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**“Could you repeat that please?”**  
**The costs and impact on the customer experience  
of poor voice quality**

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Chairman, Customer Experience Foundation  
September 2010

*Commissioned by:*



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## **Executive Summary**

### **Background**

This whitepaper has been developed based on the survey *Poor Technology – Poor Experience* highlighting the impact of poor technology in contact centres. The survey was conducted in four countries who are major users of contact centres – UK, USA, France and Germany – to give a global representation of the findings.

Within the survey, three different groups of people were interviewed – consumers as well as contact centre and IT professionals. These groups highlighted how different issues are perceived differently by the groups. In all, 5140 people responded of which 3925 were consumers.

Lastly, the major finding was the huge impact of poor voice quality, which is therefore the focus of this whitepaper.

### **Findings**

The findings were dominated by the impact of poor voice quality. While the greater use of mobile telephone and VoIP at home had an impact, the move by many enterprises to VoIP was highly significant. Unlike traditional TDM telephone networks that have dedicated telephone lines, VoIP networks share their resources across the enterprise including both voice and data. Since this topic has not been a significant issue in the past, it can only be assumed that VoIP networks are a significant cause.

Consumer's perceptions:

- 79% of consumers globally reported experiencing poor voice quality.
- Consumers said that 42% of all contact centre calls are impacted.
- 68% of consumers will hang up if they experience poor voice quality. For those calling about a new product or service, they will likely call a competing company instead.
- 26% of consumers say they need to redial to complete a transaction.
- “Stress” is the most commonly used word when consumers were asked to explain how they felt after a poor voice quality call.
- Poor voice quality (VQ) is the second most common bad experience for consumers after an interaction with an interactive voice response (IVR) system.
- Case studies show that consumers are often forced to repeat themselves on calls as a result of poor voice quality.

Contact centre professional's perceptions:

- Poor VQ takes up 34% of the value of each call across the US and UK
- UK – If consumers perception is correct then national loss (agent costs) is £7.6b
- USA – If consumers perception is correct then national loss (agent costs) is \$36.8b
- Only 1 in 6 organisations have appropriate tools to monitor poor VQ issues or plan to install them over the next 12 months.

### **Conclusions**

- Poor voice quality has now reached epidemic proportions due to a series of factors some of which are within the control of contact centre operators.
- Given the increasing importance of live conversations between agents and consumers, poor voice quality can impact the ROI in contact centres significantly. Indeed, it is simple to say that a lot of valuable time is wasted by saying, “Could you repeat that please?”.
- 84% of organisations do not have adequate tools to monitor and manage this issue and it is a clear opportunity to reduce cost.

## Background

This whitepaper is the latest in a series commissioned by Empirix as part of a research programme now in its second year about the uncounted costs and consumer impact of poor technology and implementation. Last year, in the first series, we looked at the cost of project failure and its impacts.

This whitepaper is the first in the second series, called *Poor Technology – Poor Experience*. This year our study has looked at four common technical issues and the impact they had on the customer experience. The issues we asked about were:

- Poor VQ
- Slow System performance
- System Outages
- Poor Speech Recognition in Self-Service Technology

One of the key differences of this study has been the focus on problems that impact live services rather than project delivery. Hence, this whitepaper is about the real impact on customer experience in live contact centres.

Our second key difference was that we asked three groups about their experiences and perceptions in relation to those issues. We had more than 5000 responses online and via telephone which came from consumers, contact centre and IT Professionals in the UK, US, France and Germany.

Our total survey sample was 5140 which included:

Breakdown by Role:

- 3925 Consumers
- 566 Call Centre Professionals
- 649 IT Professionals

Breakdown by Country:

- 2519 UK
- 1439 US
- 463 Germany
- 720 France

This first paper looks at the single largest issue from this year's study which turned out to be poor voice quality. The nature of the study was to ask people to contribute from their point of view rather than empirical data.

It is important to understand that this whitepaper is about perceptions and impressions and, therefore, reflects feelings about the issues. However, the size of the audience provides a stable statistical basis for our key conclusions despite it being people's impressions. The findings once again highlight some shocking facts and cost issues.

From the research viewpoint, the big trends reflect real concerns and we gain detailed insight from individual stories.

Finally, this research comes against a background where conversations with live agents are becoming more of a premium service as organisations make self-service a more viable option. Outbound call success rates have been dropping dramatically over the last 2 years and in a number of markets cold calling, (to gain new business) is now either illegal or, in the case of the UK, less successful than mailing. More and more consumers are specifically requesting to opt out of upsell and cross sell calls.

