



white paper

The Challenge Posed for Predictive Dialing in a Compliant Age

A white paper that looks at how the predictive dialing industry has responded to the challenge of compliance, what compliance means for users and how dialer selection has changed in a compliant age.



Version 2.5

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1. Introduction and purpose

The world of outbound calls has been in the news a lot in recent years. In particular, fuelled by consumer reaction to the way that their telephones and privacy have been abused, the outbound world has been moving inexorably towards regulation in many countries. There is widespread awareness of the development of 'do not call' lists, which in any mature outbound market are becoming a civilised 'must have'. Less discussed is the predictive dialing technology used to automate outbound campaigns, be it telemarketing, market research or other activities.

This technology has caused considerable consumer abuse in many markets in recent years and, as in the case of 'do not call' lists, has come under regulatory pressure, especially in the more established outbound countries, such as the UK and the US.

This paper looks at the challenges that dialer regulation brings. But primarily it is aimed at providing Sytel's partners, customers and prospects with an insight into how dialers really work, so they can make more informed investment decisions. It will also be of interest to third party dialer users who are concerned about the productivity of their existing equipment.

Be prepared to be educated in matters that you don't hear discussed elsewhere in the outbound

¹ Dialer performance is also about doing effective call progress detection to screen non-live calls from agents. The technology to do this is well understood

industry. And to make the best of what follows, especially if you are new to 'predictive dialer speak', you may want a bit more background to the industry. Please see Appendix 1 for a brief historical perspective and why the US led the way in establishing a regulatory framework that sets strict compliance rules for dialers.

2. Does compliance work?

The basis for judging whether a predictive dialer is any good¹ is not how much talk time agent hour it produces under compliance! It is about the **quality of dialer performance under compliance**. The only way to measure this is to look at the incremental performance that a dialer produces when, dialing under compliant conditions, it moves from progressive to predictive mode.

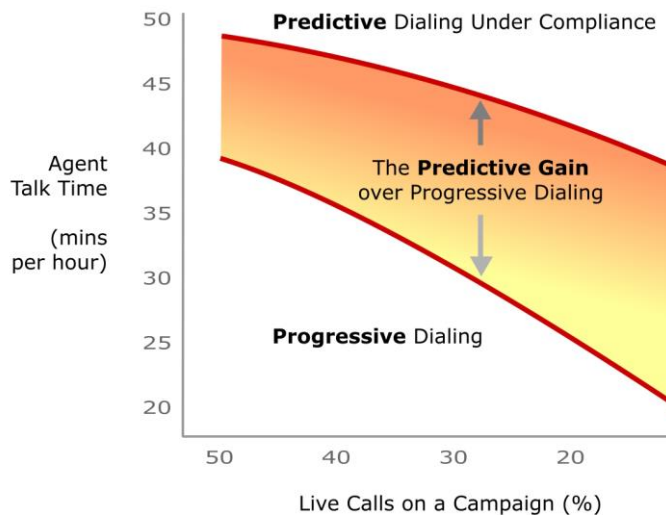


Figure 1. The predictive gain (live calls)

and available to any vendor. It is assumed in this paper, subject to regulations, that such technology is deployed.

Take a look in Figure 1 at the kind of 'predictive gain' that the Sytel Dialer produces on a typical telemarketing campaign with 20 agents. With a properly designed dialer, the 'predictive gain' can be very high, especially under tough dialing conditions, such as low levels of live calls. A corollary of this is that if a dialer is not designed to cope under the tough new regulations now facing dialers, then the opportunity cost, i.e. the loss in productivity can be equally big.

Imagine this for a moment. Think of a motor car that has been given 50 gallons of petrol to get from Point A to Point B, and where someone then comes along, siphons off 47 gallons, and tells them to go for it! No prizes for realizing that they will have to walk most of the way if they expect to get to B.

