

The Inner Circle Guide to Contact Centre Remote Working Solutions

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The Inner Circle Guide to Contact Centre Remote Working Solutions (UK edition)

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ABOUT THE INNER CIRCLE GUIDES

“The Inner Circle Guide to Contact Centre Remote Working Solutions” is one of the Inner Circle series of ContactBabel reports. Other subjects include Cloud-based Contact Centres, AI, Chatbots & Machine Learning, Omnichannel, Self-Service, Outbound & Call Blending, Workforce Optimisation, 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 UK industry, unless stated otherwise. There is a version of this report available for download from www.contactbabel.com with equivalent US statistics.

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

Although this report has been written as a direct reaction to the challenges being faced by contact centres through coronavirus, much will still be relevant once normality has been resumed.

REMOTE WORKING IN TODAY'S CONTACT CENTRE

Up until very recently, the majority of UK contact centres worked in a traditional, centralised model, with fewer than 4% of agents working remotely at home on a permanent basis.

Faced with the challenges of continuing to run contact centres in an environment decimated by coronavirus, many businesses are urgently implementing business continuity plans which often involve remote working. This report aims to show how to do this effectively.

HOMEWORKING

Homeworking and homeshoring promise contact centres significant benefits, but have not always been right for every agent or contact centre. Amongst the potential advantages are:

- the environmental benefits of working at home, reducing carbon emissions and decreasing congestion on the roads
- offshore contact centres can be unpopular with customers, so businesses are looking at alternative ways to cut costs without damaging customer experience
- increased flexibility in working hours means rapid response and reduced idle time, as well as the opportunity to extend working hours
- increasing costs of recruiting and retaining staff allow agents outside the commutable distance to be employed at times that suit them and the business.

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

Remote working opens the door to the sorts of people who might not otherwise seek employment in a typical contact centre 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 labour pool without widespread pay increases should not be ignored. Some contact centres use limited homeworking (for example, one day a week) as a reward for its top agents, encouraging their loyalty and offering a tangible promise to others.

Remote agents, whether working at home, or in a telecottage (small, remote sites), can be a part of the larger virtual contact centre by 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.

USE OF HOMEWORKING

The following statistics are taken from a survey of over 200 UK contact centres carried out in 2019.

Since then, there has been a massive increase in the use of homeworkers for business continuity purposes, so these figures should be viewed as applying to the end of 2019.

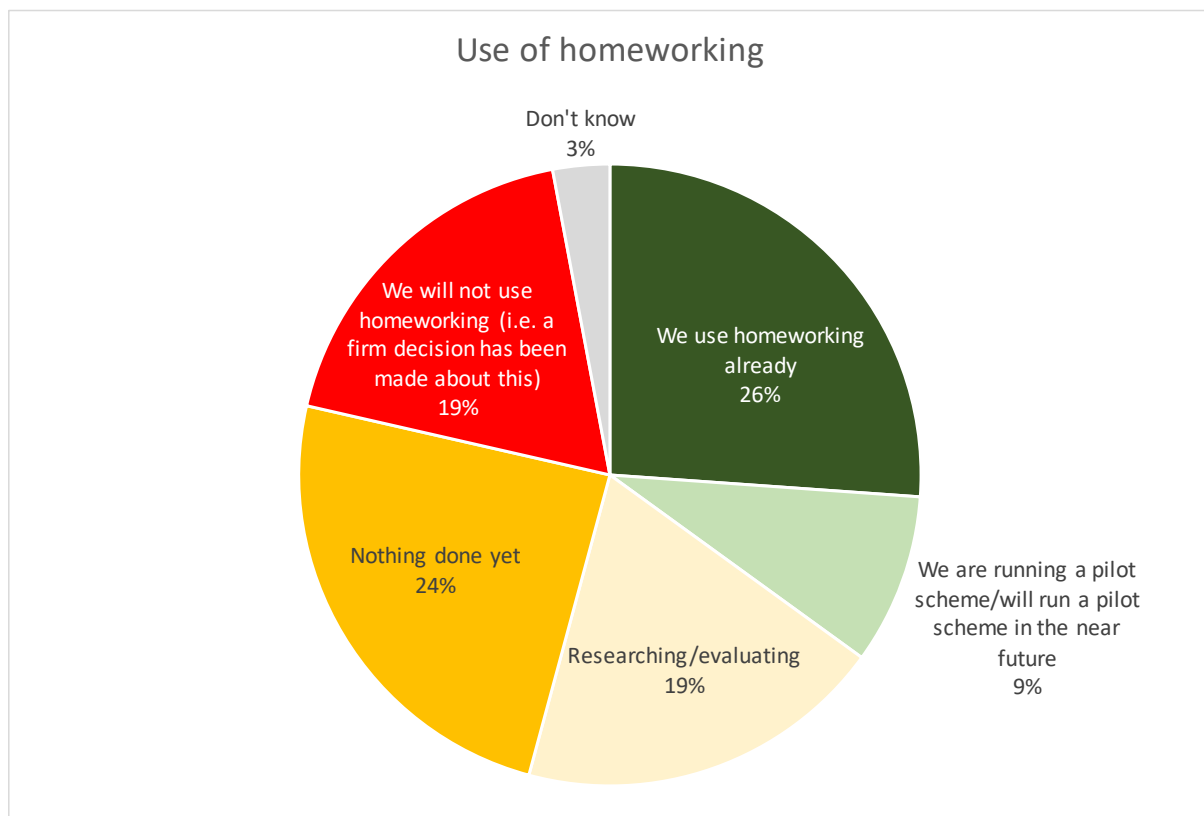
Later in this section, a snapshot survey of the current state of the UK contact centre industry (i.e. early April 2020) is included.

26% of 2019's survey respondents used homeworking, with 9% running a pilot scheme or about to set one up.

The actual use of homeworking is higher than in past years, although the interest in pilot schemes / trials is less, suggesting that some recent trials have had a positive result and converted to actual homeworking.

24% of respondents have not acted either way on homeworking, and 19% state that they have made a firm decision that homeworking is not for them, a figure that declines year-on-year.

Figure 1: Use of homeworking



There are not enough data points for all vertical markets to state findings with any great confidence, however, transport & travel, outsourcing and insurance respondents lead the way in the use of homeworking.

By 2015, the proportion of contact centres using homeworkers had almost doubled since 2008, and the overall number of homeworking agents had increased by almost 300% since 2010. This leads to the conclusion that this increase in homeworkers was due more to existing homeworking operations adding to the numbers of their homeworking agents, outpacing new users of homeworking.

2016's figures were substantially lower than the historical record would expect, with both the proportion of respondents using homeworking and the average number of their agents that are homeworkers both declining, to produce a low extrapolated figure of 2.4% for the industry-wide proportion of agents who work at home.

2017-19's figures returned closer to the historical norm in terms of the proportion of contact centres using homeworking, although the proportion of homeworking agents in these contact centres is still lower than it had been.

Figure 2: Changes in use of homeworkers, 2008- 2019

Year	% respondents using homeworkers	Mean % of agents that are homeworkers industry-wide
2008	12%	n/a
2009	13%	n/a
2010	15%	1.9%
2011	18%	2.5%
2012	23%	3.6%
2013	22%	4.1%
2014	21%	4.6%
2015	23%	5.1%
2016	17%	2.4%
2017	23%	3.4%
2018	20%	3.3%
2019	26%	3.8%

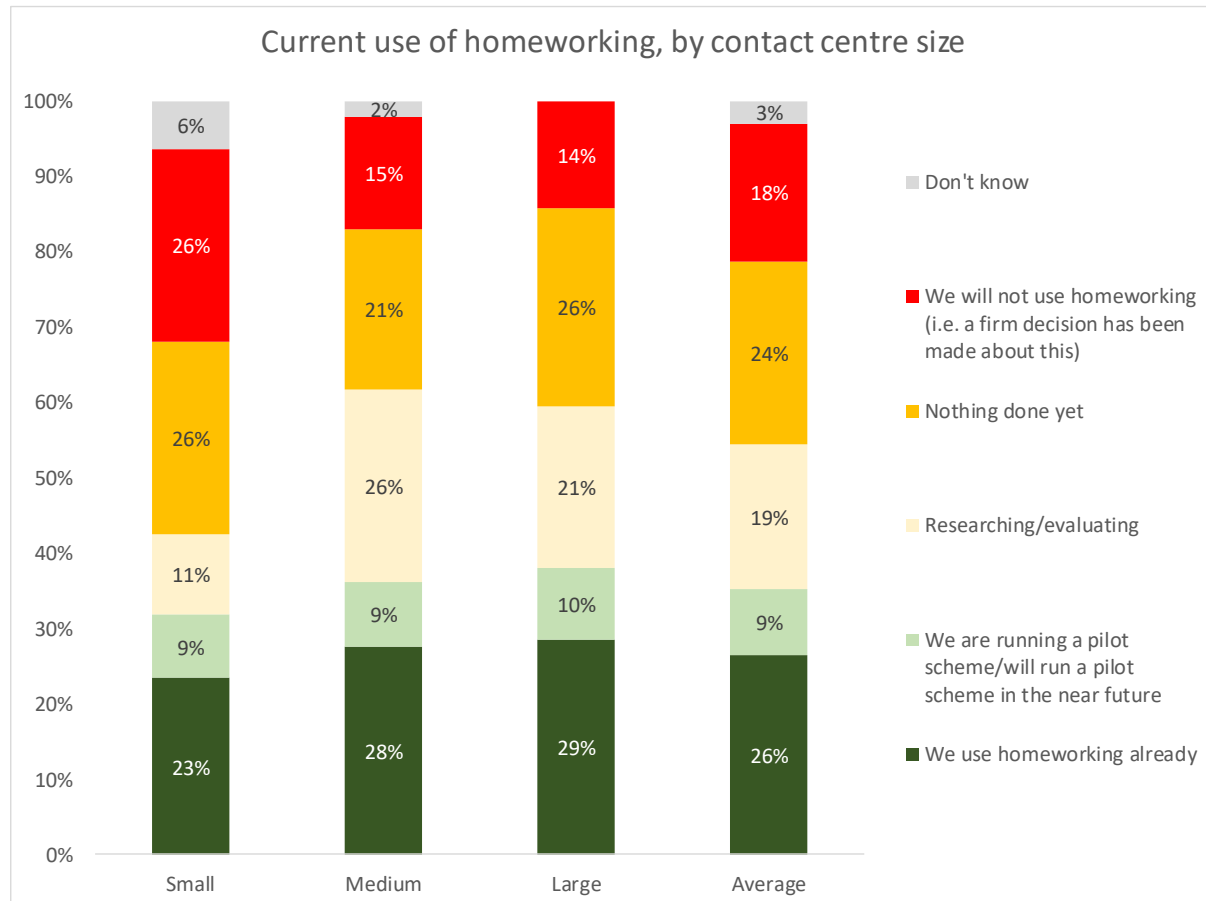
NB: estimate for "mean % agents that are homeworkers industry-wide" is calculated from "% of respondents using homeworkers" multiplied by the mean % of agents that are homeworkers ONLY from these operations (i.e. 26% x 14.6% in 2019)

2019's survey respondents that use homeworking reported that a mean average of 15% of their agents were homeworkers (with a median of 10%, first quartile of 20% and third quartile of 5%).

In usual times, an average of four-fifths of a homeworker's time is spent working at home, meaning that around one day each week is spent at their parent operation.

Unlike the US, where there is a continuing and growing trend for larger operations to be more likely to use homeworkers than small operations, UK respondents from smaller operations are almost as likely as 200+ seat contact centres to be using some form of homeworking.

Figure 3: Current use of homeworking, by contact centre size



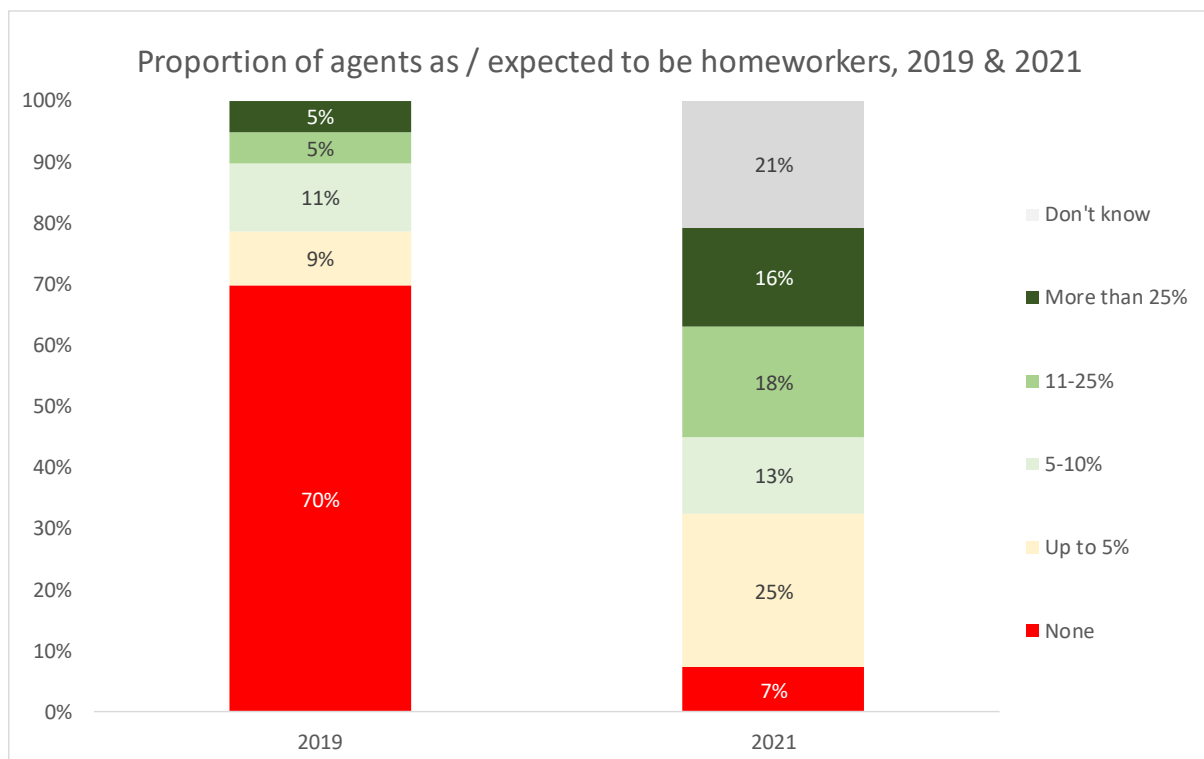
Respondents from purely outbound operations are less likely than inbound or mixed contact centres to use homeworkers, and are far more likely (45% vs 16%) to have made a definite decision not to do so, perhaps as a result of sales environments having more requirements for a physical team presence to provide motivation and encouragement.

Although asking survey respondents to predict the future is a risky business - much of the time, organisations tend to be somewhat overenthusiastic, and underestimate how long is needed to achieve anything - it is interesting to see that the proportion of contact centres definitely not using any homeworking was predicted to decline from 70% to 7% by the end of 2021. It should be noted again that these figures were from a survey carried out before the coronavirus crisis, which will almost certainly increase these expectations even further.

These 2019 figures show that there is a broadly positive expectation around the future of homeworking, even amongst many of the contact centres that do not use it today. There is also an expectation amongst current users of homeworking that this will be expanded within their organisations.

This finding supports our belief that the previously shown hiatus in the growth of the homeworking figures is not due to an industry-wide decline in enthusiasm for homeworking, as survey respondents – although their current use of homeworking is low – are actually more optimistic about homeworking's growth than has historically been the case.

Figure 4: Proportion of agents as / expected to be homeworkers, 2019 & 2021



DRIVERS & INHIBITORS FOR HOMEWORKING

The main homeworking benefits are reported to be around improved staffing flexibility and improved ability to handle overflow or unexpected volumes of traffic: in the same way that the virtualisation of multiple contact centre 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. (For obvious reasons, “Managing the effects of a pandemic” was not offered to survey respondents as a potential benefit).

Figure 5: Most important benefits of homeworking, (respondents using homeworking now)

Benefit	Score from 10	% scoring 9 or 10
Staffing flexibility	8.3	55%
Reduce staff attrition	6.4	30%
Overflow / call spikes	5.9	23%
Scarce skills	5.6	9%
Incentives for staff	5.5	15%
Reduced equipment and building costs	5.1	15%
Seasonal demand	4.0	12%
Organisational environment goals	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 organisation. In such cases, the employee is happy to work the hours that suit them, and the organisation bears less cost. Remote agents are far more likely to be able to work an hour or two in the evenings as well, allowing the contact centre 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 theoretically greater than in a closely supervised environment such as a traditional contact centre, 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. However, these risks can be managed effectively: please see the section later in this report on security and PCI compliance. For example, the use of an automated, cloud-based payment card application would reduce the opportunity for deliberate card fraud and definite policies around the storage and usage of equipment have to be agreed upon. There are various data access methods available that circumvent the need for written passwords, such as voice biometrics or coded key-fobs, and strong firewalls and encrypted hard drives will also reduce risk.

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. Please see the later section of this report on Agent Communication and Management for a discussion of how this can be handled.

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

Non-homeworking survey respondents are far more likely to expect homeworkers to be less productive than centralised 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 some people's homes (particularly when children are at school). 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. There are some statistics below which consider productivity in homeworking contact centre agents.

Ironically, one of the greatest inhibitors to homeworking has historically been that there is 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. There was also a considerable belief that homeworking would not fit into the organisational culture.

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 centre 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 ENTERPRISE AS THE CONTACT CENTRE

For many years, the larger contact centre solution providers have been encouraging businesses to look beyond the four walls of a typical operation and consider how and when to involve other knowledge workers in the enterprise, whether office- or field-based, in the business of customer service. With many companies currently sending all employees home, there may be the opportunity to ask knowledge workers to handle some calls or digital communications using the same technology and processes that homeworking contact centre agents are using.

IP contact centre and cloud-based solutions can break down the boundaries between the contact centre and the wider business, allowing every employee to act in the capacity of a contact centre 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 centre perspective, there are significant advantages to having non-contact centre 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.

Those respondents in the TMT (technology, media & telecoms), utilities, public sector and housing vertical markets report the greatest levels call handling from non-contact centre staff (the TMT sector includes many IT helpdesks where subject-matter experts can be brought in if needed).

Figure 6: Non-contact centre staff handling substantial numbers of calls, by vertical market

Vertical market	2016	2017	2018	2019
Finance	25%	20%	38%	12%
Housing	33%	57%	61%	50%
Insurance	20%	20%	19%	10%
Manufacturing	5%	15%	15%	20%
Outsourcing	15%	27%	39%	31%
Public Sector	50%	31%	42%	58%
Retail & Distribution	33%	14%	31%	29%
Services	20%	29%	38%	50%
TMT	50%	67%	63%	60%
Transport & Travel	10%	10%	0%	24%
Utilities	50%	60%	71%	67%
Average	29%	31%	39%	38%

Knowledge workers can be incorporated into the contact centre on a part-time basis, without actually becoming a customer service agent. Although only used by 27% of the respondents who use non-contact centre staff to handle calls, 'presence management' links workers from diverse back office departments into the contact centre 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 centre.