Adding increasing pressure to the importance of live customer contact is the massive growth in social media and the tendency to use social media to get support from other users of a product rather than contact an organisation directly. On the surface this news seems positive as it is reducing avoidable contact and reducing costs. However, it means that service calls direct into the contact centres are now more valuable in maintaining customer relationships. Indeed, customer service has become a new form of advertising and a key factor in reducing churn.

## Introduction

Poor VQ is when consumers cannot hear agents or agents cannot hear their customers. As a consumer you phone a contact centre or they phone you and you have to keep asking the agent to repeat themselves or else you keep being asked to speak up. It's a major frustration. Our research showed that 79% of all consumers polled had experienced this problem.

For organisations, this finding is bad news as it costs them billions globally. Poor VQ can drive down sales volumes as well as increase call lengths and the number of calls that get redialled. It can increase churn rates in both customers and staff and the fact that so many consumers experience the problem indicates that it is an issue that businesses are struggling to come to grips with while consumers are quickly losing patience. The cost to business can include longer and more expensive calls requiring more agents.

Contact centres and consumers have very different impressions about the impact of poor VQ but, when analysing the impacts described as well as the figures from consumers and contact centre professionals, the results were very close.

This paper looks at the issue mainly from the consumer's viewpoint and then provides a few insights from organisations as to why they struggle with the issue.

## Key Survey Findings

Consumers' perceptions:

- 79% of consumers globally reported experiencing poor voice quality.
- Consumers said that 42% of all contact centre calls are impacted.
- 68% of consumers will hang up if they experience poor voice quality. For those calling about a new product or service, they will likely call a competing company instead.
- 26% of consumers say they need to redial to complete a transaction.
- "Stress" is the most commonly used word when consumers were asked to explain how they felt after a poor voice quality call.
- Poor voice quality is the second most common bad experience for consumers after IVR.
- Case studies show that consumers are often forced to repeat themselves on calls as a result of poor voice quality.

Contact centre professional's perceptions:

- Poor VQ takes up 34% of the value of each call across the US and UK
- UK – If consumers perception is correct then national loss (agent costs) is £7.6b
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- Only 1 in 6 organisations have appropriate tools to monitor poor VQ Issues or plan to install them over the next 12 months.

## Can you say that again please?

Contact centres have been a real success story. Billions of transactions and processes are handled every month by contact centres and although customers often complain about the contact centre experience, the convenience that is delivered to consumers is demonstrated every day. In the US and the UK nearly 3% of the workforce is involved in contact centre service delivery. Contact centres have demonstrated that people do vote with their feet when things are made easier for them.

Automated self-service has been a key part of this success story and each year the number of processes that are handled by automated processes has increased. A significant proportion of basic tasks now are completed to consumers' satisfaction either through on-line portals or automated speech recognition platforms.

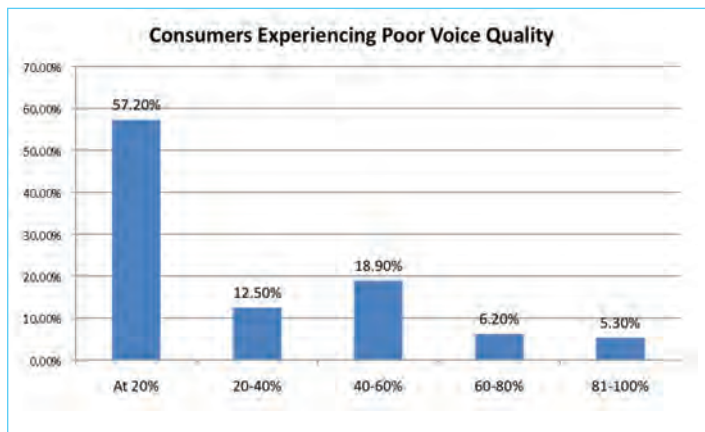
However research shows that when consumers have a problem in a process or want advice it is to the contact centre agent that they will turn. According to a Customer Experience Foundation study done in April 2010 entitled "How I like to communicate", 87% of consumers want to talk to an agent if they are worried about something in their relationship with a supplier. This rate is even true in retail banking where they think that contact centres are more likely to solve their problem than a branch employee. We have seen a general global acceptance of the increase of automated services where there has been a safety net of the live, breathing person to talk to when things go wrong. Essentially, consumers simply prefer to speak to a live agent when they are unsure about something.