Here's another way of looking at the challenge compliance has brought to dialers. Imagine that you are running a predictive campaign where

- one in every five calls is answered by a person, and
- you are working within the FTC limit of 3% for abandoned calls

What is the maximum number of abandoned calls you can make under compliance per 1000 calls dialed? This is not a trick question; think about it for a moment, before you check the answer at the bottom of this page.²

The result is completely at odds with how dialers have been designed and thought of historically. Suddenly abandoned calls are not only the sole kind of nuisance call that a dialer can make, but they have also become a very scarce resource. Use up your small quota too quickly and you have to dial in non-predictive mode to remain

compliant! So, for a typical dialer, how quickly do you think this number of abandoned calls might be used up in our example of 1000 calls?

Unless predictive dialers have been designed from the ground up to cope instantly and precisely with any and all changes to campaign conditions and deliver a dialing rate that corresponds to a maximum abandoned call target of 3%, then they are unlikely to get far into the 1000 calls in our example. They will use up the allowable abandoned calls and then be forced to shut down into progressive dialing mode, i.e. dialing out on just one line, rather than several, for each call. This means that the 'predictive gain' on a campaign will fall off sharply, taking talk times per hour down from as much as 45+ minutes to around 30 minutes, or often less.

As we noted earlier, the US regulators didn't bother to ask whether dialers could cope when they brought in their rules. That was hardly a concern. They were responding to consumer pressure and what the call center industry in the US misguidedly said at the time about its performance. It's not surprising that regulators elsewhere are following the US example and enforcing a 3% maximum for abandoned calls.

In the US dialer vendors responded with white papers, upgrades and strategies making it clear that their products would be compliant with the new rules. At the risk of sounding unfriendly, "Big deal!" There is nothing difficult about being compliant. All you do is restrain your dialer once it reaches the maximum allowed for abandoned calls.

² The answer is $3\% \times 20\% \times 1000 = 6!$

Just as regulators never asked if dialers could cope with compliance, so too dialer vendors have been very slow to respond to the tough challenges posed by compliance. The answer lies in good design.

3. Spotlight on design

Predictive dialer designs are not alike and if you are going to invest big dollars in a predictive dialer, is it not reasonable for you to question how a product really works rather than just subject yourself to a friendly reference site visit? Let's look at some popular design notions that most dialer users will be familiar with and see what sense we can deduce from them.

(i) Predialing for specific agents.

Many dialers 'watch' what an agent is doing through talk and wrap activities and try to understand behavior patterns that can then be used to predict when that agent will be free. This allows the dialer to predial for an agent so that hopefully a live call will be waiting for him as he becomes free to take another call, or shortly thereafter.

This particular idea has its roots in the 1980s when dialers were developed for the collections marketplace. There were two crucial differences from today:

- In those days, it could take up to ten seconds to reach a called party, because of latency and delay issues, and during at least some of this time you could cancel a call before it started ringing, thus not causing a nuisance. And you would do this if the agent(s) suddenly got another live call(s).

- If you got your timing wrong and the called party was on the line, but no agent was free, then you simply kept the called party waiting. He owed you money, so this was seen as reasonable thing to do.

But life has changed! You pulse the digits out to the network and with today's dialers and networks you are ringing in the called party's home in round about a second a two. So what if the called party answers the phone quickly? The agent may still be closing a call and yet is being asked to take another one! In today's regulatory climate you cannot just put the answered call into a hold queue, as dialers used to. The call has to be abandoned and, in the UK and the US, counts towards the 3% regulatory quota. Under compliant conditions it is simply impossible to track what an agent is doing in any meaningful way and to predial specifically for him, without totally compromising predictive performance.

So are we saying that the Sytel dialer doesn't do any predialing at all? Not at all. Check out Figure 2 a few pages below. These are graphs from a campaign run by one of the UK's largest telemarketing agencies several years ago. They clearly show what Sytel calls 'implicit predialing'; the more agents, the higher the dialing rate, meaning that the dialer is not just dialing for the current agent, but for the next agent(s) to be available.

Remarkably, the idea of agent-specific predialing continues to cast its seductive spell. During the past year we have seen several new dialers enter the market, with great claims based on their ability to track exactly where an agent is in a script and therefore be able to offer enhanced predictive dialing performance.

Several years ago, one global call center vendor in a welcome moment of honesty posted a page on their web site saying that by basing predictive algorithms on the behavior of specific agents it was impossible to achieve effective performance under compliance! But dialer vendors are there to win customers and not to be overly self-critical of their products. When we offered to help, the offending web page quickly disappeared. Since then said vendor has resorted to claims of having the world's best dialer. That's marketing for you!