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

There are, of course, some potential dangers:

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

Intelligent routing should be used to govern requests for help to experts, creating routing rules to decide when experts should be used, and at what times. This should have the benefit of keeping the knowledge workers onside and not choosing to show their presence as unavailable to avoid interruptions. Each skill area or department could offer a schedule to make sure that someone is available for the contact centre, thus ensuring the privacy of the others in that virtual team, although this is used by only 18% of these respondents.

Over two-thirds of staff outside the contact centre who answer customer queries have access to the same level of customer information as an agent within the contact centre, a figure which is rising each year.

Figure 7: Integration of non-contact centre staff with systems and processes (only respondents using non-contact centre staff)

Level of integration with contact centre systems and processes	2016	2017	2018	2019
Same access to customer information as a contact centre agent	55%	65%	68%	71%
Can be viewed in real-time as being available or unavailable (presence)	20%	29%	21%	27%
Rota / schedule for on-call experts	10%	23%	18%	18%

CLOUD TECHNOLOGY AND REMOTE WORKING

Most contact centre solution providers state that – assuming the contact centre solution itself is based in the cloud and accessible outside a centralised location – remote workers require only a relatively low-specification PC, a headset and a reasonable broadband connection.

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 centralised 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 centralised 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.

END-USER QUESTION #1: HOW DO YOUR SOLUTIONS SPECIFICALLY ASSIST WITH REMOTE WORKING?



At Enghouse, we have a range of solutions that enable your staff to work remotely. Virtualising your contact centre allows your advisors to run your customer service or support from anywhere. So even when it's not possible to be in the bricks and mortar contact centre, you can stay in touch with your customers via agents working from home providing the same level of care and support your customers are used to.

Our solutions are very flexible; agents do not need to be tied to a physical phone. Our cloud contact centre solutions can deliver queued calls to an agent's home phone number, a UC endpoint or to the built in SIP softphone in our web accessible agent desktop.

Everyone, agents as well as supervisors and admins, can work from any location accomplishing all routine contact centre activities. Agents can answer calls, handle email and customer chat, interactions can still be recorded, supervisors can monitor contact centre operations and continue quality management practices.

If you want to enhance contact centre operations with video conferencing, our "Vidyo" solution can help you do that too.

As long as your staff have an internet connection and a laptop or desktop that can access a URL, we can ensure that even at those exceptional times of crisis your business can remain in touch with your customers.

CLOUD-BASED CONTACT CENTRE SOLUTIONS

The modern contact centre 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 centres use:

- Contact centre functionality: ACD/PBX-type functionality (including interaction routing and queuing), CTI, IVR (routing and self-service), outbound dialling
- 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 optimisation, 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 centres.

- **Cloud** is the delivery of computing and storage capacity as a service to different business, organisations and individuals over a network. The acronym CCaaS (Contact Centre 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 characterised 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 organisation, whether managed internally or by a third-party and hosted internally or externally. They require management by the organisation 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 organisations 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 organisations, for example a department offering Contact Centre 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 utilising "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 organisation. 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 licences per device. SaaS also enables the buyer to share licences across their organisation and between organisations, 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 Centre as a Service)** is a wide description of contact centre 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, dialling 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 centre'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 organisations. 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 virtualisation** 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 as 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 Centre Solutions](#).

CLOUD PRICING AND IMPLEMENTATION

Many cloud contact centre 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.

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 8: Pricing examples

Functionality / size	Price (typical £ per agent per month)
Basic - voice only, may have recording, some outbound functionality	£15 - £60
Advanced – may have routing, automated outbound, reporting, basic WFM	£40 - £90
Enterprise - full blended and omnichannel, may include WFM, disaster recovery, quality management, analytics	£75 - £150

We have also seen examples of pricing such as £1.25-£1.50 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 customisation, extra reporting etc.) will also usually be charged for separately, with a rate of £70-£100 per hour being typical
- Multichannel functionality may be added on a per-seat basis, including email, social media and chat. Extra pricing of £15-25 per agent per month per extra channel can be expected
- Potential customers should also take into account any per supervisor/manager licence costs
- Most cloud-based providers offer pricing based on concurrent users, rather than specific named users, which reduces wasted licence 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 centre 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 centres will experience significant reductions in one-off implementation costs, as there is little or no hardware or software to be deployed in the contact centre 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 licence cost per year).

Solution providers comment that the majority of savings realised 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 organisation 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 centre 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 dialled per month (split by landline, international and mobile); number of SMS sent; length of contract.

CURRENT USE OF CLOUD IN THE CONTACT CENTRE

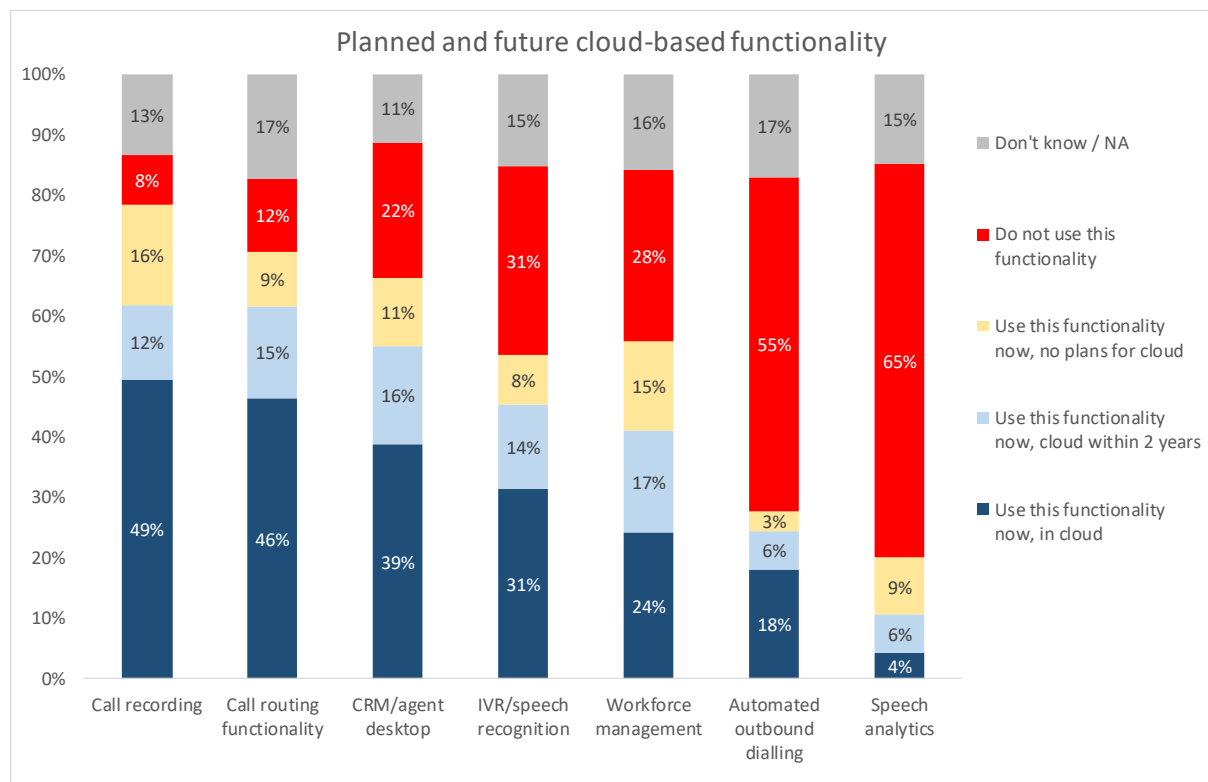
Survey respondents were asked about the contact centre functionality that they had within the cloud, and what their plans were for the next two years.

Call recording functionality is the most likely solution to be deployed through cloud-based solutions, with call routing and CRM/agent desktop also used extensively in the cloud. Most call recording, IVR/speech recognition, CRM/agent desktop, call routing and outbound dialling functionality is delivered through the cloud.

Respondents expect to see significant extra amounts of their functionality being delivered in the cloud by the end of 2021, and indicate that their cloud-based deployment of workforce management and speech analytics will increase greatly within two years.

There is still a significant proportion of call recording users that have no plans to move to the cloud, perhaps as they wish to keep their recordings on-site for security reasons. A high proportion of current speech analytics users are also not planning to move to the cloud.

Figure 9: Planned and future cloud-based functionality (2019-2021)



FLEXIBILITY & SCALABILITY

The cloud offers great flexibility in adding or shedding agents and user licences, 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 the current coronavirus crisis).

Scalability is key: many contact centres 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 customisation 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 work, 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 centre 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 organisation 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 centres 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 organisation 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.

END-USER QUESTION #2: HOW LONG DO REMOTE WORKING SOLUTIONS TAKE TO IMPLEMENT?



We take care of all implementation and configuration of the cloud contact centre application, working with the customer's specific requirements. The implementation timeframe is based on the level of customisation that's needed but we have had a number of customers shift to remote agents taking calls in as little as 48 hours. The quickest route is through our Cloud Contact Centre platform but we have other solutions available that support homeworking.

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 customisations 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 organisations. 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 centre applications. This API framework also enables new customisations 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 customisation. Other solution providers state the private cloud is far more suitable to very large customers, and that the 'democratisation' of technology offered by multi-tenancy means that everybody gets the most up-to-date functionality at the same time.

END-USER QUESTION #3: HOW ARE AGENTS AND MANAGEMENT TRAINED IN USING REMOTE WORKING SOLUTIONS AND HOW LONG DOES IT TAKE?



Web based video training and extensive documentation are available and our Enghouse training, services and support staff are here to augment that as needed. Our TouchPoint agent desktop is intuitive and easy to use which mean agents can ramp up quickly.

CLOUD SECURITY

In the first market stage, security tended to be the greatest concern expressed around moving to a cloud-based solution, as – naturally – businesses will tend to think that they can look after their precious data better than anyone else, as they have the most to lose through any mistakes. Worries about attacks from outside or within the service providers' organisations, 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 organisations 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 what¹. 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.

Organisations 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.

¹ 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 organisations may wish to check that providers have the appropriate level of FIPS 140-3 certification², and are compliant with PCI-DSS³, Sarbanes-Oxley⁴, HIPAA⁵ 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: virtualisation offers a separate single customer, multi-instance environment in the data centre; 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 centre facilities. Relevant policies, certifications and standards include the ISO/IEC 27000 family⁶, PCI-DSS Level 1 Service Provider, and ISAE 3402⁷ (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 organisations 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.

² <https://csrc.nist.gov/publications/detail/fips/140/3/final>

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

⁴ https://en.wikipedia.org/wiki/Sarbanes%E2%80%93Oxley_Act

⁵ <https://www.hhs.gov/hipaa/index.html>

⁶ <https://www.iso.org/home.html>

⁷ 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 minimise risk by using strong Multi-Factor Authentication (MFA) access to business applications via their personal devices, which can be deployed quickly
- 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 a later 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 centre(s) should also be considered. Data centres 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 organisation 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 centre'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 organisation. 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.

MANAGING REMOTE WORKERS

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

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

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

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

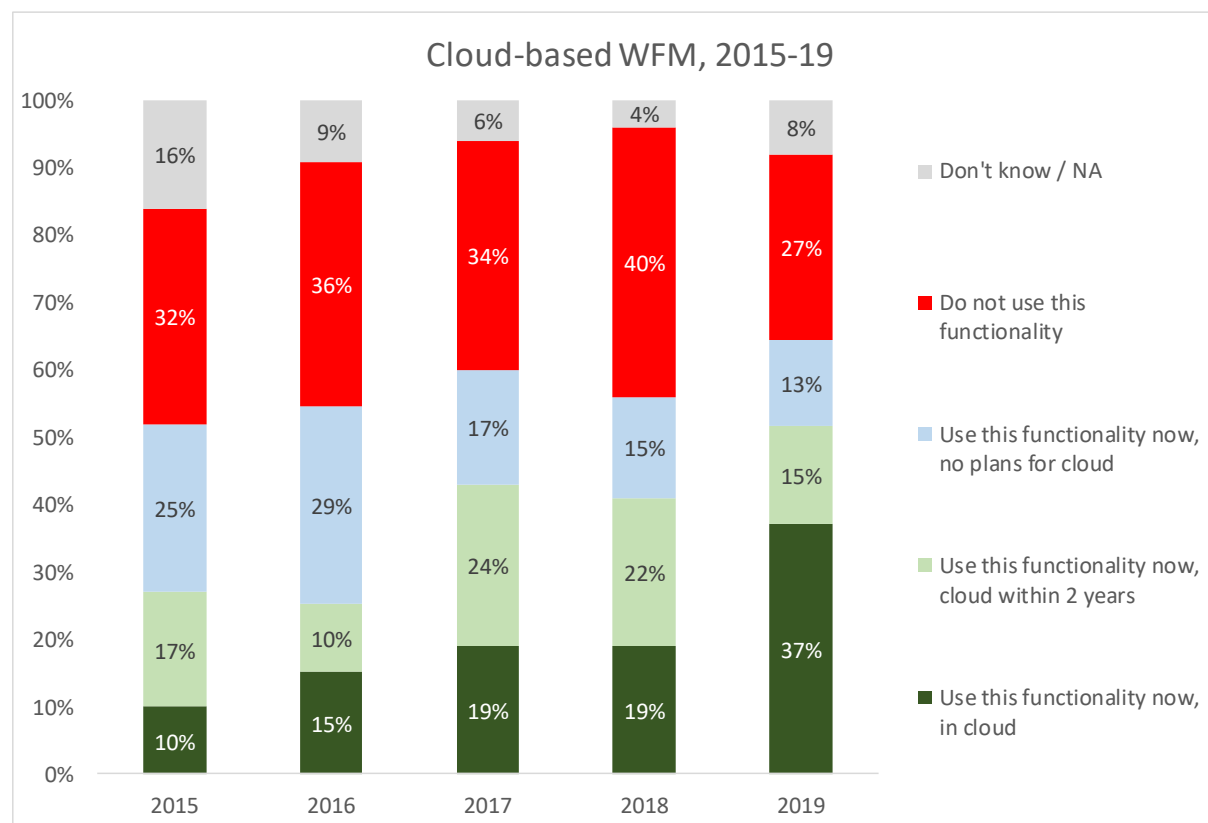
- what is expected of staff when they are working from home (i.e. timekeeping, the frequency of virtual team meetings and one-to-one coaching sessions)
- a revision of key performance metrics to reflect the new reality: it may be better in the first instance that performance management is simplified,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

WORKFORCE SCHEDULING AND MANAGEMENT

Agents account for around 75% of contact centre costs, and as effective workforce management (WFM) solutions have such an impact on efficiency, productivity and expense of the operation, workforce management will continue to be amongst the most important tools of the contact centre'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.

As the chart below shows, recent years have seen a major increase in the proportion of cloud-based WFM solutions. Cloud-based deployment doesn'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, virtualisation, 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 four years, with a major jump in 2019.

Figure 10: Cloud-based WFM, 2015-19



Workforce management solution providers are keen to expand out of the traditional contact centre, with the back offices and branches of large organisations being seen as potential goldmines. Far more employees work in these spaces than in the contact centre, 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 recognise that the problem is not going to go away, and look to invest in new workforce management solutions. While a considerable proportion of organisations still have dedicated digital teams, many small and mid-size operations have a much more flexible approach to multichannel, and the ability to move agents between channels in the near real-time capacity will be highly prized.

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 centres as a whole are now certainly less centralised than in the past: virtualisation and homeworking are well-entrenched in many organisations and the power and ubiquity of smartphones and tablets have led to an increase in mobile working - no longer do supervisors or managers have to be at their desks in order to monitor performance and react accordingly - and the new generation of workers have an expectation, both culturally and supported through regulation, that their employment will be treated as flexible by the business as well as themselves. This attitude towards work, and the increased empowerment of individuals will mean 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.

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 centre).

'What-if?' scenario planning can help contact centres model and predict scenarios where for example the absence rate quadruples, enabling the organisation 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 centres 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 working agents, while providing the same level of real time management and support available to the centralised contact centre 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 favouritism, as well as protecting the performance of the contact centre.

Contact centre 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 centre 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.

QUALITY, PERFORMANCE AND ANALYTICS

QUALITY ASSURANCE

The majority of UK contact centres have team leaders and line managers involved in scoring agent calls manually, with 80% of respondents from 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 programme. A significant minority of operations have the contact centre manager involved in evaluating calls as well, although especially in the case of larger contact centres, these may well have gone through an initial process of identifying calls relevant to the specific business or operational issue.

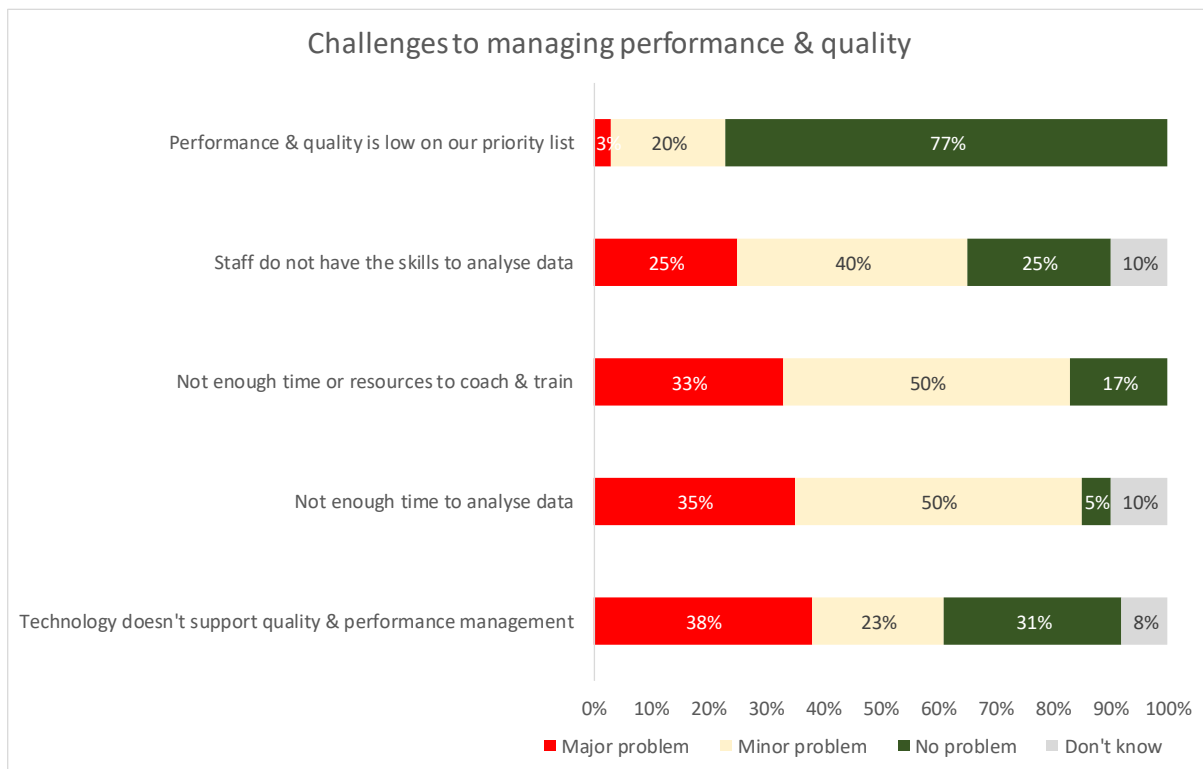
45% of respondents from large operations have a compliance team evaluating calls, and are much more likely to use a business process improvement team as well to learn from the QA output.