So it was a real surprise to find that so many consumers are impacted by a single issue that cuts that safety net from under them in this way. What happens if you can't hear the agent or the agent can't hear you? What happens when you find that you are repeating yourself and

struggling to hear what is said? The research shows that consumers become frustrated, the call takes longer and sometimes, when it's bad, consumers hang up and phone again.

79% of consumers have experienced poor voice quality. When we asked them how often it occurred, more than 30% said that it happens in more than half of their calls with contact centres.

As a global trend that would equate to 42.2% of all phone calls if averaged out over the total pattern of calls as expressed by consumers. However, as previously noted, this figure is a perception.



“The scale and size of this problem is something we never expected when we commissioned the study. However, with such a large sample it's difficult to argue with the numbers.” said Trevor Richer, Marketing Director, Empirix. “What is interesting is when you take the consumer impressions and just calculate the average number of calls impacted, the cost to business runs into billions.”

68% of consumers will hang up if they experience poor voice quality when they are enquiring about a new product or service, and they will likely call a competing company instead. Given the cost of “above the line” advertising, the levels of “below the line” spends and the brands value to a major international company, its surprising to find that the value of live contact is not made a higher priority by organisations.

### Pet Hates

A poor IVR experience is still the number one customer issue rated by consumers as their pet hate. But poor VQ is the second highest rated issue even out ranking offshore contact centres. This finding is no surprise when you think like a consumer. Both issues are about control. When you are trapped in a series of complex IVR menus you feel powerless. When you experience poor VQ you feel that you cannot make yourself understood, which also gives that feeling of being powerless.

One consumer, David (aged 30 – 40), in the UK told us a story that was repeated in hundreds of consumer across all of the regions surveyed. He comments: “I was recently burgled and had to cancel all my cards, make an insurance claim and buy lots of replacement items and that meant days on the phone.

Sound quality was too quiet or kept cutting up, like talking through a loose connection most of the time. I was constantly asked to repeat things or spell them again and began to think that the call centres were employing deaf people until I realised I kept asking the agents to repeat what they had just said too.

There were a few calls that were OK but it's only when you have to deal with a lot of call centres in a few days that you realise how bad things are.

My former bank was the worst. I had to repeat my card numbers over and over until I was shouting so loud my next door neighbour knocked on the door to see what the problem was. He asked me if I was alright and I answered that I was fine...It was only after I closed the front door I realised I had shouted FINE!!!!”

### Stress

The most used word used by consumers to describe their feelings about the experience was “stress” and nearly half of those who commented felt that poor VQ was a sign that companies really didn't value their business. The second most used term was “angry”, closely followed by the word “frustration.”

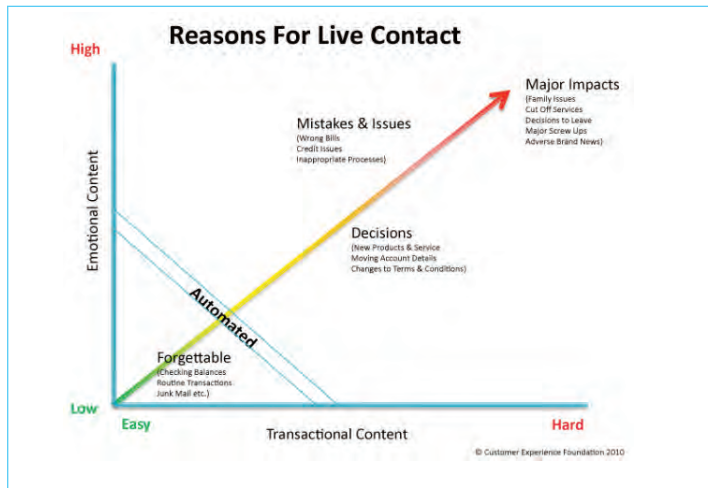
One Consumer is in her mid — 40's from New Mexico told us that it drove her mad when the voice at the other end kept being chopped off. She said “I keep saying can you repeat that and always end up shouting crossly. It's even worse when they ask you to please stop shouting and calm down. It takes me at least 10 minutes to calm down following a poor VQ experience. It's very uncomfortable to feel so out of control of my emotions but these calls bring out the very worst in me. I am a Yoga teacher and I never talk to call centres before teaching a class.”