If you are an industry veteran reading this and scratching your head, then we don't blame you. The idea of predialing for specific agents does have a very intuitive appeal. But you know it can't be easy, and that's why customers pay top dollar for dialers that have met this challenge successfully! If this describes you, then please read this section of the paper again. If you are not convinced that predialing for specific agents is a very bad idea then feel free to tell us. Then if you are still not convinced, we will be happy to talk through the issues with you in detail. Or better still, apply the 'predictive gain' test, under compliance, that we discuss in Sections 2 and 7.

(ii) The supervisor controls the dialer

The next popular idea that many readers will be familiar with is the notion that supervisors can and should control what dialers do. The dialer industry has spawned a generation of supervisors who sit over the dialer monitoring performance minute by minute, making small adjustments to the pacing algorithm in order to get maximum performance.

What is amazing about this practice is that the big brands in the dialer industry have convinced a whole generation of users that this is the way to manage a dialer. Users have been attracted to the idea because it gives them a sense of control of their destiny. Even today the vast majority of the users of big brand dialers are convinced that unless they have control over pacing, the dialer can't be any good!

If you are running a number of campaigns, each involving an array of constantly changing data, for example changes in live call rates, talk times and so on, there is simply no way that the human brain is capable of calculating dialing rates with any precision. Doesn't matter if you have a Ph.D in math. All that a human can do is to realize that abandoned calls are either excessive, or on the low side and adjust the dialer pacing. This is akin to driving blindfolded, speeding up in order to cover a reasonable distance, hitting something and then changing direction – and repeating the process all over again. Not a good recipe for getting very far.

Humans cannot calculate dialing rates with the precision that performance under compliance needs; like the blindfolded driver, they are reactive rather than proactive. This means that if the dialer is trying to achieve reasonable predictive performance, then the quota of abandoned calls available to a campaign gets used up quickly, before the dialer can get properly into predictive stride.

One major vendor who has for many years claimed to have the world's best dialer has made a virtue over having multiple different pacing strategies for a supervisor to choose from. But they have been learning and have released a dialer, where the pacing control has been taken away from humans and given

entirely to intelligent software, 'eliminating the need for manual intervention'. We have a simple message for this big brand vendor. "If your previous dialer was the world's best, then why change?" OK, that is tongue in cheek. Naturally we applaud any vendor who follows our lead and automates their pacing engine.

But automation of pacing is no guarantee whatsoever of excellence in performance. It is simply a necessary step on the way. What matters is what gets automated. The easy route is the reactive one, where the dialer monitors hit rates, abandoned call levels and a few other key indicators and changes direction, according to movements in them. This is very much akin to automating the driver we talked about earlier, but still with the blindfold on. We expect most automated solutions to be of this type. Those companies that are willing to make the big investments required to do proper pacing under compliance will go down what we call the proactive route, following Sytel's example, which we now turn to.

4. Sytel dialer design

Sytel spent many man years in the mid 1990s building and rebuilding predictive algorithms with the challenge of providing excellent performance under the tightest of compliance rules, driven by software and not humans. It simply never occurred to us that markets would tolerate bad dialing for long and we decided to get the design basics right before going to market.

It was only after many man years of effort that we brought our special purpose dialing engine,

³ Historically a number of dialer vendors have enabled users to launch many calls as soon as an agent is free, more than are reasonably required to

the Virtual Event Machine® (VEM) to market. From its launch in the 1990s we decided to mandate compliance for all users, no matter what country, long before the regulators got involved. Why? Because with the right design it is possible to get very good, if not excellent performance under compliance and the users we have in over 50 countries around the world are testimony to this.

VEM is a specialist simulator engine that was designed specifically for the outbound market. All the user does is to specify a maximum target for abandoned calls and leave the rest to VEM. It then achieves, continuously, the maximum dialing efficiency for that rate of abandoned calls. No calls left in hold queues, no other bad habits such as predictive hang-ups³. The supervisor then gets on with managing the campaign itself and just ignores the dialer which manages its own pacing, with no outside interference!