Figure 11: Who scores or evaluates calls from customers in your organisation? (by contact centre size)



The greatest challenge to managing performance and quality is reported to be caused by not having sufficient time to analyse and use data, with 85% of respondents stating that this was a problem in some form, and 35% stating that it is a major problem for them: this is particularly the case in medium and large operations. 25% of respondents also stated that it was a major problem for them that staff using the QA solution did not have the necessary skills to get the most out of the solution. This suggests a greater level of automated analysis and insight is required from quality and performance solutions, a hypothesis which may be seen to be further supported by noting that 38% of respondents strongly believe that their current performance and quality technology simply does not support what they would like to do.

Figure 12: Challenges to managing performance & quality



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 analyse patterns of agent behaviour 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 centre.

ANALYTICS

Currently, ContactBabel surveys have found that only 20% of speech analytics implementations are cloud-based, whereas 62% of call recording now takes place in the cloud. However there is a major expectation amongst current users of speech analytics that they will deploy in the cloud in the near future, which supports a remote working scenario.

Solution providers comment that cost reduction is often the initial driver for investigating customer contact analytics, particularly when looking at automating the QA process, as contact centres 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 centres to decrease headcount of these teams by as much as 75%, making very significant cost savings.

By monitoring and categorising 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 personalised 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. Analysing 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 optimising 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 where they are based – realise 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 are two additional applications of analytics that may be of most use in the remote working scenario: real-time analytics and discovery.

REAL-TIME ANALYTICS

For some businesses, real-time analytics is an important and growing part of the armoury 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.

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.

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

AGENT COMMUNICATION, MANAGEMENT AND MOTIVATION

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

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

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

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

- deliver key communications about the company
- can be used to address concerns or rumours: 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 centres who have only recently been forced into the remote homeworking scenario. Ideally, each meeting should have a fixed agenda which realistically reflects the amount of time each item should take and have a strong chairperson to enforce this, allowing time at the end of the meeting for socialising.

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

Some agents will require more support than others, and the same remote management techniques do not work for every agent type. For example, the “farmer / hunter” model of salespeople is well-known, and there are other behavioural models for other contact centre 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.⁸

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 centralised environment.

⁸ See <http://www.salesmatch.com/downloads/transferring-to-home-working.aspx> for more information on identifying, managing and motivating agent types

END-USER QUESTION #4: HOW ARE AGENTS MANAGED WHILE THEY ARE REMOTE WORKING?



All supervisor management features work seamlessly wherever the advisors are located. Agents can request assistance; supervisors can monitor calls in real-time or listen back on voice, email and chat recordings. Supervisors can join calls with the customer and send notifications to agents or groups of agents. Furthermore, dashboards, reporting and analytics allow service levels, agent statistics and contact centre performance to be monitored.

REMOTE WORKING SECURITY

Remote working may create some new issues for security, and it is desirable to be able to replicate the existing centralised 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 centre, where personal information, card numbers and other sensitive personal data flows.

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

Security commentators typically report human error as the main cause of data breaches. The Cyber Security Breaches Survey 2017, conducted by Ipsos Mori on behalf of the UK Government, revealed that 72% of reported breaches related to staff receiving fraudulent emails. Security systems and processes rely heavily on having informed, motivated and supportive personnel behind them i.e. creating a human firewall. Without a strategic 'push' to keep employees supported, engaged and aware, staff can turn from being the greatest asset to a serious vulnerability. Remote working increases this risk as agents can feel isolated from their usual way of working, and may not receive the ongoing reminders about following security processes that are required to keep everyone's guard up. Staff can fall prey to phishing attacks due to pressure and lack of training, and in times of crisis – where the 'new normal' is more than just a phrase – they may find themselves taken advantage of.

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

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

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

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

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

- agent hardware needs to have the same level of malware, antivirus and firewall protection as computers used within the contact centre environment, and these need to be automatically updated and security patched without the agent being able to disable or delay any updates. Where possible, agent hardware should not have any capability to move data onto removable hard drives
- agents should have clearly defined responsibilities regarding the physical security of all equipment in their homes, and understand the importance of keeping the workspace secure (e.g. not using sticky notes to write passwords on)
- Wireless network, VoIP and network encryption protocols used should be up to the current published standards, as these frequently change. Any supporting hardware or infrastructure should be upgraded or changed at the same time as the central contact centre's infrastructure. Ideally, the public Internet should not be used for the transmission of voice, with analogue landlines being preferable if encrypted VoIP systems are not available
- Agent user IDs and passwords should be changed frequently, with multi-factor authentication being used, in order to verify that the person typing the password is actually the authorised user (this may be an additional requirement to those normally needed within the contact centre, where other employees will be immediately aware of the presence of an unauthorised user)
- Regular on-site visits to the home environment are necessary to identify any other potential risks, where possible.

CARD FRAUD REDUCTION AND PCI COMPLIANCE

The November 2018 PCI SSC information supplement [“Protecting Telephone-Based Payment Card Data”](#) had a change of emphasis away from “recorded” account data, towards “spoken” account data. The paper emphasised that “accepting spoken account data over the telephone puts personnel, the technology used, and the infrastructure to which that technology is connected into scope of PCI DSS”, which also includes VoIP: “where VoIP is used for transmissions of payment card account data between a cardholder and an entity, the entity’s systems and networks used for those transmissions are in scope.”⁹

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.

It is important to note that PCI DSS does not recognise any difference between remote working and centralised contact centre 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.

Some businesses, especially those with a large contact centre, use an **automated IVR process** to take card details from the customer, descope the agent environment. Mid-call IVR (or agent-assisted IVR) is seen as a more customer-friendly approach than post-call IVR: 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.

Many businesses which use IVR for payment will use a cloud solution provider and this will take the card data out of the organisation altogether. If they do not, the card data will still be within the organisation’s network, so although this approach takes the agent out of scope, it does not in itself ensure PCI compliance.

⁹ See [FAQ 1153 How does PCI DSS apply to VoIP?](#) for more detail.

An increasing number of businesses are using **secure digital payment methods** to take card payments. The customer is sent a secure hyperlink via SMS, email, chat or social media which directs them to key in their card details on a secure web page, hosted in a PCI DSS Level 1 environment, potentially treating this as a 3D Secure ecommerce payment rather than a MOTO payment (which are likely to be treated as non-secure payments by card brands), attracting lower fees and protecting the merchant against fraud-related chargebacks. This also allows agents to stay on the call or chat session as the customer makes their payment, in case of requiring any assistance. While this method takes the voice channel out of scope, this may not work for customers who do not have access to a device that allows them to pay online, who are prevented from doing so by disability, or who see online payments as insecure and refuse to use this option, and alternative measures should be put in place to handle these payment exceptions.

22% of survey respondents use **DTMF suppression or masking** in order to assist with card fraud reduction. This describes the practice of capturing DTMF tones and altering (or removing) them in such a way that cardholder details cannot be identified either by the agent, the recording environment or any unauthorised person listening in. DTMF suppression/masking 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 neutralised (thus removing any – albeit theoretically small – danger of a handheld recorder being used).

Agents can access a dedicated payment dashboard from a web browser, which is hosted on a PCI DSS Level 1 secured payment platform. 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 or removed 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. The actual payment is sent directly to the payment provider, away from the contact centre, and no card data are stored or held in either the business infrastructure or the home environment.

The PCI SSC notes¹⁰ that “some implementations of DTMF masking rely on DTMF detection – this may introduce a delay in the masking, and the initial portion of the DTMF tones may not be masked (this is called “DTMF bleed”). It is important to ensure that all DTMF tones, including any initial small portions of ‘DTMF bleed’ that may be inadvertently allowed through a masking process, are not present in the environment. A properly designed and deployed DTMF masking solution can take not only the telephony environment, but also the agent environment and CRM system out of scope. Entities should avoid solutions that leave agent environments in scope unless there is an unavoidable business requirement to do so.”

¹⁰ PCI SSC Information Supplement • Protecting Telephone-Based Payment Card Data • November 2018 p33

THE ROLE OF THE CLOUD IN PCI COMPLIANCE

19% of UK 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 centre environment, whether infrastructure, agents or storage. As such, this can be seen to de-scope the entire contact centre 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 minimise changes to the contact centre systems, processes or agent activities.

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 / organisation 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.

CRISIS MANAGEMENT AND REMOTE WORKING

This section of the report looks at the effect of the coronavirus crisis on the UK contact centre industry, and suggests ways of alleviating this.

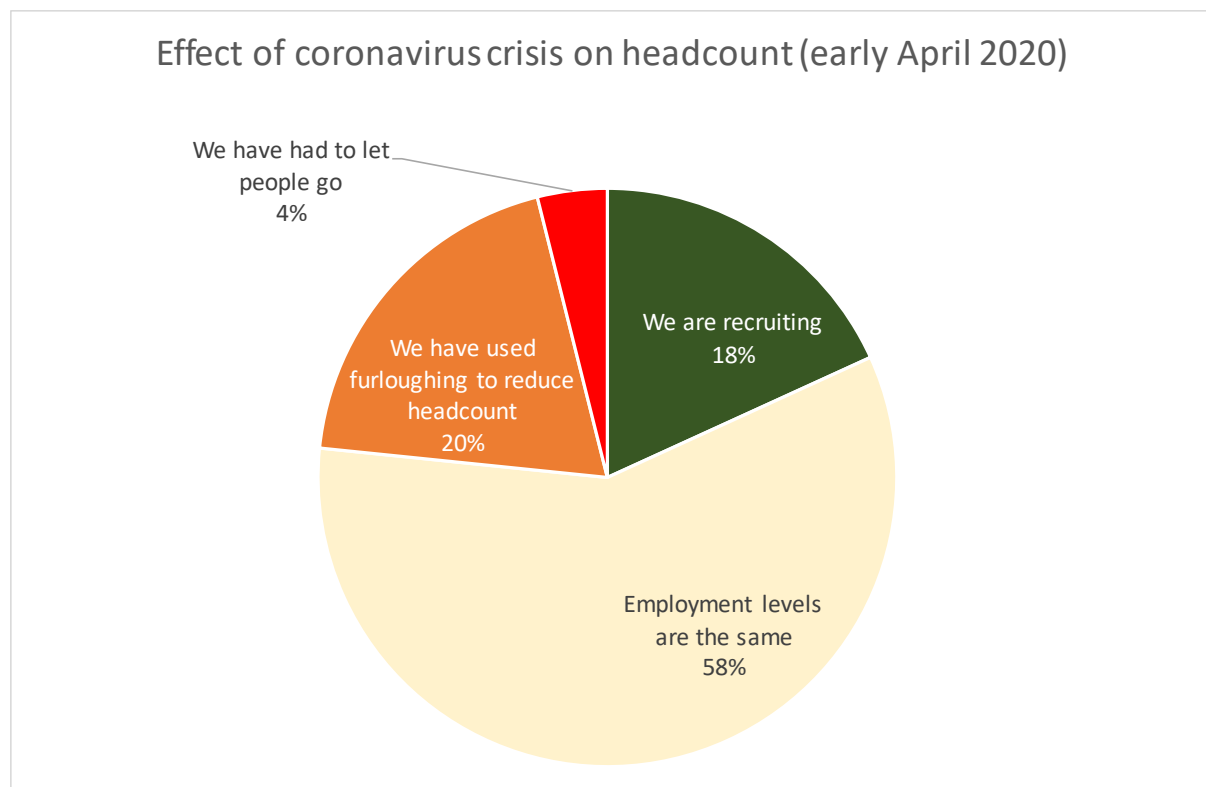
However, even after the crisis has passed, readers may find it useful to consider various methods of deflecting calls, reducing handle time, improving first-contact resolution and using automation to handle customer contacts effectively.

THE STATE OF THE INDUSTRY: APRIL 2020

In April 2020, [Channel Doctors](#) ran a short, rapid-response survey for UK contact centres to gauge some of the changes that were taking place in the industry due to coronavirus, including headcount, absence, remote working and customer contact levels. The following section provides the results of these questions: although the sample size is only 77 contact centres, the survey gives a flavour of what was happening in the industry at this time.

Survey respondents were slightly negative about the effect of coronavirus on their headcount: although 4% had made staff redundant, more than four times as many were planning to use the government's coronavirus job retention scheme, and had furloughed some or all of their staff. 18% of respondents were actively recruiting new staff.

Figure 13: The effect of the coronavirus crisis on headcount (early April 2020)



The Onward March to Flexible Working – How Contact Centres Can Benefit

As lives become increasingly hectic and organisations more understanding of the need for a better work/life balance, staff have been allowed greater flexibility in where and when they work. Recent TUC analysis indicates that there are 374,000 more employees working from home today than there were 10 years ago. And a 2018 YouGov survey, in conjunction with Teneo Blue Rubicon and McDonald's, conducted among over 1,800 UK workers, found just 6% of UK workers now work a traditional 9-5 day.

In the world of the contact centre, there are a range of benefits to be had from allowing people to work in a more agile manner. The latest digital technology has enabled contact centres to move away from the approach where operators had to come into the main office building every weekday and work a regular shift every time. Today the model is much more flexible.

We are also seeing a move away from the low-impact call centre operative to knowledge-based workers and domain experts, who can be brought in to provide help and advice as part of the virtual contact centre. In line with this focus on adaptability, the use of home workers has become increasingly popular – but what is fuelling this fundamental change?

Driving Agility

The benefits to the contact centres themselves are key. Contrary to the traditional view that home workers may be more prone to distraction, studies suggest flexible workers are more productive. A Connect Solutions study, for example, found that among those who worked remotely, both part-time and full-time, 77% said they were more productive when working remotely. There are other benefits, of course. Home and flexible working mean that businesses can save money by reducing property assets, for example. It also helps more broadly with staff recruitment, engagement and retention. The nature of the workforce is also changing, with the proportion of millennials growing. Millennials have grown

up with technology and want the freedom to work from anywhere. Employers need to consider this when recruiting. Added to this, allowing people to work from home increases the talent pool organisations can tap into. Businesses no longer have to limit themselves to people with the capability to get into the office every day.

Flexible working can also increase staff retention. A 2012 CIPD survey estimated that about 76% of over 2,500 managers surveyed cited retention as one of the more popular employer benefits of flexible working.

There are further operational benefits to contact centres also. With the help of the latest collaboration tools and cloud-based architectures, organisations will have greater flexibility to bring staff on stream to help service the virtual contact centre and then effectively 'switch them off again' during quieter periods. That can be key at busy times, during a crisis, or when the weather is bad. To give an example, one of our Housing Association customers had a traditional call centre where agents came to office every day. When snowstorms hit the UK, their agents couldn't get in. By enabling remote access, agents were able to log in from home keeping the contact centre up and running at a time of peak demand and with minimum disruption to their citizens.

But it's not just about the employer, it's also about the benefits it brings to the employees. Workers no longer have to pay for travel or parking which in turn reduces their carbon footprint. It also gives them more flexibility when it comes managing home life such as the school run and family commitments. And it brings new career opportunities for those with disabilities, or those unable to drive, who therefore might not be set up to come into an office.

In summary then, there are potentially far-reaching benefits to be had for businesses and their contact centre teams by bringing in home and flexible working in general – but doing this effectively also means implementing the right

technological infrastructure to support it.

As we have referenced, they can do this through cloud-based infrastructure and the latest collaboration tools that effectively extend the office environment into the home. Technologies like video conferencing and instant messaging have simplified the process of working from home still further, bringing additional benefits for both employee and employer.

Also, the flexibility that the cloud delivers, makes it ideally-suited to supporting homeworkers, allowing businesses to benefit from a pool of agents dispersed across a geographic territory that can 'ramp up' quickly at busy times.

Gauging the Challenge

Working from home, however, also relies on the commitment of the business concerned to kit people out with the right technology – and beyond that the kind of home environment that the call centre staff have available to work in.

If you are a young call centre worker on a low income in an urban area, for example, homeworking is likely to be a less positive option. In a cramped inner city environment with high levels of rented accommodation, the prospect of working from home may be far less attractive than where workers are drawn from a prosperous rural region where home ownership is high – although even here there may be concerns related to poor broadband access.