It must also be a negative experience for the agents when things go wrong. Angry, frustrated consumers shouting to communicate must add to the pressures significantly and consequently translates into the churn rates.

### Changing Value of Agent Time

Stress is not a surprising outcome of this problem. As discussed in the introduction section of this paper, there has been a change over the last few years in the reasons consumers talk to live agents. Fewer easy to complete transactions are handled by live agents and more and more of the calls are related to exceptional concerns. This trend will continue. The acceptance of web based transactions for simple mass processes

combined the improved streamlining of channels and processes means that the value of the live agent is increasing rapidly in customer experience terms. In the “Voice of the Customer” context live agents are now handling more “moments of truth” or “emotional objects” and less involved confirming “non-emotional objects.”



This changing emotional context to the reasons for live contact applies to branch networks and contact centres alike. However the Customer Experience Foundation has found little evidence over the past two years that the change in emotional context has been translated into appropriate changes to the training supplied to front line staff. But the stakes are increasing in live agent contact.

### Why the sudden epidemic?

Had you looked at this issue two or three years ago, it did not rate highly as a consumer issue. Three years ago overseas contact centres rated second behind IVR in terms of consumer issues. This rating is based on a research study done by the Customer Experience Foundation in 2009 using a new sentiment search engine capability to assess which issues were being written about the most in the media. Now these sentiment search engines are common place and are routinely used in social media monitoring. So what happened?

Consumers got smart phones and their mobile operators made phoning so cheap, more people started to use their mobiles. They started to use VoIP (voice over IP) services at home such as Vonage and Skype which became more standard options. Skype users were in excess of 550 million by May 2010. People moved to DECT phones so more sound quality issues arose. More companies made the move to VoIP but few had proper monitoring tools. Smaller telephone service providers (telcos) moved to VoIP networks and failed to deliver robust quality services. Therefore, the poor VQ issue has a number of root causes and explains why consumers think it's such a large problem. Background noise, poor headsets, loose connections, bad home VoIP, Skype, poor transit by telcos and bad mobile phone connections and handsets may provide the consumer with the poor VQ experience. All of these are true and contribute but they are not the reason that businesses face such a major backlash.

On a practical level, even if you have a normal phone line or POTS (Plain Old Telephony Service), the chances of you getting a clean call has been reducing every day. Overall the cost of telephony to the consumer has remained the same but the standard of basic voice quality has deteriorated.

### Are consumers just being more emotional?

This leads us to an interesting question. Do consumers think that voice quality is more of an issue than it is because the emotional and stressful nature of the calls to and from contact centres or has this backlash got a different root cause?

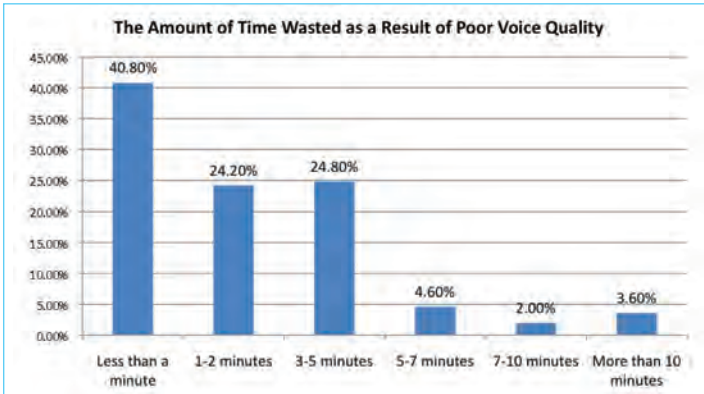
It can be argued that the actual root cause does not matter. If enough consumers think something negative about your brand you have a problem. As both Kraft and American Airlines found over the past couple of years, social media negative publicity means that the traditional model of brand ownership no longer exists. Your customers own your brand so if you have a reputation for poor customer service, you face the risk of damaging your brand. Poor VQ is part of your customer experience so consumers will consider the fact they had to repeat their answers or could not hear what was being said as part of the brand.

Being pragmatic, 79% of consumers complaining about voice quality and 42% of all calls being impacted in the mind of the consumer means that businesses must actively look at this issue. Consumers think it is real and will react to organisations based on that view. If Contact Centre Professionals think this really impacts 56% of consumers but at a more frequent rate than consumers do, there is an issue to address.

Smart businesses have already recognised it as a threat and an opportunity and are investing in the tools to improve the situation.