VEM continuously monitors all events and data that are involved in outbound campaigns; for example dialing outcomes, call histories including callbacks, agent movements and all talk and wrap event times. It continuously reruns, sometimes with multiple simulations for each campaign, to calculate the right dialing rate. Because of the power of VEM, the dialing rate is updated in milliseconds rather than seconds.

Some analysts talk about the time required to stabilise the dialing rate when events change suddenly, especially agent movements in and out of campaigns. For efficient dialing under compliance, there is no such time. Because of

get a live call. As soon as the first live call comes in, the dialer hangs up on remaining calls, not recording them as abandoned calls.

the fine tolerances for abandoned calls under compliance, the dialer needs to update its dialing rate immediately. VEM is able to do this for many campaigns running simultaneously on account of its highly-specialised design, allowing it to simulate at a rate of tens of millions of calls a second.

Earlier in the paper we poured some much-needed scorn on the idea of agent-specific predialing. A well-designed dialer does generate a predialing effect but not related to any specific agent.

compliance rules. As the dialing rate goes up, the dialer is effectively predialing not for an agent, but for **any** agent.

Note the three dips in agent numbers, as agents went out on break and how the dialer immediately and seamlessly recalculated the correct dialing rate to avoid unwanted abandoned calls, which stayed at 2% throughout the campaign.

Instead of trying to dial for a specific agent, VEM is much more ambitious and this explains the enormous amount of computing power required to do its job. It calculates dialing rates based on the likelihood of **any** agent becoming available in the next second, two seconds and so on. This is a highly complex statistical process that we have refined over many man-years of development. It is worth bearing in mind that although the subject in hand is **predictive** dialing, we are actually dealing with uncertainty and probabilities. Managing these in respect of everything that is going on at any one time is key to efficiency under compliance.

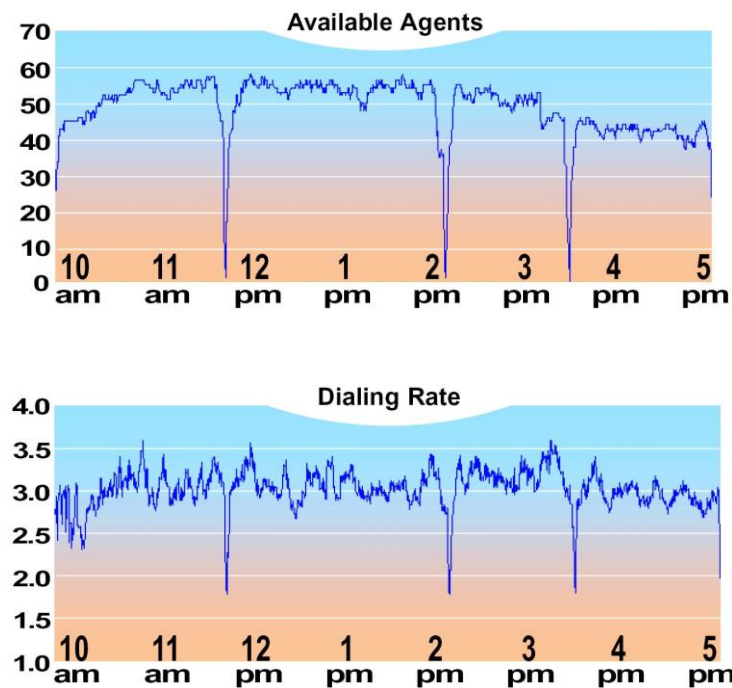


Figure 2. The Sytel dialer at work

Figure 2 graphs agent availability against the dialing rate, in a campaign run by one of our users. The dialing rate is the number of calls that the dialer launches every time an agent becomes available to take a call. As you can see, the higher the number of the agents on a campaign, the higher the dialing rate, whilst maintaining an abandoned call rate within

Judging the effectiveness of an automatic pacing engine under compliance by looking at its design is not easy. So it shouldn't surprise anyone that discussion on this topic will continue in the future to be bedevilled by lots of white papers and patents pending, including from us! But help is at hand. In Section 2, we spelled out the acid test that any dialer should be submitted to, if there is the slightest doubt about its capabilities under compliance.