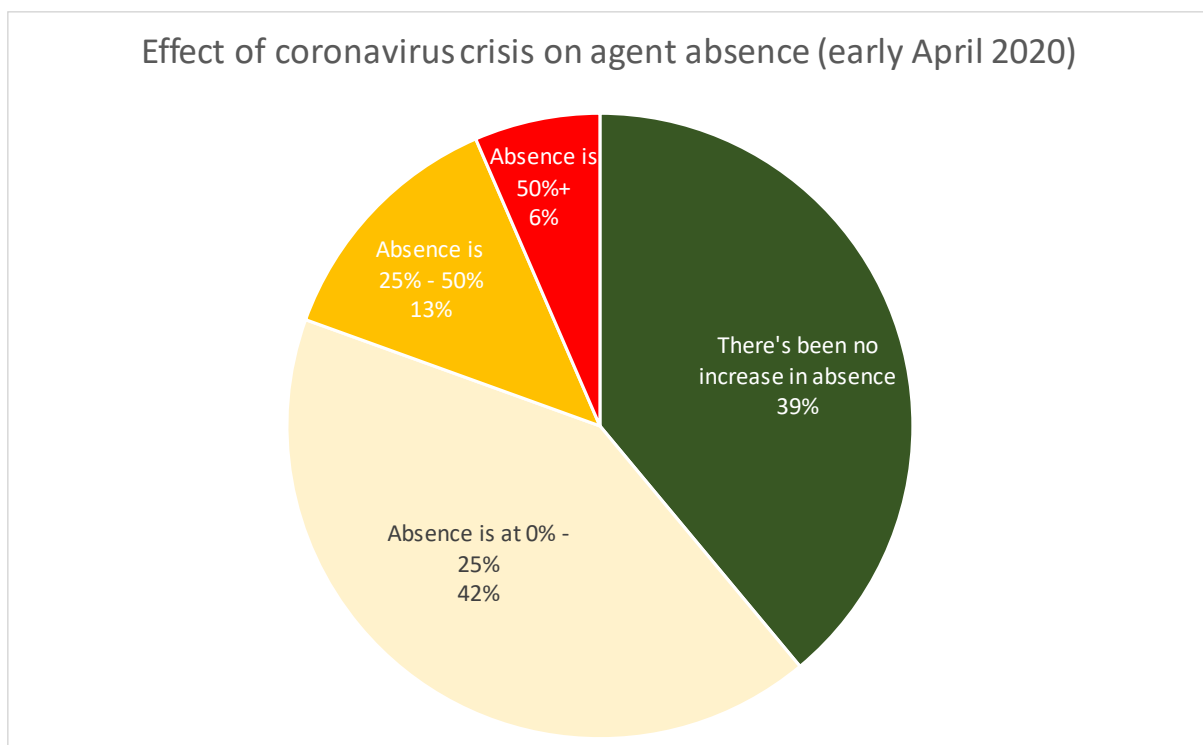
Today then, there are still some issues around agents working from home which limit the ability of businesses to benefit from the agility that flexible working provides but the direction of travel is clearly to more flexible working. Given the raft of benefits on offer, we see no reason for that trend to change. Moving forwards, we are likely to see more contact centres tapping into the agility that this approach provides. Flexible working is here to stay.

While the phrasing of this absence question isn't perfect – for example, a company with a steady 5% absence rate could choose one of two answers in this case – it is possible to infer that 61% of survey respondents had seen some change in the agent absence rates as an effect of coronavirus (as 61% of respondents did not choose “no increase in absence” as their answer).

Almost one in five respondents were experiencing absence rates of over 25%, against 2019's mean industry average of 6%.

Although it is not possible to give exact figures for absence rates (as respondents chose from a range rather than providing a raw figure), the new absence rate using these ranges is very likely to be between 8% and 25%, with 16% being the calculated midpoint, a rise of over 260%.

Figure 14: The effect of the coronavirus crisis on agent absence (early April 2020)

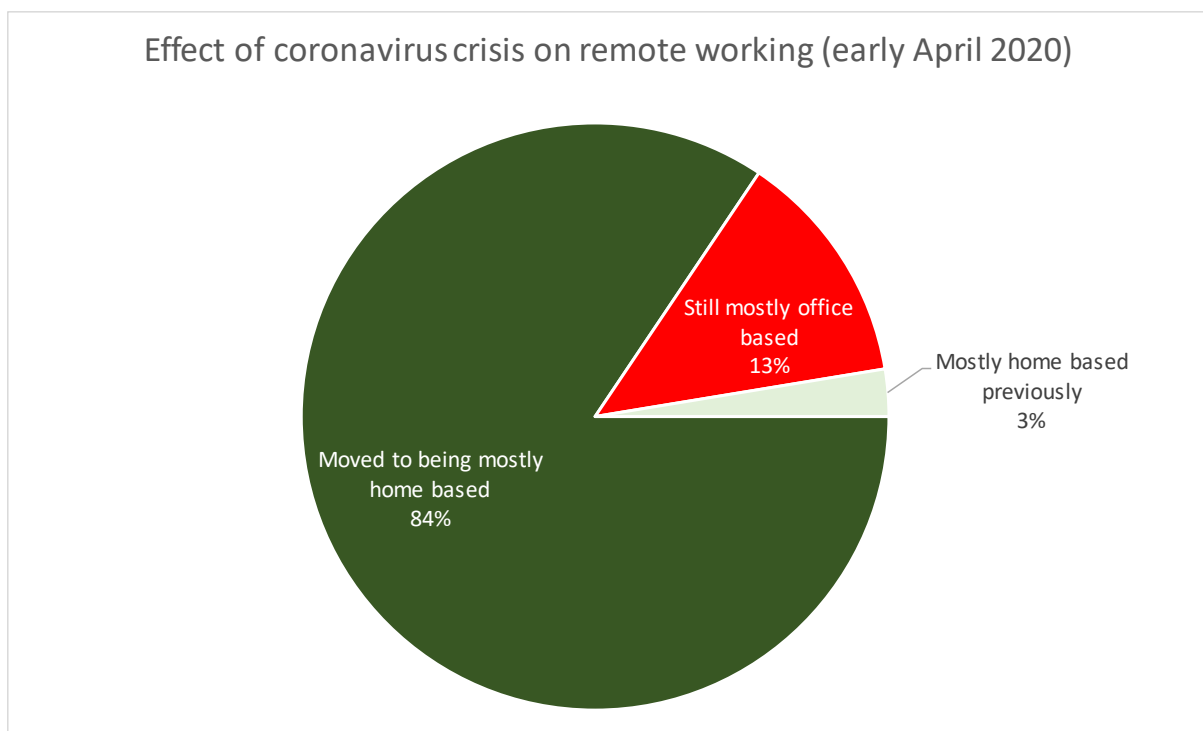


Perhaps the greatest effect of coronavirus on the contact centre industry is the enormous shift to home-based agents.

84% of survey respondents reported that they had moved from a centralised office environment to being mainly home-based, with 13% still mainly based within a contact centre, and 3% of respondents previously having a remote agent environment.

A 2019 ContactBabel survey of over 200 UK contact centres found that while 26% of operations had some homeworking capability, only 3.8% of UK agents were actually based at home. Clearly, there has been an extreme and dramatic move to a widespread remote working environment within the space of a few weeks.

Figure 15: The effect of the coronavirus crisis on remote working (early April 2020)



The final chart in the short survey is perhaps the most interesting. From a typical consumer's perspective, the difficulty in getting through to a contact centre in the time of the coronavirus crisis seems to prove that call volumes have increased hugely across the board. Digital channels also set very low customer expectations, with the typical quoted email response rate being measured in many days.

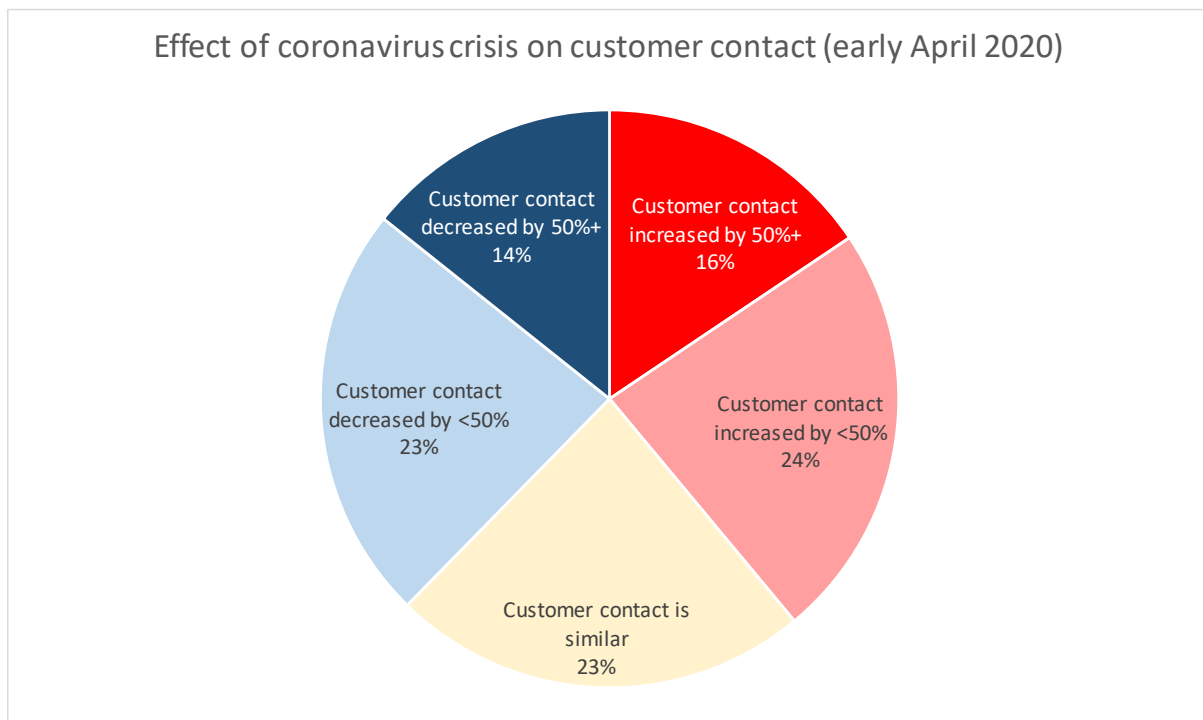
In fact, these data suggest something of a different picture: whereas businesses such as banks, supermarkets, travel and telecoms may well be experiencing increased call volumes, other sectors – for example, the claims department of car insurers, luxury goods retailers and public transportation providers – are likely to have far lower than normal contact volumes.

Additionally, there may well be other factors impacting upon poor customer contact outcomes, such as

- increased call lengths (due to very different types of query)
- longer after call wrap-up (due to lack of agent familiarity with remote systems)
- depleted resource (due to staff absence)
- shorter working hours.

Judging by the chart below, it seems fair to say that for every survey respondent whose customer contacts have increased, there are almost as many that have seen a corresponding decrease.

Figure 16: The effect of the coronavirus crisis on customer contact levels (early April 2020)



For whatever reasons, the contact centre industry is struggling to cope with the 'new normal'. The next section looks at various ways in which these problems could be addressed.

MANAGING CUSTOMER BEHAVIOUR, PREFERENCE AND EMOTION

The following section looks at the results of a large-scale consumer survey to determine the channel of preference for consumers depending on whether the interaction was emotional, urgent or complex. In the coronavirus crisis, many of the calls made by consumers are substantially different type than usual (increasing complexity), mainly be made by people whose level of stress is higher than usual (increasing emotion), and may feel more urgent as a result.

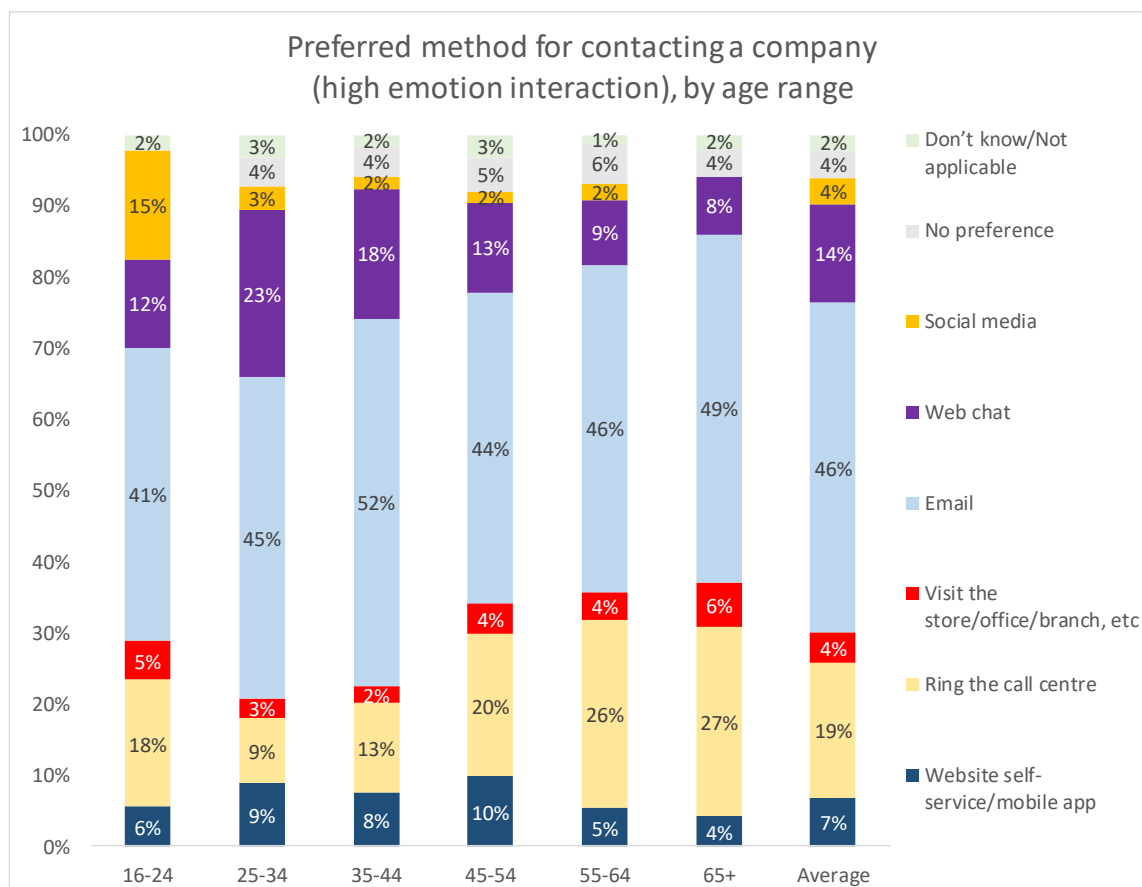
HIGH EMOTION INTERACTIONS

Consumers taking the survey were asked to imagine that a product which they really wanted to receive had been delivered but was incorrect. The most popular option was to email the organisation (46%), with the second most popular (19%), was phoning the contact centre. Web chat also made a strong appearance, with around 1 in 7 respondents choosing this as their preference.

There was a strong pattern based on the age of the survey respondent and their preferred channel: the older demographics were far more likely to pick up the phone, although email was popular with all age groups. Web chat was a popular option with the 25-44 age demographic, and 15% of the youngest age group would choose social media.

It is noticeable that self-service was chosen as a preference by very few customers for high emotion interactions, perhaps as while self-service – like email – would avoid confrontation, in many of its current forms it may not provide the reassuring personalised response that a human agent can give.

Figure 17: Preferred method for contacting a company (high emotion interaction), by age range

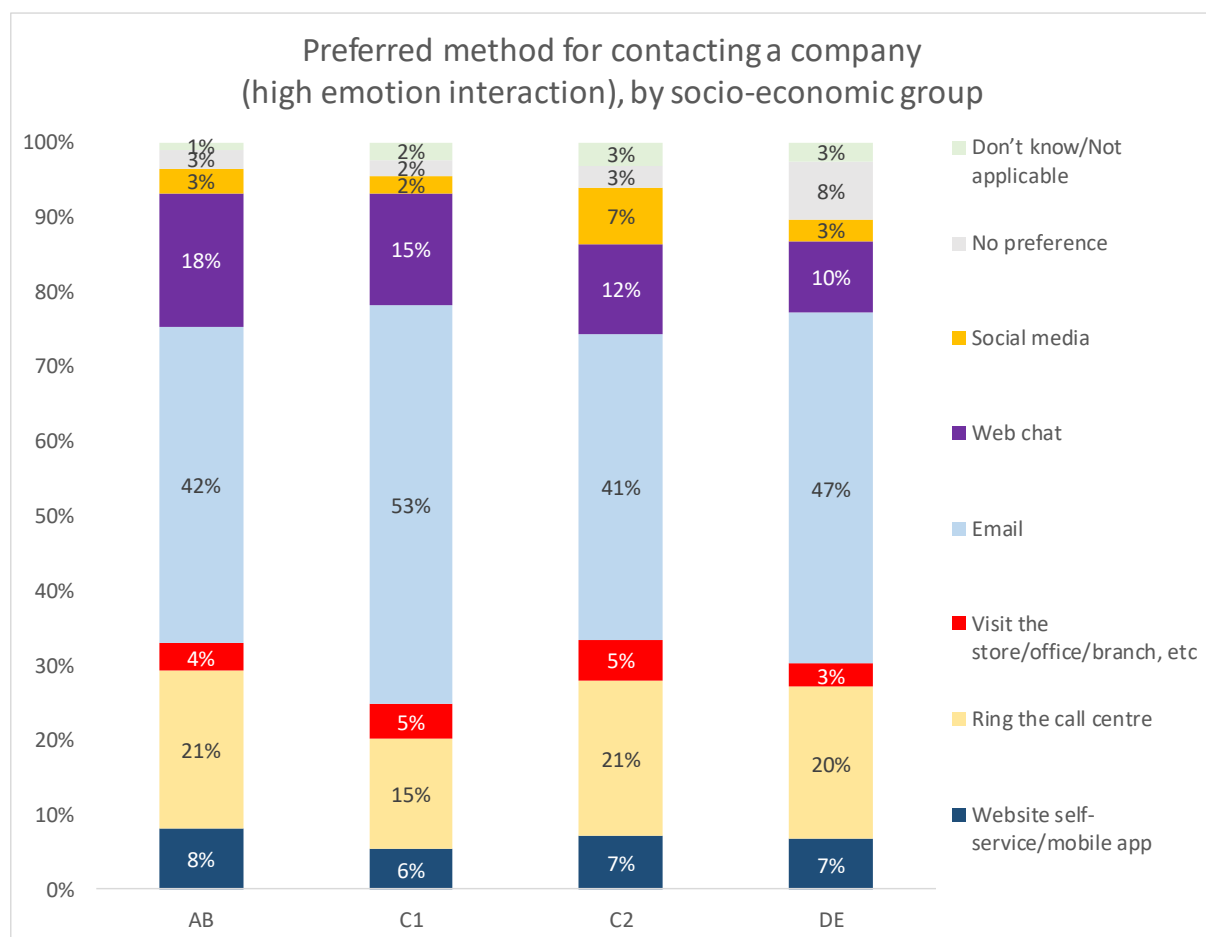


When considering the preferred method for contacting a company with a high emotion interaction, ABs were the group most likely to use web chat, although email was by far the most popular choice for all groups.

Unlike the US, there was no correlation between higher socio-economic groups and the increased use of web self-service.

Over time (and especially in times of crisis, where an immediate live response is hard to find), we would expect to see the use of self-service increasing for high emotion interactions, assuming that more customers have a positive outcome when they use self-service for this purpose. For example, Amazon customers have been ‘trained’ to use self-service for returning an incorrect product, rather than searching for a phone number or email address, as their customers have learned that there is a generally effective process in place for handling exactly these sorts of query.