### The cost to business

Although we are concentrating on what the consumers think in this paper, it is worthwhile at this stage to consider the impacts of poor voice quality on businesses. There are obvious costs that show up from what consumers and contact centre professionals have said.



The graph on left shows the amount of time wasted on longer calls from the consumers’ viewpoint. If consumers are correct, this wasted time is a major financial burden. There are more statistics suggesting a financial impact below.

Consumers’ perceptions:

- 79% say they have experienced poor VQ when talking with contact centres
- 26% say they have to redial to complete transactions
- Think “call length is increased by about 1 minute for every 5 minutes of talk time”
- 68% will phone another company if they experience poor VQ issues when they are making an enquiry about a new product or service rather than redial.
- Poor VQ is the most common bad experience consumers have after IVR
- Poor VQ cause consumers “stress” (most common description)

Contact Centre Professionals’ perceptions:

- Say that only 56% of consumers experience problems but 48% of consumers hang up and dial again
- 72% can’t find the root cause of the problem and have issues regularly.
- Only 1 in 6 say that they have the right monitoring tools or are planning to introduce them over the next year.
- Think “call length is increased by 1 minute in 4”
- Think poor VQ issues add more than 21% to the direct cost of contact centre operation but cannot prove it.
- 52% think they are losing customers through churn because they do not include it in NPS (Net Promoter Scores) or other measurement systems.
- 92% think that sales revenues drop when poor VQ issues occur but do not directly relate cost of sale to the IT cost and additional “Time on Phone” cost because of different budgets.

Customer Churn increases and new business enquiries will have lower conversion rates but businesses find measuring the impacts and costs very difficult because most face pan-organisational issues without the correct tools. Customer satisfaction scores go down and impacts the balanced score cards and other measures. Agent churn increases with the associated increased HR costs. These are real costs and real issues that businesses could address but they are not on the radar.

89% of Contact Centre Managers and 84% of IT professionals said that currently all that had been done was to extend the existing alarm systems to look at basic polling of new types of routers and that voice quality was a service quality issue managed by the Quality Team. It is no surprise that 72% of the businesses polled said they had frequent voice quality issues for which they could not identify the root causes.

**Financial Impacts**

Here are a couple of the key financial headlines based on the perceptions of the overall sample\*:

Poor VQ takes up 34% of the value of each call across US and UK.

UK	US
Average Call Cost = £2.89	Average Call Cost = \$1.75
Loss from Poor VQ = £0.98	Loss from Poor VQ = \$0.60
Average loss = 34%	Average loss = 34%
National Loss = £7.6b	National Loss = \$36.8b

*\*These figures are based on statistical norms supplied by Industry bodies and recognised research organisations from each market and then averaged by national agent population to provide a global average figure. These figures are based on time wasted, not on lost opportunity or customer/agent churn. They are based on the perceptions of the respondents applied to published industry recognised figures from the Call Centre Association, Contact Babel and the studies of other research bodies. See Appendix 1 for details.*

The seriousness of these figures is hard to understate. 34% of agent time is wasted together with the associated cost. While it would not be possible to save all this money, it is likely that organisations could save a major proportion by effectively monitoring and fixing the situation.

At first sight these figures appear incongruous. While the US has five times the number of citizens, the operating costs and the use of Contact Centres vary across the markets. As a simple example agent costs in Germany are nearly three times as high as in the US and in Germany cold canvas calling is illegal. Listed below are the variables from country to country.

Types of call:

- Inbound / outbound
- Sales / service

National Calling Patterns:

- American consumers receive 3 times the number of calls of French consumers
- Use of VoIP in markets
- Use of automated processes
- Cost of calling
- Salaries

Legislation

## **Case Study 1**

### **Contact Centre Manager – Home Shopping (UK)**

“We have an intermittent problem that happens for 15 minutes to 2 hours a couple of times a week. It’s been going on since VoIP was installed 18 months ago. Whenever we hit a peak and put on more agents our sound quality seems to drop really quickly. IT never arrives until after the problem has passed and things are back to normal. It doesn’t just happen during our peaks sometimes it only lasts 15-20 minutes at a time. I am sure the Head of IT waits until things are back to normal before sending any staff.

We see our AHT (average handle time) go up, our queues increase and our sales volumes go down dramatically. We find it difficult to work out the cost for a business case because it hits so many different budgets. We have to put on more FTE (full time equivalents) and we know that we see a large increase in hang-ups and re-dialling. The sales team can see a drop of 25-35% of revenue and then things go back to normal. An average incident costs me £15k and a bad month could see revenue drops by £200k.”