5. Putting Sytel to the test

Let's now look at the test from Section 2 in another way. In Figure 1, we showed a typical telemarketing campaign and how the 'predictive gain' varies with the live call rate. We are now going to take the same campaign, hold the live call rate at 35% and show how the Sytel Dialer delivers stunning 'predictive gain' at very low levels of abandoned calls. See Figure 3.

Notice how most of the gain comes at very low levels of abandoned calls. This is contrary to the popular view that a quantum leap in abandoned calls leads to an equivalent leap in performance. With a properly designed dialer, this simply isn't so. The shape of the performance curve will vary with the kind of campaign but in all cases shows the same basic characteristics, tailing off as the abandoned call rate rises through 3% to 5%. If any regulator happens to be reading this, we don't want to be a killjoy but don't think this provides a basis for setting the limit for abandoned calls even lower

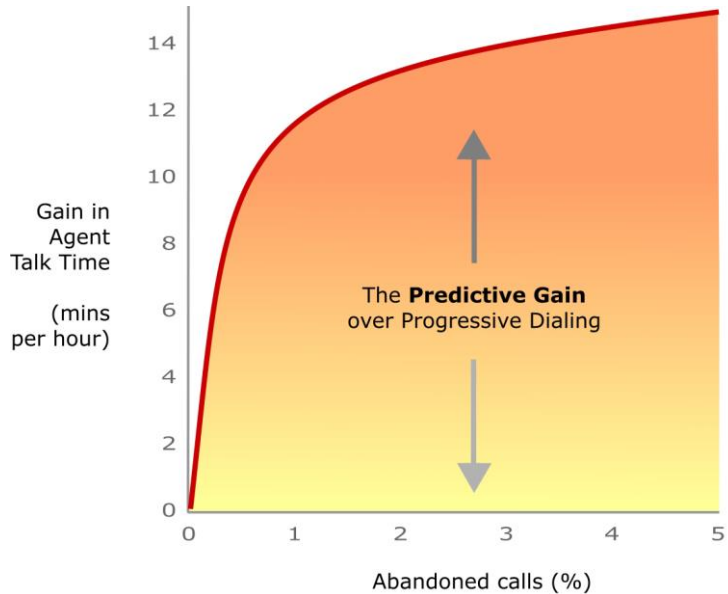


Figure 3. The predictive gain (abandoned calls)

than 3%. It doesn't. The vast majority of dialers simply do not work like this (in fact we are not aware of any that do), and even 3% is simply a step too far for almost all existing designs. But should regulators get even tougher, then Sytel users can be assured that their investments are future proof.

Let's now consider some typical challenges met by Sytel's dialer on a regular basis:-

(i) Live call rate less than 10%

Sytel has many customers, especially in the collections market whose live call rates are very low. The 'predictive gain' can be 20 minutes or more in the hour. In our experience, the only way most dialers can achieve reasonable performance under these conditions is by dialing well outside compliance limits. For comparable dialing performance it is not uncommon for the Sytel Dialer to be dialing at 3%, when a competitor can cope

only at 30%. Ask any savvy collections manager whether he is happy to make lots of nuisance calls and you'll get a resounding no.

(ii) Significant patterns of bad data

Wouldn't it be great if users could clean lists so that all numbers were valid, in service and so on and that the networks to be used never got overloaded or returned bad codes. The real world is different and dialers, especially in the US, not only need to highlight such data for user action, but they need to manage the dialing rate so that agents are still kept supplied with a constant stream of answered calls. The Sytel Dialer does this seamlessly, without user intervention, even when bad data rates are 90% plus.

(iii) Constant changes in agent numbers

See Figure 2 again. The most challenging job for any dialer is to cope with agent movements. As agents enter and leave campaigns the dialing rate needs to be recalculated immediately, as happened here.