Figure 18: Preferred method for contacting a company (high emotion interaction), by socio-economic group



HIGH URGENCY INTERACTIONS

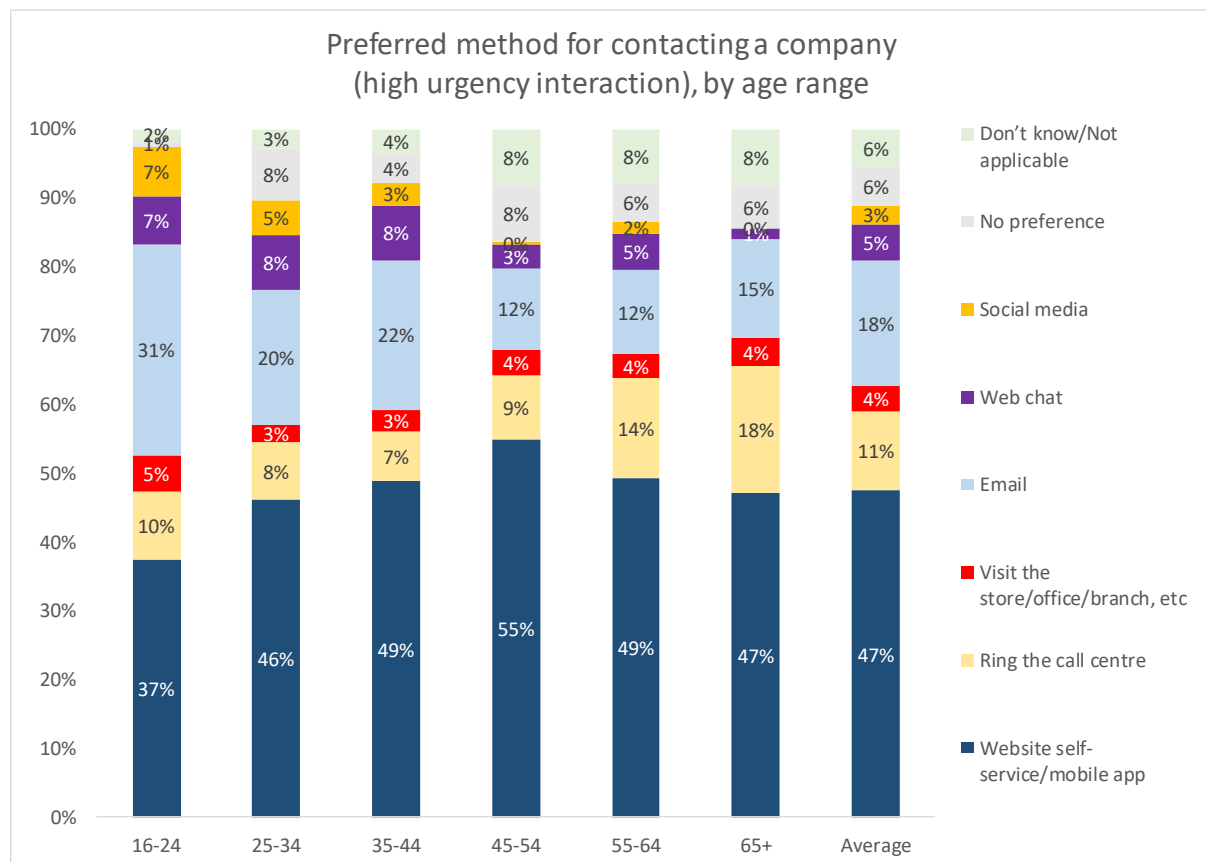
Survey respondents were asked which would be their preferred channel of choice in a situation where they were meeting somebody from a plane and needed to confirm the time at which to be at the airport (i.e. an urgent, time-sensitive interaction).

By far the most popular channel was that of web self-service/mobile app, with all age groups choosing this as their no.1 option. Here, the interaction is time-sensitive but also simple, only being a matter of checking the information that a contact centre agent would have in front of them on a screen if they were to call.

Amongst older demographics, calling the contact centre was seen as a preferred option by a considerable minority, with email and web chat generally being restricted to younger demographics.

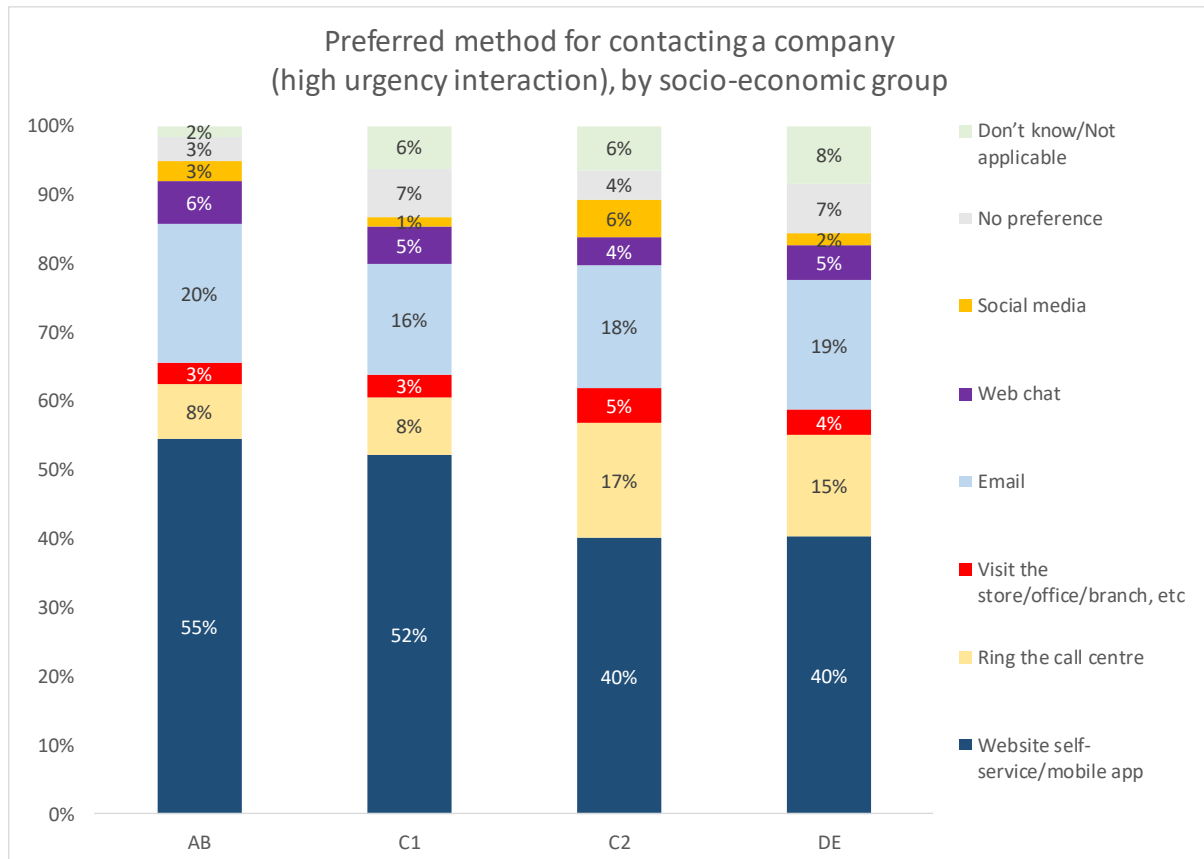
Despite the immediacy offered by web chat and social media channels, few respondents stated that these would be their preferred method of interaction even in high urgency cases.

Figure 19: Preferred method for contacting a company (high urgency interaction), by age range



When considering socio-economic groups, web self-service was by far the most popular option for AB respondents, with the contact centre having some support with DE respondents.

Figure 20: Preferred method for contacting a company (high urgency interaction), by socio-economic group



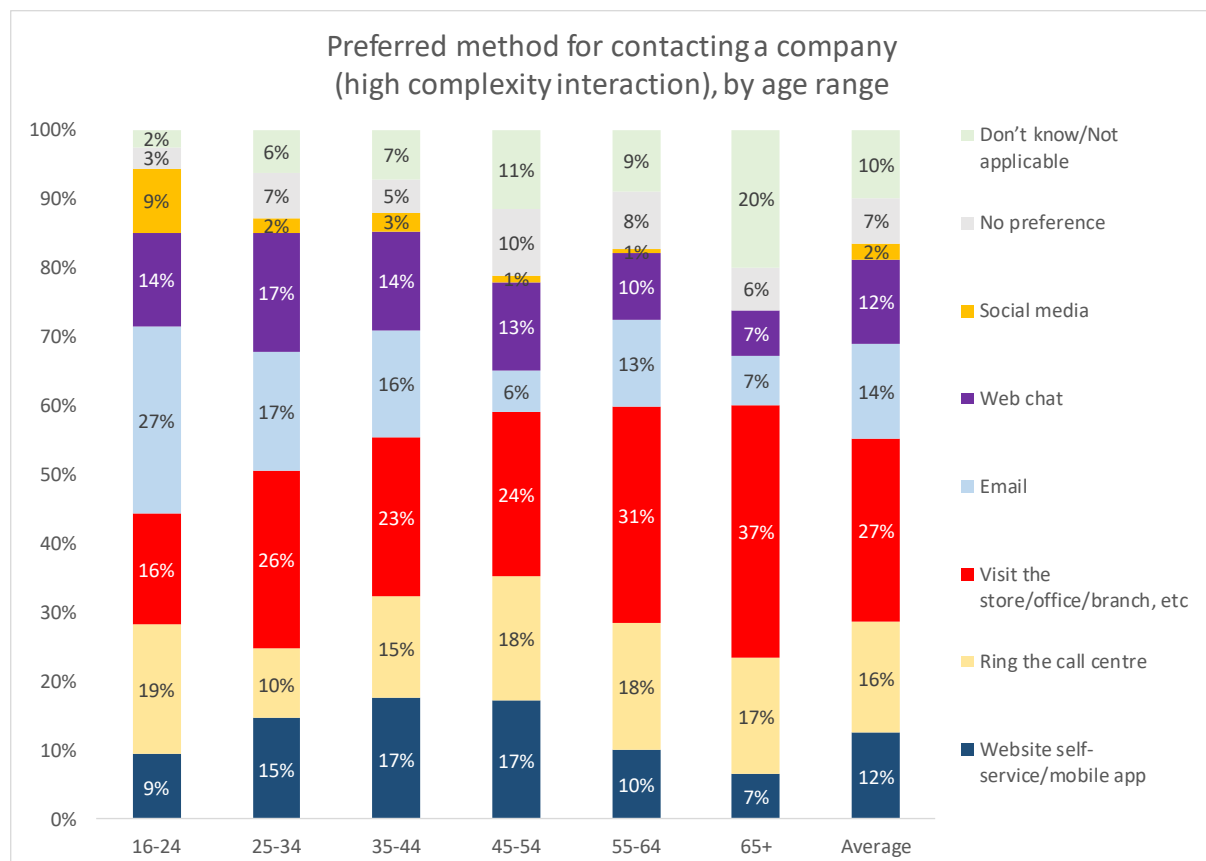
HIGH COMPLEXITY INTERACTIONS

For highly complex interactions, such as getting expert guidance with a tax form or mortgage application, the most popular contact choice was a physical visit to an office or branch, which was much more popular with the older demographic. Clearly, with social distancing and lockdown in place, this is not an option for customers in the coronavirus crisis, so other live, synchronous channels such as phone and web chat are likely to be sought after instead.

While web self-service was a much less popular option for complex interactions than it had been for urgent enquiries, it has similar figures to calling the contact centre. This is likely to be because customers have been trained for many years to form-fill online themselves and many are willing to at least try to use self-service. In such cases, clear escalation into assisted service such as web chat is key to a positive customer experience, but with high demand for live service, customers will realise that this is not always achievable in the timescale that they would require.

Web chat was also seen as an appropriate primary channel for complex interactions by a significant minority of the under-55s, whereas email is generally much less popular than it had been for high emotion interactions, possibly due to the probable requirement for back-and-forth communication, although this was rated the highest by the youngest age group (who perhaps yet haven't had to do this type of interaction).

Figure 21: Preferred method for contacting a company (high complexity interaction), by age range

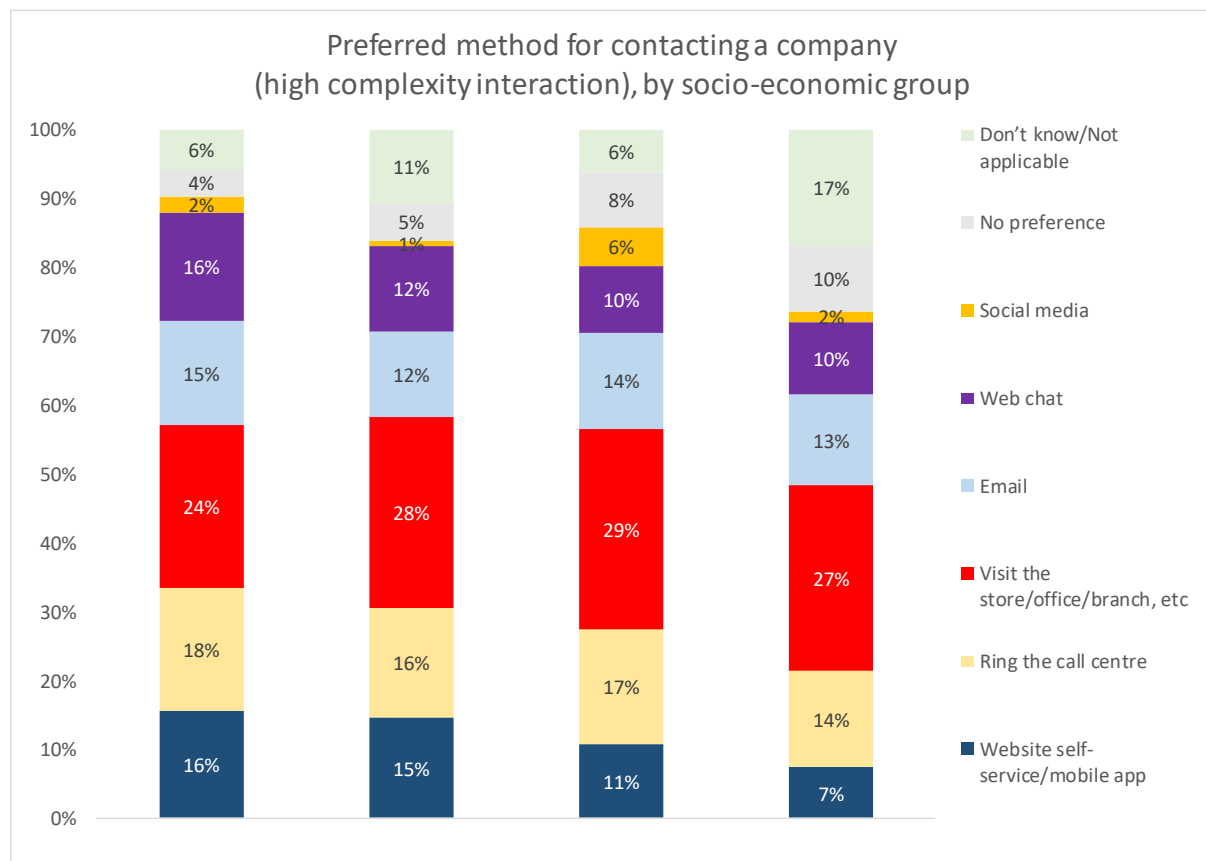


Generally speaking, communication preferences by socio-economic group were much more similar than is the case for highly urgent or emotional types of interaction, with similar proportions at each income level preferring a physical visit to an office/branch or call the contact centre.

ABC1 respondents are somewhat more likely to attempt to solve the problem through digital channels such as web self-service and web chat.

It should be noted that 17% of the DE respondents did not know how they would prefer to contact a company in this particular case.

Figure 22: Preferred method for contacting a company (high complexity interaction), by socio-economic group



The main current takeaways from these statistics are that:

- web self-service is likely to be more than acceptable for any urgent matter, and that it may also be effective for complex matters if no live channel is available
- email is seen as being suitable for most types of high-emotion interaction, particularly where there is no need for back-and-forth response
- web chat could be used for emotional or complex interactions (12-14% would choose this as the primary channel, despite web chat volumes only being around 4-5% in total).

The demand for synchronous (live) interactions in times of crisis is very high, but the supply and availability is decreasing. Businesses must immediately look to improving self-service and deploying automation (e.g. chatbots and automated personalised email) in order to protect phone service levels and deliver an acceptable customer experience.

In this time of high emotion and stress, it is worth considering predictive behavioural routing, which uses insights gathered from historical calls and the analysis of customer communication types in order to choose the agent whose skills and characteristics are most likely to achieve a positive response from the next caller in the queue.

Predictive behavioural routing uses millions of algorithms to decode the language used by agents and customers, in order to understand sentiment, personality type, preferred method of communication, emotional intelligence and transactional attributes (such as ability to overcome objections and willingness to sell).

Each customer can be allocated a specific personality style, and when calling again, are routed through to an agent whose performance when interacting with this specific personality type has generally positive results. The matching of agent-customer communication styles has enjoyed significantly higher sales closure rates and better customer satisfaction scores than the average. Agents who are skilled at handling many types of callers' personality styles can be saved for callers whose character type is unknown, perhaps as this is the first time that they have called.

MANAGING HIGH CONTACT VOLUMES

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.

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 centres 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 faced by high absence rates 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 centre means a drop in costs, and also an easing of pressure on phone service levels. However, although the following table shows that there is some cost differential between email, phone, social media and web chat, it is by no means dramatic: for most companies, a policy of moving live calls to manually handled digital channels will not positively impact cost or service level provision.

One of the main reasons for this is that there is still a relatively low level of digital channel automation being used in many businesses. For emails, it is also the case that if the query is not answered satisfactorily within a single response, the time and cost associated with multiple replies and possibly phone calls is soon greater than if the customer had simply called in the first instance.

Figure 23: Cost per inbound interaction (phone, social media, email & web chat)

Channel	Mean	1st quartile	Median	3rd quartile
Phone	£4.53	£6.20	£3.45	£2.28
Email	£3.89	£3.29	£2.78	£1.45
Web chat	£3.39	£5.15	£2.00	£0.90
Social media	£3.18	£4.60	£2.86	£1.34

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, which is particularly resonant in times of crisis. A later section of this report looks at AI, chatbots, self-service and automated digital channels and provides more information about the options to reduce live contact, regardless of channel.

QUEUE MANAGEMENT SOLUTIONS

A ContactBabel survey of 1,000 consumers established that customers have such a dislike of contact centre queuing that they cannot objectively estimate how long they queue for, believing the average amount of time that they waited to be answered was 27 times longer than the reality.

Furthermore, some customers are so irritated by this that they will actually change supplier, although the reasons for doing so – excessive queuing – may not even exist in reality. The following section explores this in more depth, in order to understand which solutions and practices could be implemented to avoid the potential financial loss.