## **Case Study 2**

### **IT Director – Bank (Germany)**

“After we deployed VoIP in a test environment successfully we decided to deploy it across our enterprise in a series of phases. I wanted to get specialist tools but they were ruled out as they cost too much. We used the “extended alarm” approach to monitoring our new voice routers and QoS (Quality of Service) and plugged our new infrastructure into the existing alarms and monitoring system.

After the deployment we found that we had regular complaints about poor VQ and we investigated. These complaints did not show up as alarms on our system. It took several months and cost us about 200,000 Euros (about 160,000 GBP and 265,000 USD) but we could not find the root cause. After tracking the pattern of complaints and comparing batch processing logs for 6 months, we found a correlation between one system and the incident log. The only common factors were that there was a common electrical supply and patch bay area in one part of the network. We separated these completely at a high cost but it did not solve the problem.

After 8 months the problem stopped for about 3 months but we don’t know why. Now it happens intermittently with no discernable pattern. The cost to the business has been significant in terms of agent time and lost revenue but this is not part of my budget.

So here is my joke...I spent so much money trying to solve the problems this year that I cannot afford the right tools.”

## **Challenges**

So when the issues are so clear and the cost impacts are so stark and there is such a consumer backlash on blaming the contact centre, what should contact centre owners do? There is no doubt that the success of VoIP has had a real impact on sound quality. What businesses have gained by the increased uptake has been lost by many organisations in sound quality. Traditional telephone networks had dedicated lines where as VoIP networks do not. This difference appears to be at the heart of the issue.

Most companies we interviewed said that they still found it a challenge to provide stable VoIP services and that monitoring tools, training and system design were areas that needed improvement. Looking at this central issue of lack of investment in appropriate tools and training we found that one of the key issues is ownership which is why tools tend to be just extended alarms. Ownership of the voice quality tends to be a function of Quality Management rather than Technical Service Delivery or IT.

This means that the business case for improving voice quality and for monitoring tools resides with a non-budget holder frequently. This disconnected ownership means that the Quality Team have practical responsibility but in most cases do not feed into the operational ownership. In addition, it took nearly a business generation for VoIP to be introduced because it is pan-organisational technology. Anything that impacts the whole of the business struggles to find sponsorship and business case support.

If consumers are right and 42% of all contact centre calls are being impacted then companies need to invest in tools as a direct cost saving with a quick ROI. We found that few companies were actually trying to address the issue.

Professor Pentel commented, “What I found informative were the discussions we had with companies who did have specialist tools. One example was an American company whose main business was Financial Services. The contact centre manager told me that the tools let them know when they had a problem so they could react to it and that since installing them their VoIP infrastructure was now more stable and worked better.”

Professor Pentel continued, “But that turned out to be only one of the benefits. Firstly, they were able to identify if the poor VQ calls were outside of their infrastructure and this led to some interesting conversations (and big cost savings) with their local Telco. In addition, they were able to identify with customers who were phoning from noisy or other poor VQ lines and offer to phone them back so they were finding reduced call lengths and better customer satisfaction scores.”

The interviewee thought that knowledge of how they were doing internally provided tactical and strategic advantages that they had not anticipated at the outset of the VQ monitoring programme. In this case, knowledge clearly is financial and customer experience is power.

However companies without the right tools experience frequent and intermittent poor VQ issues and they cannot get to the root cause.

## **Conclusions**

Poor VQ is perceived to be a major issue in terms of customer experience. Consumers find it happens frequently and it is a major irritant that they think is the entire fault of contact centres and shows that they do not value them as customers.

Businesses struggle with VoIP infrastructure and few have specialist tools. Poor VQ happens regularly and most organisations struggle to find root causes. Even those with the right tools still find they have some poor VQ issues but being able to manage their internal infrastructure allows them to manage the issue more effectively and gives them strategic and tactical advantages that have cost reducing results.

The real business case imperatives may be difficult for contact centre and IT professionals to quantify because the structure of their businesses does not support pan-organisational change. However, there are some easy to identify wins for those who find ways to fund the relatively low investment in the right tools. These tools can provide the ability to react differently to internally and externally driven poor VQ. If you control the number of customers who experience poor VQ as a result of their own issues, you improve customer satisfaction and ring backs. You will also see reductions in your cost of telecommunication services. On the internal front, reducing poor VQ enables you to identify the issues within your own infrastructure for which you can then build a business case.