(iv) Sudden changes in talk/wrap times

Some campaigns will consist of discrete data sets linked together. As the dialer moves from one list to another, the running history kept by the dialer will change suddenly but it will take some little time for the dialer to know that it is facing a permanent change in dialing conditions – and hence has to change its dialing rate. Allowing for such inherent unpredictability has to be built into the dialer's logic and in Sytel's case is again handled seamlessly without user involvement, or without the dialer getting out of control

6. What about a benchmark?

If the Sytel Dialer is that well differentiated against other dialers then why can't users access benchmarks that make the performance difference clear? It's a question we often get asked by new users and prospects. There are occasionally private benchmarks run by individual companies but these never emerge into the public domain.

In a world where most dialers still struggle to perform well under compliance, do not expect any body or consensus to easily emerge, which will allow for unequivocal comparisons to be made among dialers. Until dialer design improves markedly, especially among the big brand vendors, this simply will not happen. There has been an attempt to set up an independent standard in the US, but the procedure, from a performance viewpoint, was simply inadequate.

Benchmarking for predictive dialers resembles the database markets before the Transactions Processing Performance Council (TPPC) stepped in to define a proper standard. Until or unless an acceptable benchmark emerges, the user or buyer needs to be wary.

There are still many users who believe that predictive benefits can only produce significant benefits when dialers are working at high levels of abandoned calls, well outside accepted compliance limits. In large part this is due to the continuing overhang of bad dialer designs.

Given the lack of effective benchmarks how should a user go about selecting the best-performing dialer to meet his needs. As we have discussed in this paper, asking intelligent

questions about dialer design is a step in the right direction, but are there some simple questions that can be asked, when the black magic of designs, white papers and patents is looking impenetrable?

7. Selecting a dialer

The decision process on dialer performance can be reduced to just two key issues. These are:-

- **The 'predictive gain'.** If you are paying good money for a predictive dialer, then remember that what you are really paying for is the extra talk time per hour that predictive can produce over progressive dialing. It is entirely reasonable to ask any vendor to give you a free trial or take you to a site where you can measure this. Any dialer worth its salt can easily switch between progressive and predictive modes so that you can measure the difference. If the predictive benefit is only a minute or two then you may want to consider whether it is worth paying for. Just because a predictive dialer manages say 47-48 minutes talk time in the hour does not mean that it is worth investing in – and that applies to us as well – if in progressive mode you can get 45+ minutes talk time in the hour. This point should not be lost on those end-users reading this who have been on a reference visit and seen this kind of performance. Did you ask the call center to turn off predictive mode to see what performance was using just progressive mode? If your purchase decision is really about how much 'predictive gain', then that's exactly what you should be doing.
- **Compliance conformance.** As well as understanding the 'predictive gain', you need to be sure of how it was achieved. Were compliance rules followed? Make sure you know your local rules, or what best practice rules are and then ask some searching questions. Look for clear evidence that rules are actually followed. For example are abandoned calls measured in the right way? If you are not sure how to check compliance or what your rules are, then always feel free to ask Sytel. Just remember that unless you can be quite sure that compliance rules are being adhered to, you will have no way of doing a proper evaluation.

For users considering Sytel, compliance comes as standard. We either mandate regulatory standards in those countries where they exist, or otherwise apply best practice standards based on self-regulatory standards published by national direct marketing organisations. More information is available from Sytel, on request.

The bonus for our users is several-fold:-

- They know that the real performance gains in predictive dialing come **under** compliance, not outside it. See again Figure 3 above
- They have guaranteed compliance
- There is no possibility (as well as no need) for supervisors to bend the rules in search of better performance
- Crucially, they can be assured that they are not abusing their customers with high levels of non-productive nuisance calls

8. The price of inefficiency

Those outbound markets where predictive dialing has the most potential are those where talk/wrap times are short, live call rates are low and agent numbers are at least in double figures. Under these conditions the predictive gain over progressive dialing can be as high as 20 or more minutes in the hour. If your company mandate is to dial under compliant conditions, then unless your dialer can achieve the required precision that we have talked about in this paper, then you risk sacrificing most if not all of this benefit.

As a user making a decision to buy a dialer the issue is not whether a dialer is compliant. No vendor worth its salt would do anything other than claim compliance. Quite right too, since it is very easy to achieve. The real issue, which cannot be over-emphasised, is the ability to dial efficiently under compliance. Any buyer who cannot be sure to achieve this should keep his money in his pocket, or stick to progressive or preview dialing.

