effectively is a very negative experience. This issue is only likely to get larger over time, particularly as customer expectations are always rising.

Businesses should also consider casting the net wider, and ask agents about their job satisfaction, engagement and opinion of their management.

Successful VoE is a long-term, ongoing project rather than simply being a snapshot of a moment in time, and it is important to create buy-in at the top of the organization by sharing the goals and insights with senior management and linking any results to improvements in business performance.

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- The European Contact Centre Decision-Makers' Guide
- The UK Contact Centre Decision-Makers' Guide
- The US Contact Center Decision-Makers' Guide
- The UK Customer Experience Decision-Makers' Guide
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