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

Figure 24: Reasons given for dislike of contact centre queuing

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

Apart from the fact that customers have a lot of strongly felt reasons for disliking phone queues, the key finding from this table is that 61% of the public hate not knowing how much longer they will be waiting. This is less of a problem when waiting in a shop to speak to an assistant, as although they cannot give you an exact statement of when someone can help, the queuing system allows a customer to see how many people are ahead of them, to estimate their own wait time, and exercise some level of control over the situation. This makes queuing psychologically easier for the customer, even if the actual waiting time is significantly longer than it would be in a contact centre queue. In the coronavirus crisis, it is noticeable that some contact centres have added a warning to their IVR announcement and website that the average queue time is very much higher than normal. In many cases this is a static message, in that it is not calculated from the actual queue times, but this still psychologically prepares the customer and gives them a measure of control.

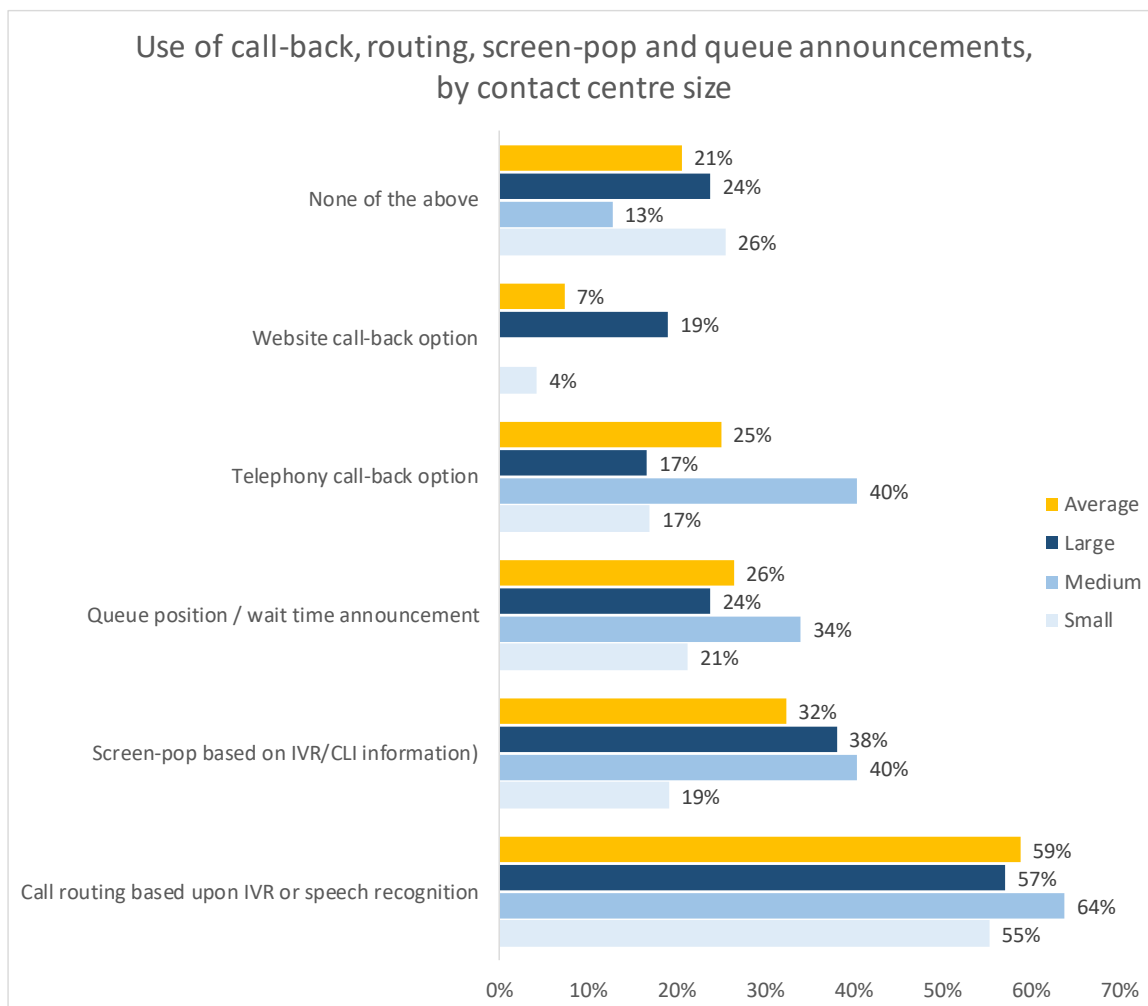
Customers also resent not being able to do anything while they wait, and the actual process of waiting on hold, with repetitive announcements and music that they have not chosen just makes things worse. There is also a feeling that information given in the IVR session for identification should be sufficient, without needing to restate it to an agent. Queue position announcements, call-back and screen-popping or routing based on IVR will go some way to making the customer feel back in control of the situation, leading to less frustration and potential revenue loss.

UK contact centres were asked which queue management solutions they were using.

The use of a website callback button (which initiates an outbound call at a time specified by the recipient) is weighted towards operations that carry out significant sales, but is present only in the case of 7% of 2019's survey respondents, although larger operations are far more likely to offer this option. We would expect to see this grow further for sales operations, and potentially play a part in providing customer support especially via smartphone channels.

25% of respondents offer a telephony queue call-back option, and 26% announce the position of the call in the queue. Rather more respondents use call routing based on IVR or CLI (59%) and screen-popping functionality (32%), putting information about the caller and possibly their requirements on the agent desktop, and making sure the call is delivered to the right agent.

Figure 25: Use of call-back, routing, screen-pop and queue announcements, by contact centre size



Enabling callers to opt out of waiting in a queue and receive a call back from an agent can have a very positive effect on service levels:

- Significant reduction in call abandonment rates (up to 50% has been quoted)
- Improved customer experience
- Reduce telecoms by eliminating hold time, which is particularly relevant for PSTN freephone / toll-free environments
- Shorter call durations may be experienced, as customer complaints about queuing time are not present. Additionally, there is some anecdotal evidence to suggest that customers who have waited a long time may 'want to get their money's worth', and are more likely to have multiple queries as a result, as they cannot face calling in again.

However, while call-back is usually an effective way of managing inbound service levels, it doesn't work as well if the call volumes are consistently high rather than spiky. Taking inbound agents out of a busy queue in order to make outbound calls will exacerbate the situation and increase the inbound queue lengths.

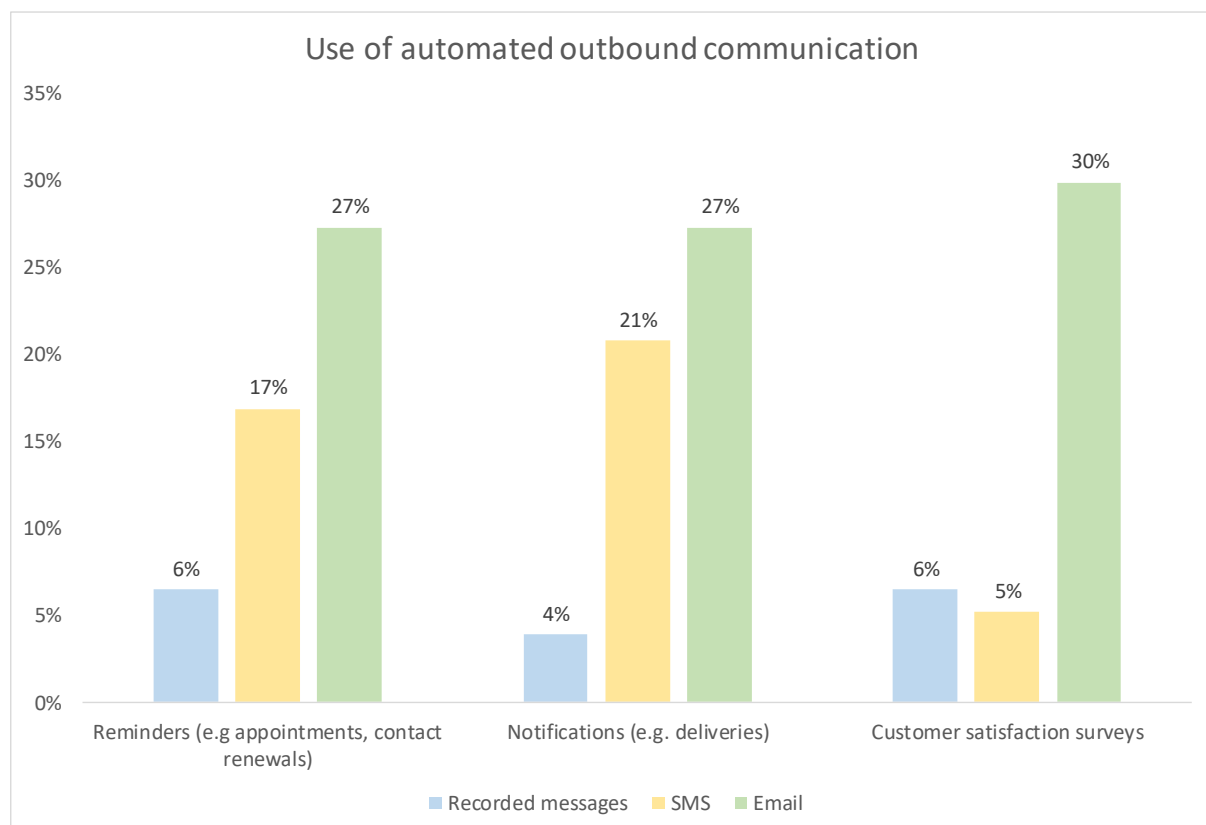
PROACTIVE OUTBOUND

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 seek clarification or a status update through making an inbound interaction, especially in crises. By sending a pre-emptive outbound message, the business is proactively assisting the customer to manage their interaction.

Automated SMS messages are used by around 20% of respondents this year, mainly for notifications and reminders. Email is used also for notifications, reminders and outbound customer satisfaction surveys. A small minority of respondents use recorded messages (which will usually include an IVR session to capture customer input) for these purposes as well, and this can work well in a crisis. However, businesses must be sure that any information shared is simple, clear and tells customers where to find more information, otherwise they risk starting an avalanche of inbound calls seeking clarification.

The use of analytics and AI to analyse the root causes for inbound calls gives the contact centre 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 centre, encouraging the departments to work together to improve messaging and delivery.

Figure 26: Use of automated outbound communication



REDUCING AVERAGE HANDLE TIME

Pressuring agents to reduce the time spent on the call can have a counter-productive effect, as this can increase agent stress and cause them to perform worse, which can also increase the number of call-backs. It is also bad for agent morale, and realistically, longer talk times are more often due to the customer's prolixity or having to navigate through multiple screens than anything that is actually in the control of agents.

Various solutions exist that can reduce unnecessary time spent at the beginning and the end of the call, without reducing the quality of the customer experience: specifically, automated customer identity verification, and the reduction of post-call work.

CUSTOMER IDENTITY VERIFICATION

There is an enormous hidden expense in the contact centre 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 67% of UK inbound calls are stated to require caller identity verification.

93% of respondents who authenticate identity do so through human means, taking an average of 37 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 centre'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 only as such, rather than being definitive.

67% of all calls require a security and identification process to be completed first. This year, 93% of calls were reported to be authenticated by agents. On average, it takes 37 seconds to go through security. Using these statistics, it is possible to estimate how much UK contact centres spend each year on screening customers by using agents.

- Inbound calls per year (handled by agents): 7.06bn
- Proportion of inbound calls that require security and identification checks: 67%
- Average length of agent-handled security and identification check: 37 seconds
- Average call duration: 5m 29s (329 seconds), therefore 11.2% of the call is ID&V
- Mean average cost per inbound call: £4.27
- Cost of time spent on agent-handled security and identification check: 47.8p per call
- Proportion of calls requiring ID&V: 67%, of which 93% require an agent
- **Therefore, the overall cost of agent-handled security and identification checking is £2.1bn 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.

VOICE BIOMETRICS

Biometric technology uses physiological or behavioural characteristics to verify a person's claimed identity. Physiological biometrics includes fingerprints, iris, or retina recognition, and voice verification. Behavioural 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 centres. 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 analysing spoken words to calculate vocal measurements of a caller's speech, which is influenced by physical and behavioural 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 utilising voice biometrics to authenticate customers within the course of the conversation.

With this technology, contact centres 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 customer's experience of voice biometrics should be positive: since speaking is natural and intuitive, a well-planned implementation can result in a better customer experience that eliminates the need for PINs or passwords.

Methods of gathering and using customer voiceprints include:

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

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

An alternate method is to blend biometrics with something that the customer has, such as a list of random numbers which the customer has to repeat, in order to eliminate the possibility that someone has recorded them speaking their password. This can be done entirely through self-service: the biometric enrolment has already happened, and call be used initially to verify the caller, and automated speech recognition can then identify and verify the number sequence that the customer reads out from their phone.

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

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

Biometrics can go beyond voice, with some solutions able to identify how a customer typically types, uses a mouse or the type of language that they use, flagging up suspicious activity if this deviates from the norm. Keyword spotting is also employed: the identification of words associated with a significant level of fraudulent activity, for example “I want to move money from my personal account to my credit card”, or “my address has just changed and I’d like a new credit card sent there”.

Contact centres wishing to deter fraud may consider combining voice biometrics with phoneprinting or call signalling 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.

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. Reducing wrap-up time through optimising the agent desktop is not simply a matter of writing consistently to the correct databases, although this is a key element. The contact centre also kicks off a number of processes elsewhere in the enterprise: it is the prime mover for sending out documents, instructing the warehouse to release goods, arranging deliveries, taking payment and many other key elements to a successful customer-business transaction. Robotic Process Automation (RPA) is set up to handle these processes in a consistent, accurate and rapid manner.

Robotic Process Automation (RPA) and the Unified Agent Desktop

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

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. 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 centre 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 centres 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.

With 87% of UK contact centres 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.

The following table shows some key contact centre performance metrics that were analysed in the context of the number of in-call applications that agents use. It is important to note that although there appears to be a correlation between superior performance metrics and the use of a single user screen, this does not necessarily demonstrate causality: this pattern of statistics do not mean that it is possible to say definitely that the use of fewer applications within a call will in itself improve contact centre performance.

However, it can be supposed that not having to navigate through multiple screens and being given access to dynamic scripting that provides the correct information without having to search for it will encourage shorter calls, improved agent availability, and lower call abandonment rates.

Figure 27: Selected performance metrics, by number of in-call or post-call applications used

Metric	Respondents spending 0% of call navigating between screens	Industry average
Average speed to answer	16 seconds	41 seconds
Call abandonment rate	4.6%	5.7%
Service call duration	199 seconds	312 seconds

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

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

Additionally, manual inputs involved in transferring data during wrap-up commonly lead to data entry and processing errors, causing an adverse effect on operational efficiency, contact centre 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 centre 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.

IMPROVING FIRST-CONTACT RESOLUTION

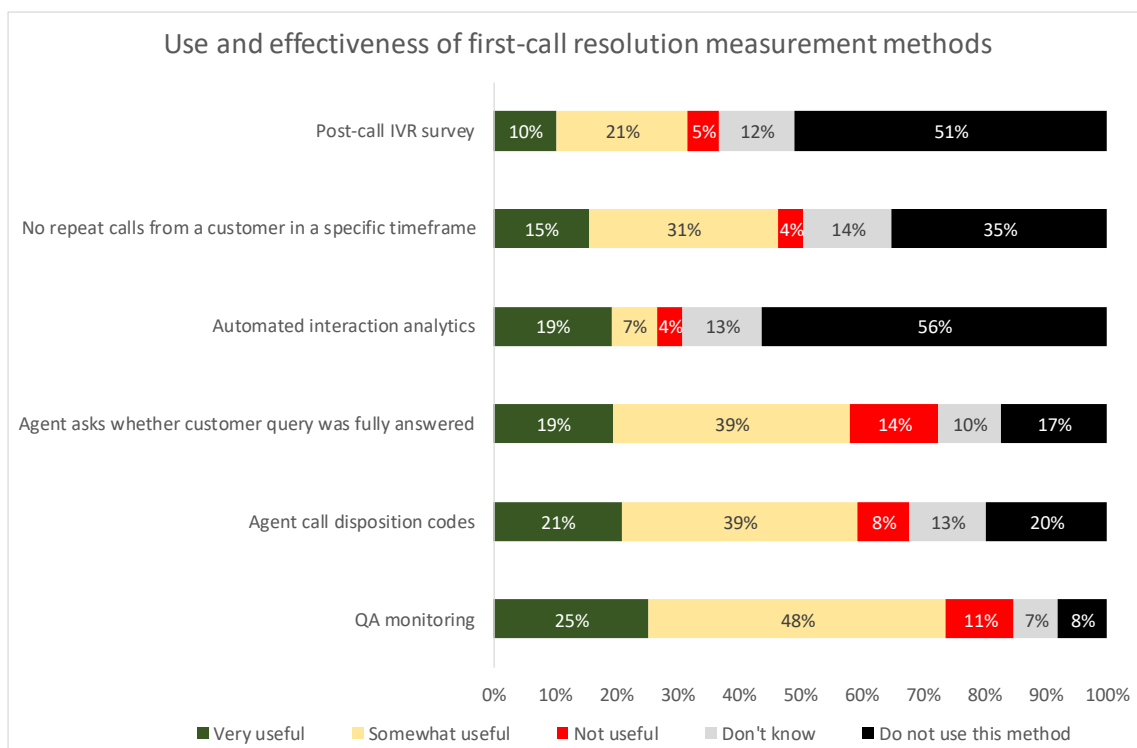
The first-contact resolution rate (FCR) is an important metric to study, being concerned both with the customers' experience as well as avoiding unnecessary calls. It has been shown in numerous ContactBabel surveys to be the single most important factor determining positive customer experience.

The accurate tracking and actionable insight of FCR is one of the biggest challenges to the contact centre industry: it is key to customer satisfaction and cost management. However, it is very difficult to measure effectively, with no single best practice method of getting definitive statistics that are directly comparable to the rest of the industry. This difficulty is shown by the fact that seven or eight years ago, perhaps half of contact centres responding to this survey did not collect FCR performance at all (2019's non-responding figure is only 10%, which is an ongoing improvement).

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

- Agents provide opinions on whether the call was resolved completely, including tagging the interactions with a disposition code at the end of the call (used by 67% of respondents)
- Tracking of issues shows if they are re-opened (51%)
- Supervisors monitor calls and score based on their opinion (85%)
- Customers can be asked their views by the agent (73%) or through an IVR survey (37%)
- Analytics of interaction recordings can be used to see whether the call was actually resolved or more interactions were needed (30%).

Figure 28: Use and effectiveness of first-call resolution measurement methods



QA monitoring, the most widely used form of gathering first-call resolution information, is seen as reasonably effective, but automated analysis of call recordings is considered the most effective by those respondents that use this method of calculating first contact resolution. Other methods have their supporters and detractors, with tracking repeat calls being quite well thought of.