Currently not enough organisations are prioritizing the need to address poor VQ.

Reducing wasted agent time, customer churn and staff churn are traceable with the right tools and ROI is high for dealing with the problem.

## **Appendix 1**

The following list of sources is acknowledged to have provided information, interviews and/or reports that were used in the compiling of this whitepaper with thanks:

ContactBabel ([www.contactbabel.com](http://www.contactbabel.com))  
Call Centre Association ([www.cca-global.com](http://www.cca-global.com))  
Call Centre Focus ([www.callcentre.co.uk](http://www.callcentre.co.uk))  
Genesys Labs ([www.genesyslab.com](http://www.genesyslab.com))  
Call Centre Helper ([www.callcentrehelper.com](http://www.callcentrehelper.com))  
BrainFoodExtra [www.brainfoodextra.com](http://www.brainfoodextra.com)  
TomorrowToday ([www.tomorrowtoday.uk.com](http://www.tomorrowtoday.uk.com))  
American Teleservices Association ([www.ataconnect.org](http://www.ataconnect.org))  
National Association of Call Centers ([www.nationalcallcenters.org](http://www.nationalcallcenters.org))  
Institute of Contact Sciences ([www.incosci.com](http://www.incosci.com))  
Telephone Preference Service ([www.tpsonline.org.uk](http://www.tpsonline.org.uk))  
Call Centre International ([www.callcenterprofi.de](http://www.callcenterprofi.de))  
Federation of European Direct & Interactive Marketing ([www.fedma.org](http://www.fedma.org))  
Association Française de la Relation Client ([www.afrc.org](http://www.afrc.org))

### **About the Customer Experience Foundation (CEF)**

CEF is the academic arm of Customer Experience Services Ltd and provides thought leadership and business science services through a number of partners including Empirix, grameenphone and New Voice Media and supports major financial institutions on a number of areas of best practice. The Foundation also delivers contact centre training and standards in three countries.

The Board of the Foundation comprises leaders with experience from some major institutions including Barclays, Cable & Wireless, BT, Lloyds TSB Bank, Virgin Atlantic and Deloitte.

The Foundation also provides research programmes to develop business tools that establish information that supports the development of ROI business cases in relation to business risks such as customer experience and business reputation. It also offers tools that support the business case in the sales environment and provide intellectual capital to support the use of these tools. In addition the foundation supplies training and assessment programmes worldwide.

The business and Foundation is headed by Professor Morris Pentel BA (Hons) MBA DBA who is also the Head of the Institute of Contact Sciences and the Contact Foundation. He was also the 2009 chairman of the World Class Contact Centre Forum. Professor Morris Pentel runs one of the most respected consulting businesses in the UK with a track record based on successful work for some of the largest institutions in the world. He has been involved in the delivery of some of the most significant innovations in technology over the last 25 years winning a number of prizes. He has managed projects valued in hundreds of millions and been involved in a number of high profile service deliveries on a national scale. He has influenced technology design and best practice for the delivery of contact technologies for nearly a quarter of a century.

He has hosted and spoken at numerous events and had many articles published across the world. He is regarded as a leading thinker in business science pioneering both the cost modelling of customer experience and the use of social media. He is the founder and current Chairman of the Customer Experience Foundation and is also the Head of the Institute of Contact Sciences and the Contact Foundation where he is developing Degree Courses in Contact Sciences with global educational partners.

For further information visit: [www.customerexperiencefoundation.org](http://www.customerexperiencefoundation.org) or mail: [mp@customerexperiencefoundation.org](mailto:mp@customerexperiencefoundation.org).

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### **About Empirix (commissioners of this survey)**

Empirix is the leading provider of service quality assurance solutions for new IP communications. Since 1992, Empirix has led the market in innovation and expertise for IP testing and application performance management. Its widely acclaimed Hammer™ Test Engine™, with patented technology is the acknowledged global standard for validating the quality of IP networks, systems and applications. The world's largest service providers, enterprise contact centers, and equipment manufacturers depend on Empirix® solutions to maintain the quality of the user experience for business-critical voice, data, video and mobile services. With Empirix, customers can increase revenues, reduce customer churn and cut support costs. Empirix is privately held and headquartered in Bedford, MA. For further information, please visit [www.empirix.com](http://www.empirix.com).

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