Michael McKinlay
CEO
Sytel Limited
March 2017

Appendix 1. Background note

Dialer history

Predictive dialing was first developed for the collections market in the US. Dialers had reasonable facilities for determining what happened when they were presented with an answered call; for example was it an answering machine (quickly detected in the days of tape-based machines) or a live person? But their design in terms of how many numbers to dial at any point was, to put it mildly, crude. This usually meant far more live calls being dialed than there were agents to answer them and this in turn meant large numbers of nuisance calls, as 'excess' live calls were abandoned or put into hold queues. There was a general assumption that it didn't matter if you upset customers by making nuisance calls. The argument was that the person being called was behind on payments, and was in no position to complain if they became subject of a nuisance call.

Excellence in dialer pacing was not a top priority among dialer vendors. And it created a market where 'anything went' as dialers were wound up in search of very high talk times, with little concern over nuisance calls, or consumer reaction to them. It is not surprising to find even today, that the national debt collection agencies in countries such as the USA do not subscribe to codes of practice, such as those promoted by national direct marketing associations, or government regulators. Although Ofcom (the UK telecoms regulator) requires collections agencies in the UK to follow their dialer rules announced in March 2006.

The more enlightened debt collection agencies realize that there is sense in restraining their dialers. As one remarked to Sytel recently:

"The person being called may well have defaulted through genuine oversight. If he is a persistent defaulter, you may be competing for his limited funds, since he probably owes money to other financial institutions as well. So it pays to treat him as a genuine customer and not subject him to nuisance calls!" In the 1990s, predictive dialing crossed over into telemarketing. No longer was the consumer someone to treat any which way, but rather someone whose goodwill was important in order to progress a sale. Did dialers keep up? Not at all. By the end of the 1990s the clamor from consumers in the US about nuisance calls was so loud that the regulators moved in and in 2002 brought in tough controls.

The US goes compliant

The new rules in the US were not set because dialers could manage well within them. This was hardly considered! They were set to drastically reduce the incidence of nuisance calls.

Pre-compliance, nuisance call rates were running at extremely high levels there. It was quite common for the average household to get 8-10 calls a day, of which only two would be live calls, where an agent was quickly if not immediately available to take the call. The called party was:

- hung up on before they could get to the phone in a reasonable time, or
- hung up on, i.e. 'abandoned' when they answered, or

- put into a hold queue while the dialer waited for an agent to become available

The outbound industry, tried to persuade itself and anyone else listening that the real level of nuisance calls at this time was around 5% of live calls! But the extent of abuse was so high that something had to be done. If the industry thought it was doing 5%, a lower maximum figure had to be set! So the Federal Trade Commission came up with a maximum allowable figure of 3% of answered calls.

Appendix 2. Catching up with Ofcom

In December 2016, the UK regulator updated their guidelines for predictive dialers. Our response on how to deal with these changes is set out at

<http://sytel.com/knowledge/compliance/compliance-guidelines-predictive-dialling-uk/>.

Ofcom's views on predictive dialing are radically different from those of any other telecoms regulator in the world. But if you are running a call center in the UK, or are dialing into the UK, you will want to take notice.

Perhaps the biggest change is that their mandated maximum level for abandoned calls is no more. It was 3% but that is no longer a safe harbour. Although Ofcom have made it clear to Sytel that they are not banning predictive dialing, they are not indicating what ANY level of abandoned calls is acceptable.

We have read between the lines of what they are saying and have drawn the conclusion (see

web link above) that the only safe level to dial at for the time being is 1%.

So is this workable? Well we have been pretty damming in this paper about the ability of most dialers to dial at 3%. At 1%, virtually all (other) dialers should just throw in the towel and go back to dialing progressively.

Well dialer vendors are a hardy lot. Expect many of them, and their customers, to sail close to the wind by continuing to dial at 3% - and watch out too for a concerted industry response which admits to the fact that 1% is just too low and asks Ofcom to reconsider. We have already said this ourselves, on behalf of other dialers - and it will be interesting to see whether industry at large has the courage to say this.

As we spot developments we will report on them here.



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