There are numerous methods for increasing FCR, many of them process-based rather than connected with technology:

- Through asking agents, monitoring social media and public platforms, and through the use of analytics, identify the reasons for repeat call-backs, then address these. Use proactive outbound or provide information in IVR announcements and your website to address these
- Empower, support and encourage agents to own the problem, rather than focusing on call duration metrics which could dissuade them from really trying to solve a customer's issue
- By using some of the multiple FCR measurement techniques listed above, try to capture accurate FCR metrics regularly to see if any changes are working
- Work with other departments to remove 'failure demand' caused by sub-optimal processes elsewhere which then cause a call-back problem for the contact centre
- Train agents on areas which seem to attract more call-backs, and share best practice more widely
- Use self-service, and also AI-assisted agent service to help solve issues in real-time within the call, and propagate successful answers so that the AI becomes stronger.

AI-assisted agent support is one of the most effective methods of improving FCR in the short-term, and its knowledge base can be used alongside AI-enabled chatbots to deflect live calls. These methods are considered in depth in the next sections.

THE ROLE OF DIGITAL CHANNELS, SELF-SERVICE AND AI

ASSISTED SERVICE

The use of AI to assist agents in real time within a call offers the chance of a real paradigm change: by the nature of the job, an agent-customer interaction has always necessarily been between two people, and the level of support that an agent can actually receive within a call is very limited. 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.

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 centralised 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

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 organisations, 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 centre 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.

It is not just the publishing of information that is vital: crowd-sourcing of answers, and feedback on accuracy and success from the wider "super-user" community will help the business to fine-tune the knowledge base and train the AI. Processes to gather this feedback should be put in place, and continually revisited to check effectiveness, and it's possible to add successful answers to the knowledge base very quickly if a response from an agent (for example, via email or web chat) has been marked to be successful, and AI is an effective method of doing this regularly and consistently. Those who contribute timely and useful information - whether a customer or an employee - can be rewarded and recognised accordingly. People **want** to share their knowledge with others, and enabling them to do so easily is beneficial for all parties concerned. Businesses could measure the

success of the knowledge management system by measuring the return on investment from call avoidance, by the rating or score given by readers of recommended articles, or through targeted customer satisfaction ratings.

The process of assembling the data and knowledge can be done through data labelling, which requires a tag to be put against each knowledge source (e.g. text, pictures, videos), showing what it is about, for example “a video clip showing how to change an oil filter on a specific car model”.

As this can require a great deal of resource, another method may be to crowdsource the collation and tagging of data from a number of sources: the agent as they go about their everyday business; a field technician solving the customer’s issue; or super-customers who are happy to answer queries from other customers on a web forum. A subset of machine learning, ‘deep learning’ is a “class of machine learning algorithms that uses multiple layers to progressively extract higher level features from the raw input. For example, in image processing, lower layers may identify edges, while higher layers may identify the concepts relevant to a human such as digits or letters or faces”¹¹. This requires a great deal of data, tagging, human evaluation and AI training until an acceptable threshold for accuracy is reached, and the AI-enabled self-service system can recognise and handle matters for itself.

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 centralised agent is also available to a remote worker.

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.

¹¹ https://en.wikipedia.org/wiki/Deep_learning

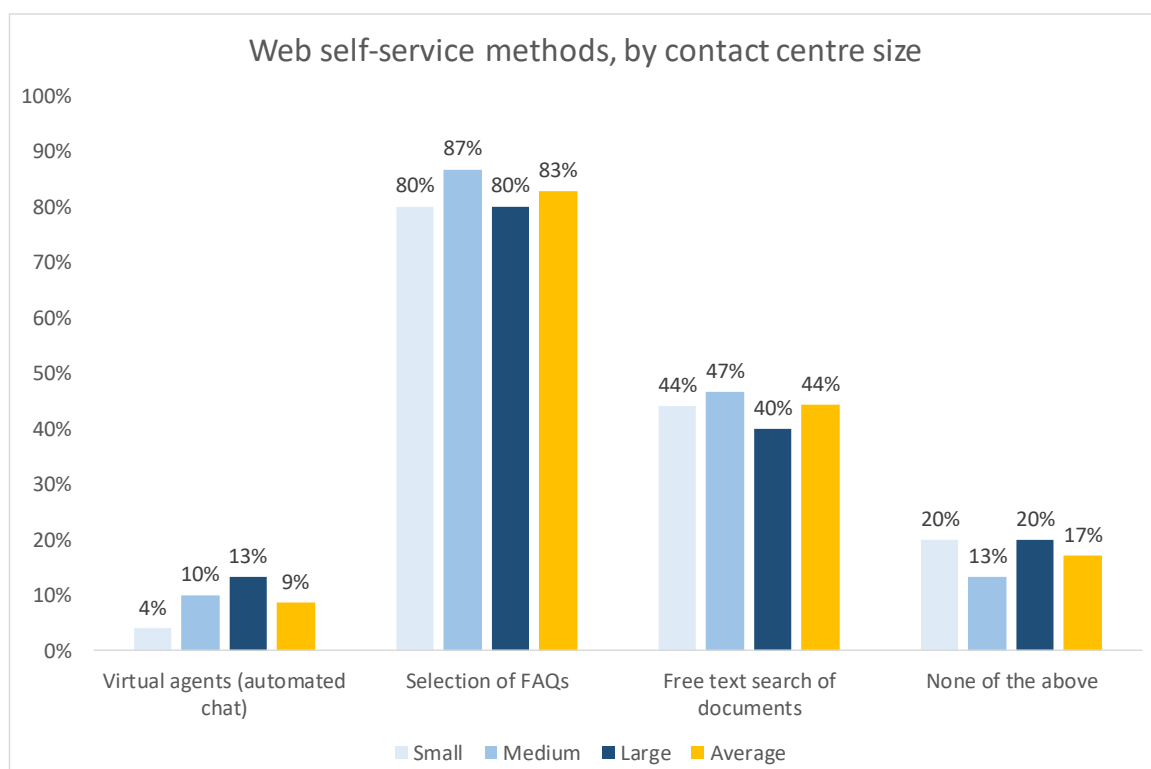
WEB SELF-SERVICE

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 centre result from bad website service or a failure in another channel. Quite apart from the current importance of this application in avoiding unnecessary calls, research shows that as customers become more educated and experience many different qualities of online self-service, their expectations increase across the board which encourages other organisations to improve as well.

Put basically, most customers will visit a website first, but 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.

The website can provide various self-service options for the customer, ranging from the most basic search and static FAQ functionality, to personalised virtual agents/chatbots and dynamic FAQs. By far the most prevalent functionality within web self-service is that of FAQs (frequently asked questions), which are used by 83% of respondents. The free text search of the document library is somewhat less well supported, at 44%. Virtual agents are employed by only 9% of respondents, more often those within large enterprises. 17% of respondents offer no web self-service at all.

Figure 29: Web self-service methods, by contact centre size



SEARCH

Since corporate websites first came into being, businesses have offered search tools for customers to look through indexed information based on keywords found in these documents in order to answer their questions without the need to call the business. While such functionality has the advantage of at least being familiar, indices grow, documents get old and out-of-date, and customers become educated that there are more sophisticated and effective self-service solutions available, with customers' opinions of standard search functionality suffering as a result.

With only a blank text entry box to guide them, the onus to search successfully is with the customer, who has to try to 'get into the mind of the business' and phrase the question or search terms in a way that fits the business and its internal jargon. However, this is not always possible, and customers have a limit to the maximum number of times that they will attempt to search, or how many pages they will read from the numerous documents that a wide keyword search can bring back, claiming that it has answered the query. The customer then has two possibilities: to engage the business through a high cost channel such as telephony or email, or worse, to find an alternative supplier that can help them without going through this high effort process.

Search functionality does have its place: for example, if a customer wanted to find out very specific information about a product that had an unambiguous name (for example, 'SDK36479 installation'), a search on this particular term would at least bring back documents that had a high level of relevance to this product and how to set it up. However, if the customer had a query that used keywords that were very popular and widely found elsewhere (for example, "What are your delivery times?"), typical search functionality might return every document that contains the word 'delivery', relying upon the customer's patience and goodwill to find the correct answer for themselves. In the case of very large companies, this could bring back potentially hundreds or thousands of documents, many of which could be out-of-date and have been superseded. The major problem with search functionality is that it pays close attention to the answers, but very little to understanding the question or the customer's thought processes.

It is one thing to be presented with a long list of documents while sitting in front of a large screen of a PC, where scrolling up and down the page is not an issue. For the same flawed search functionality to be placed onto a mobile website, expecting the user to zoom in and out, scrolling up and down, and then to potentially scan through numerous documents whose text is too small to read properly is probably a step too far even for the most enthusiastic and loyal of your customers.

Many newer self-service solutions alleviate this issue by using customer feedback to judge the success of the search results provided so as to increase future customers' chances of being given the correct information.

FAQS

FAQs – frequently asked questions – are one of the most popular forms of Web self-service. At its simplest, an FAQ list can simply be a group of static documents and/or text, categorised under wider thematic headings, and kept up-to-date manually. Solution providers state that perhaps 80% of questions can be answered by 20% of documents, however for most businesses, customer requirements change on an ongoing basis so it is unlikely to be the same 20% of documents that are most useful as time progresses.

More complex applications can use techniques such as text mining and fuzzy search (approximate string matching) to return documents that are not just an exact or very close match to the search terms entered by the user. Sophisticated FAQ technology will leverage natural language processing to deliver more accuracy than standard search functionality.

It is possible to minimise the use of manual updates and supervision by making the FAQ list more dynamic and self-learning through using responses taken from emails to customers who have asked specific questions, which will then dynamically enter the FAQ list at an appropriately high level. Being able to restructure the knowledge base on a regular and ongoing basis through automation is key to maintaining the usefulness and relevance of the FAQs. Unlike the virtual agent (below), FAQs by their nature provide the user with a list of alternatives, asking them to judge and choose the correct most relevant answer for themselves. While this process takes longer for the customer than the provision of a single answer, it is currently more closely aligned with the typical user experience, and thus has the advantage of familiarity. Providers of FAQ technology report that the typical reduction in inbound live contacts (such as email or telephony) experienced by businesses is in the region of 25%.

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

VIRTUAL AGENTS / CHATBOTS

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 realise 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.

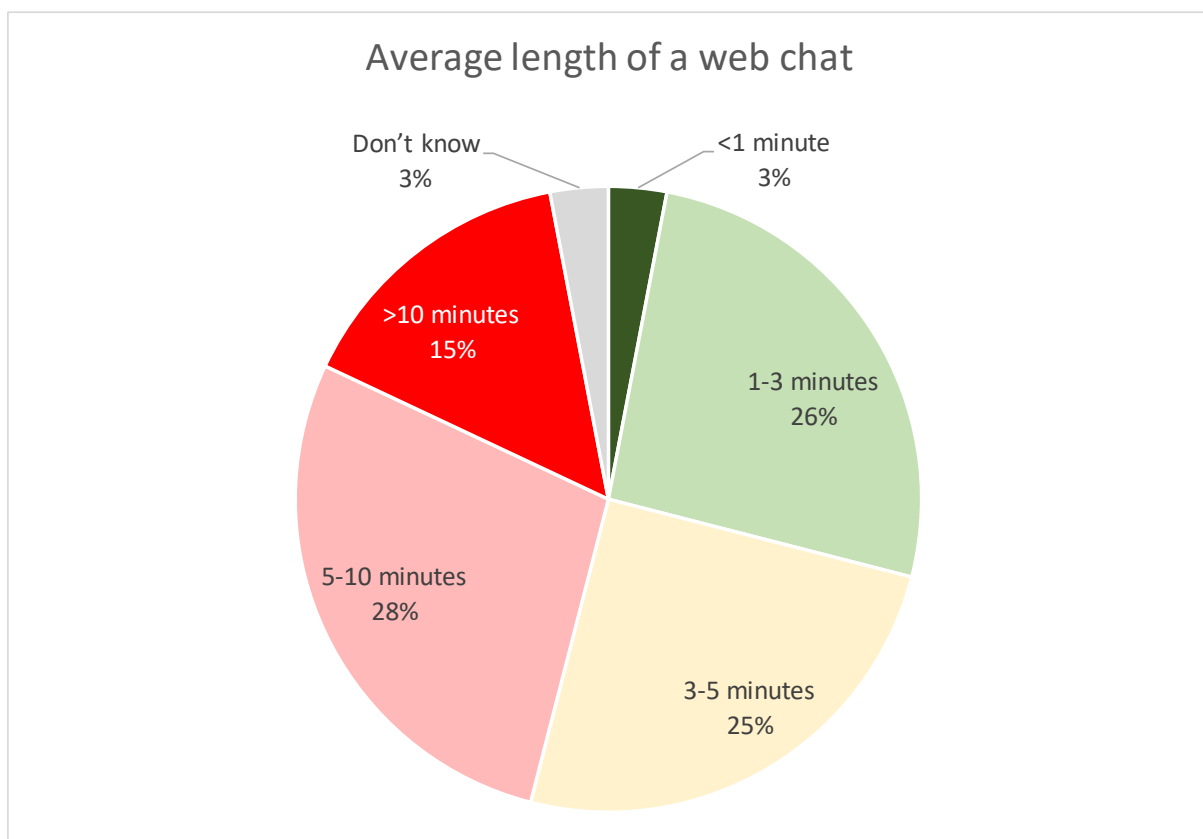
The most sophisticated conversational AI or virtual agents encourage the visitor to engage with them using natural language, rather than keywords. The virtual agent will parse, analyse and search for the answer which is deemed to be most suitable, returning this to the customer instantly. Many virtual 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.

Virtual agent functionality 'understands' the context of what the customer is asking, with the result being more akin to that of an empathetic human who also has had access to what the customer has been trying to do. For example, if asked "When can I expect my delivery?", the context and the required answer will be different depending on whether the customer has placed an order and is enquiring about its status, or has only a hypothetical interest in turnaround times in case they decide to place an order.

The following chart shows the excessive amount of time spent to handle a live web chat: while the agent may be handling multiple chats, the experience for a customer is that a typical chat will take longer to complete than a live phone call.

Figure 30: Average length of a web chat

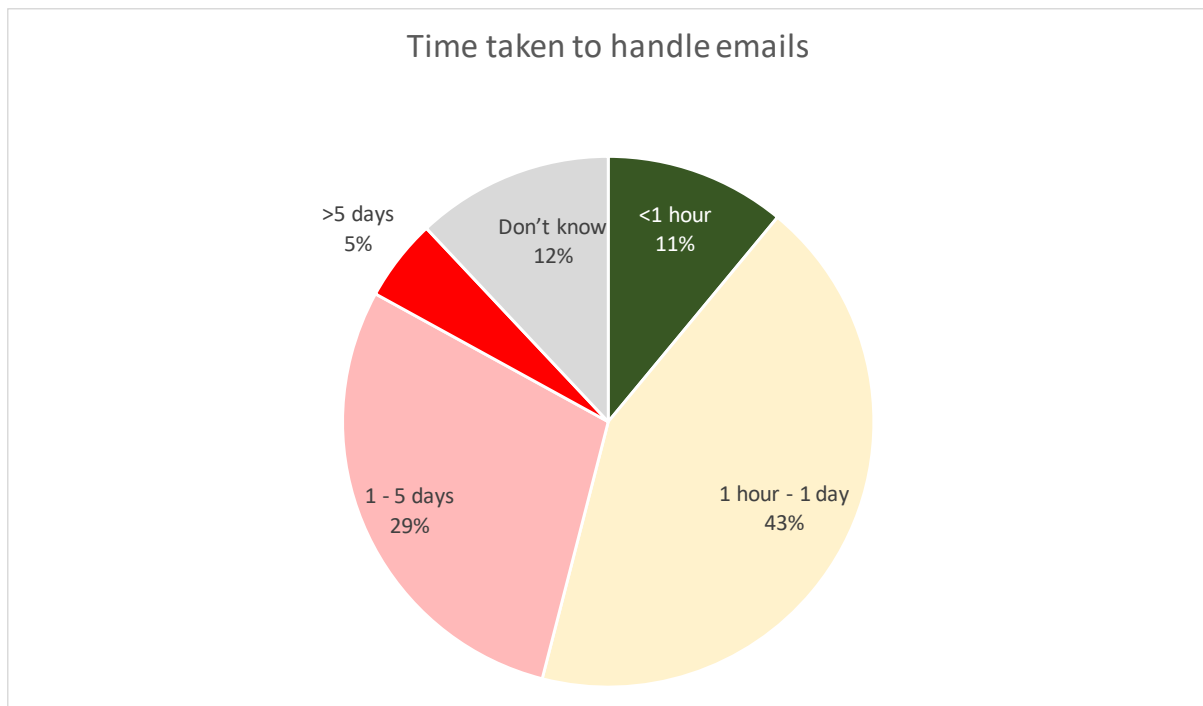


AI can also be used for email to create responses that look as though they have been written by a person rather than a machine, using natural language processing to write content, as well as understand it. Emails can be tailored based on the customer's history and behaviour, optimising marketing messages as well as service, sending emails at a time when they have been calculated that they are most likely to be opened.

Personalised emails can be sent, based on subscribers' past email browsing activities to understand the type of content that they actually care about. This is a way in which AI can outperform human agents, who do not have the time or expertise to find patterns or draw conclusions from huge amounts of data.

As with web chat, agent-handled emails by their nature take considerably longer than a phone call to be handled correctly, and so are unlikely to deflect as many calls from the contact centre as could be wished.

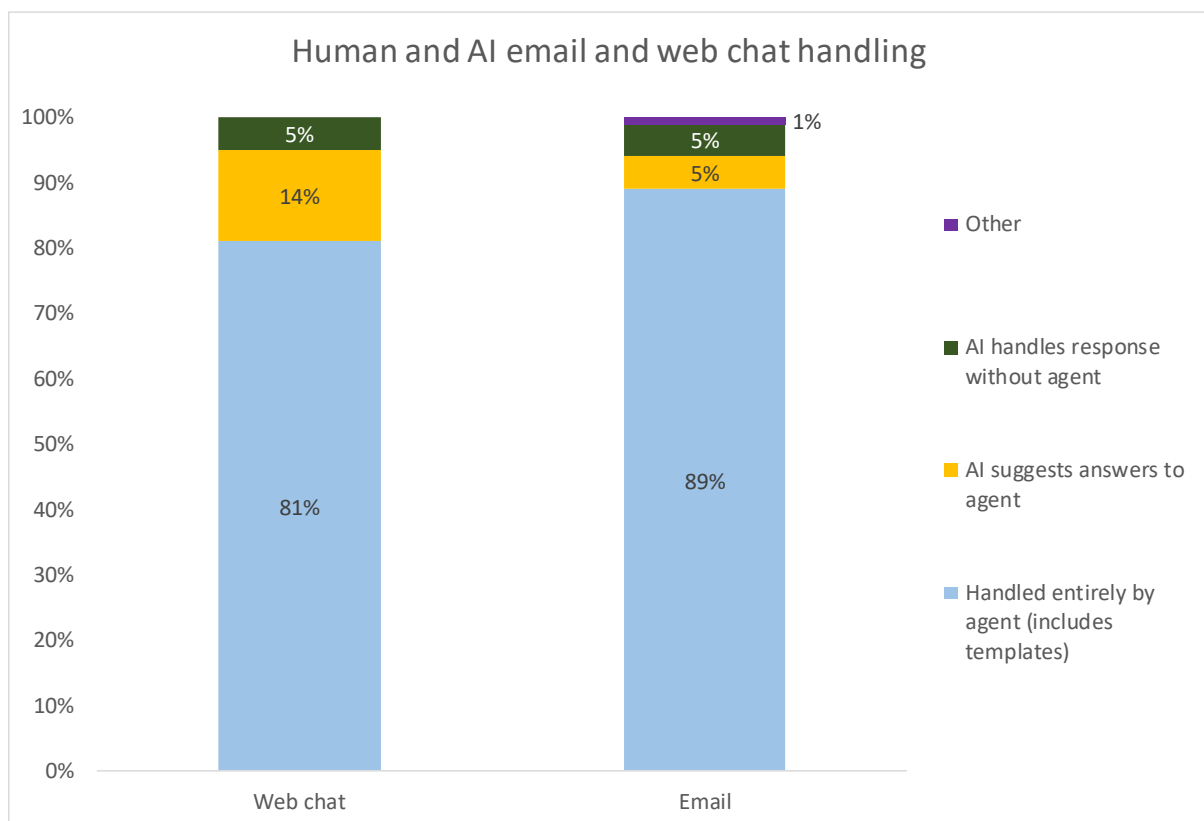
Figure 31: Time taken to handle emails



The main reason for this slow response rate of emails, and the excessive length of web chats is that there is very little automation currently being used in the UK contact centre industry, which as was shown earlier, means that the cost of an email or web chat is very similar to that of a phone call.

Digital channels may work quite well for customers, but businesses are not generally seeing the cost savings that automation can bring. Very few emails or web chats are handled entirely by AI, although a growing proportion of web chats are dealt with by AIs working alongside agents, suggesting responses which agents can then accept or amend. This way of working is most likely to be the norm in the foreseeable future, with the speed of automation and the emotional intelligence and commercial understanding of humans providing superior service at a lower cost.

Figure 32: Human and AI email and web chat handling



Many contact centres 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 centre 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 centres 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 customised 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 request for proposal (RFP) stage, businesses may consider asking potential suppliers:

- What are the current capabilities of your AI solution and what does your product roadmap look like?
- How do you propose escalating interactions to live agents if the AI solution cannot handle it?
- What metrics do you propose using in order to judge the success of an AI implementation?
- What does the timeline of a successful implementation look like? Do you have a reference site?
- How do you propose to train the AI, and what will our training data need to look like?
- How do you propose to integrate AI with our existing systems, and how much customisation will be needed?

At the initial stage of the implementation process, datasets that the AI models will be learning from must be analysed, 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:

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- The Inner Circle Guide to AI-Enabled Self-Service.

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

VOICE SELF-SERVICE

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

- Customers still find voice the most convenient, flexible and quickest communication channel in many instances, especially in older demographics and for complex and high-emotion enquiries
- Customers' expectations continue to rise. Not only do they seek out competitively priced goods and services, but they require quick, efficient service as well
- The general level of awareness of identity theft as a real issue has also grown, and the voice channel still provides customers with the greatest level of confidence.

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

Of those contact centres offering telephony self-service, a mean average of 18% are handled entirely by self-service without requiring an agent. Many calls are not suitable for self-service, as they may require multiple requests within the same call, be of a complex nature or be from a caller who feels that they need to speak with a person. Additionally, some small businesses may have such a low volume of calls that it is not cost-effective to implement self-service.

Figure 33: Overall proportion of calls handled entirely through self-service (only in respondents which offer telephony self-service)

Proportion of calls handled entirely through self-service <u>if offered</u>	
1 st quartile	30%
Median	10%
3 rd quartile	5%
Mean	18%

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

In times of crisis, businesses need to be able to update call flows and manage very high call volumes, as putting customers in an IVR queue for hours is unacceptable. The IVR system must be able to be changed easily in order to provide up-to-date information, manage customer expectations and prioritise the most urgent customer requests.

CLOUD-BASED IVR & SPEECH RECOGNITION SOLUTIONS

The take-up of cloud-based IVR solutions, particularly by small-medium sized companies, is driving growth within this sector. The ability to personalise IVR sessions, as well as the low initial start-up costs and limited in-house maintenance required, means that businesses that traditionally were unable or unwilling to see the benefits of IVR for their own company are now revisiting this, especially in remote working environments where centralised technology cannot easily be managed on site.

The pure software IVR platforms used today run on standard servers, reducing the restrictions that proprietary hardware placed upon functionality, scalability and flexibility, as well as the cost of purchasing and maintaining dedicated hardware. Companies increasingly prefer to adopt the cloud-based method of providing IVR options to the customers, and 58% of those using telephony self-service (whether DTMF IVR or automated speech recognition) access this functionality in the cloud, with a further 26% planning to do so by 2022.

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

IMPROVING SELF-SERVICE SUCCESS RATES

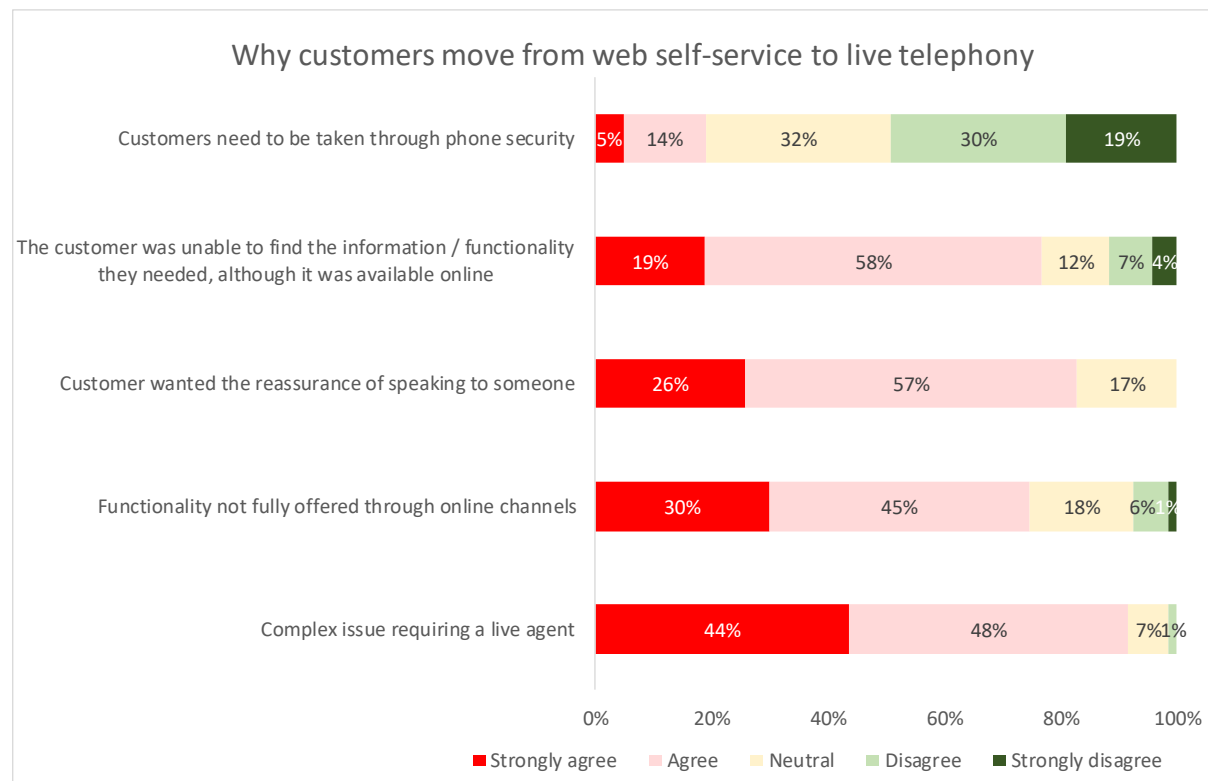
While many businesses have some form of self-service available to customers, there are still many instances of failure where the customer then has to use a live channel in order to resolve their issue, placing cost upon the business, damaging service levels and frustrating the customer.

Improving self-service success rates will help service levels, keeping live contacts only for those customers that actually need them.

THE FAILURE OF WEB SELF-SERVICE

By far the most important reason for moving from web self-service to live telephony was said to be that the escalation involved 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 34: Why customers move from web self-service to live telephony



75% of respondents stated that the self-service functionality that the customer required was not available online, but interestingly, 77% 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 prioritisation 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.

83% 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.

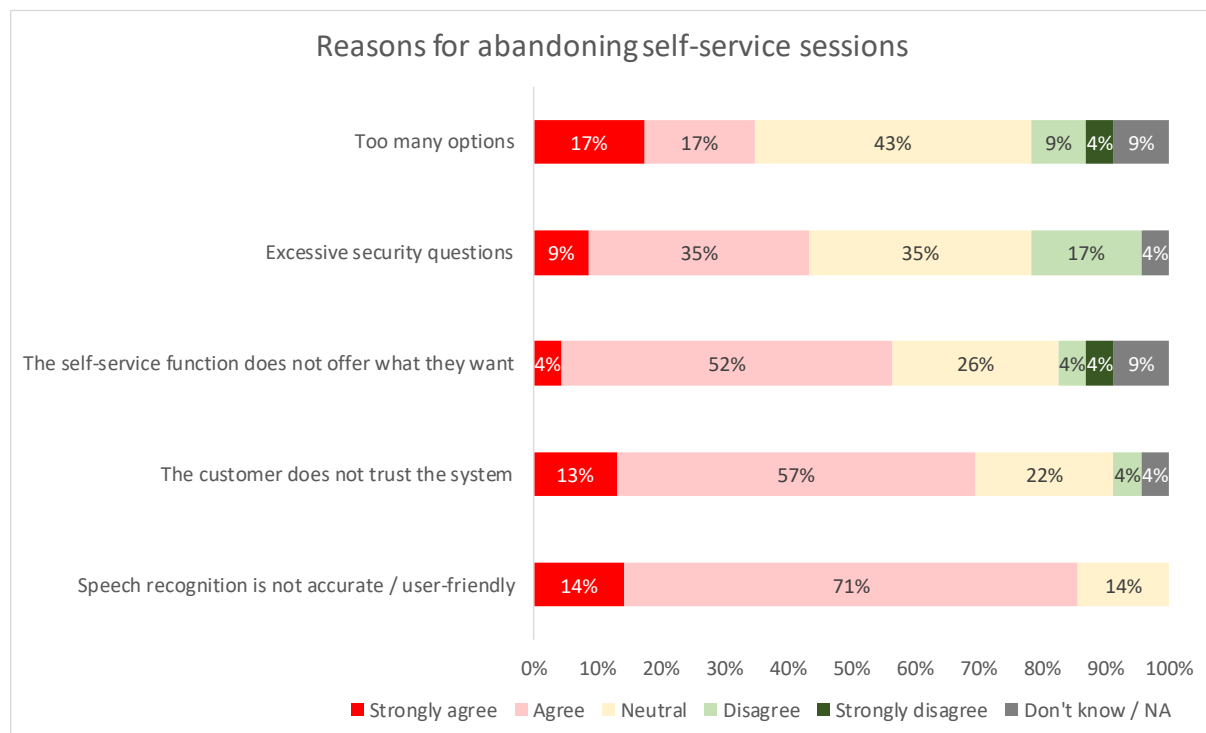
Few respondents believed that website security authentication was an issue in receiving inbound calls. Any account-based self-service requires a login, and many companies now ask for authentication through web chat, which will allow chatbots / virtual agents to take customers through security without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

THE FAILURE OF TELEPHONY SELF-SERVICE

Overall, a mean average of 14% of calls that go into the self-service option are “zeroed-out”: instances where the customer decides that they in fact wish to speak with an operator.

Generally speaking, the larger the contact centre, the more often customers abandon the self-service session. One possible reason for this might be that larger operations are trying to do too much with their self-service. There is some evidence to suggest that this is the case, as it is very noticeable that respondents from larger organisations tend to have far more options in the auto-attendant functionality of their IVR solution, and this tendency to offer a great deal of functionality and options may well also apply to IVR’s self-service functionality as well. Overly complex or long-winded IVR functionality will tend to encourage session abandonment, and this may well be what we see here. 17% of respondents strongly agree that having too many options presented to customers is a major reason for them seeking human assistance.

Figure 35: Reasons for abandoning self-service sessions



70% of respondents agree that customers simply do not trust the system, preferring to have human reassurance that the request they have made has been carried out, or the information they are looking for is actually correct. This need for human confirmation is also found in web self-service, and it would be worth looking closely at how your business can reassure self-service users.

Of those using automated speech recognition, 85% of respondents agree or strongly agree that speech recognition is unpopular with customers due to lack of accuracy and user-friendliness. This is perhaps more to do with customer habits and lack of confidence with how to use the system than anything more technical. As customers continue to be encouraged to use natural language (both by successful interactions with corporate self-service applications, but perhaps more importantly through digital virtual assistants such as Siri and Alexa), this issue should decline.

THE ROLE OF VIDEO IN REMOTE WORKING

The use of video communication for personal use has increased dramatically throughout the coronavirus crisis, with many people who had never previously used videoconferencing becoming more familiar with the likes of Zoom, FaceTime and Microsoft Teams. This provides an opportunity for businesses going forward to implement some video capabilities in future conversations with customers, but the main benefit currently is for video to enhance team communications, coaching and morale amongst remote workers which was considered earlier in this report.

Businesses may find that field staff who are currently not able to go into people's homes can use video collaboration, whereby the customer can set a virtual appointment on the website and then have a video call with the expert who can carry out remote diagnosis without being physically present. This is most obviously useful for insurance claims, but individual businesses may find that there are other roles and activities that can be carried out with properly secured video collaboration as well, such as primary health care.

While not a channel in itself, WebRTC (Web Real Time Communications) is an API definition that supports browser-to-browser applications for voice calling, video chat, and P2P file sharing without the need of either internal or external plugins¹². The announcement¹³ that Apple would support WebRTC within its WebKit engine that runs the Safari browser was seen as a major step forward for next-generation customer support, enabling voice, video and collaborative communications directly from a website without the need for additional software. While mainstream use of click-to-video has been a very long time coming, WebRTC offers the opportunity to businesses to engage customers face-to-face where appropriate, offering the browsing customer a route straight into the contact centre without any breaking of channel or extra effort.

WebRTC allows customers to start a video or voice call from the web browser (which may be via a desktop computer or smartphone, perhaps as an escalation from an existing web chat session), which means the organisation's website can then offer video or voice contact centre functionality in a seamless manner, with customers able to request live communication with the business without the need to download specific software or seek out the phone number and break off from what they are doing on the website. Two-way video communication is likely to be of more interest to mobile users, as their smartphone device already comes enabled with a camera and microphone, unlike many desktop computers which may not have this functionality or whose users have it disabled. One-way video, to protect users' privacy, is perhaps a more likely option in many instances, as is click-to-call.

¹² <https://en.wikipedia.org/wiki/WebRTC>

¹³ <https://web rtc.ventures/2017/06/web rtc-support-in-safari-11/>

THE OUTSOURCING OPTION

Some businesses may decide that they require the assistance of outsourcers at the time of crisis, whether based domestically or offshore. Some outsourcers have an extensive network of home-based agents upon which to call, with infrastructure maintained at multiple redundant data centres. Such outsourcers are almost always certified at PCI DSS Level 1, meaning that their security and payment systems are of the highest standard. As these operations have been built from the ground up to support remote working, levels of encryption, firewalls and administrative access are likely to have been tested extremely stringently.

For those organisations that require remote working technology rather than agents, some remote working-focused outsourcers are making their technology systems available, providing assistance with remote management, training and coordination of remote working staff, as well as communication and collaboration tools.

While large outsourcers and BPOs can provide full remote working service provision, it may be that some businesses only require additional assistance. For example, telemarketing agencies can assist with presales calls and the setting of virtual appointments and engagements directly into agents' online diaries. Others provide a reception service, which can triage calls and transfer them to appropriate remote workers, or even handle first-line support and offer the ability to extend opening hours.

As coronavirus is a global pandemic, very few countries in the world have escaped the commercial effects of social distancing and lockdown. It should be noted that organisations in GDPR-governed jurisdictions will need to consider any use of offshore operations that are running a remote working model: anecdotal evidence suggests that some client organisations are reluctant to allow their offshore, non-GDPR-regulated outsourcers to use homeworking.

REMOTE WORKING PRACTICALITIES

TECHNOLOGY

Generally speaking, contact centre remote workers do not require overly complicated or expensive technology in order to become productive almost immediately. Most cloud-based contact centre 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. In 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 standardise 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 machines 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 wifi hotspots or improved broadband should be considered if necessary.

If possible, agents should standardise 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 centre 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.

END-USER QUESTION #5: AFTER THE CRISIS PASSES, WHAT ARE THE OPTIONS FOR RETURNING TO A MORE CENTRALISED CONTACT CENTRE MODEL?



The beauty of a cloud contact centre is it can be accessed from anywhere - so when the crisis passes and if the business need agents to return to the centralised model the cloud contact centre application in place would seamless work. For our Cloud Contact

Centre we've waived the term commitment to alleviate concern over term-based obligations.

However, our cloud-based contact centre solution does more than helping businesses and governments to move their agents to a rapidly deployed work-from-home environment in this extraordinary crisis. Our secure and cost-stable solution empowers organisations with the flexibility and scalability to adapt to their longer term business strategy.

REMOTE WORKING HEALTH AND SAFETY

When a contact centre 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 (20m³), 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. Obviously in times of crisis this is not always possible, so 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.

More information on health and safety for homeworkers can be found at <https://www.hse.gov.uk/toolbox/workers/home.htm> and <https://www.acas.org.uk/working-from-home>.

ABOUT CONTACTBABEL

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

The coverage provided by our massive and ongoing primary research projects is matched by our experience analysing the contact centre industry. We understand how technology, people and process best fit together, and how they will work collectively in the future.

We help the biggest and most successful vendors develop their contact centre strategies and talk to the right prospects. We have shown the UK government how the global contact centre industry will develop and change. We help contact centres compare themselves to their closest competitors so they can understand what they are doing well and what needs to improve.

If you have a question about your company's place in the contact centre industry, perhaps we can help you.

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