

Driving to One Percent:
*Call Analysis/Answering
Machine Detection*



INTERACTIVE INTELLIGENCE
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Interactive Intelligence, Inc.
7601 Interactive Way
Indianapolis, Indiana 46278
Telephone 800.267.1364
www.ININ.com

Rev. 06/13, version 2

Introduction

Small changes, big results. Everyone from the Red Cross Foundation, to Oprah, to self-improvement guides tout it. And this approach/philosophy pops-up in numerous aspects of our lives — from slight changes we can make in our lifestyle and diet to improve our overall health, to small donations we make that support larger causes.

In this series, we view this phenomenon from a business perspective and how seemingly minor additions, deletions, or shifts can reap substantive results. The first topic in our “Driving to One Percent” series is call detection and call analysis during outbound campaigns.

In the accounts receivable management industry, automated dialing has become the most prominent tool used for consumer outreach. Call analysis is arguably the most critical capability of automated dialing as it directly impacts operations, overall account workflow, and profitability.

So how much can be gained with every 1% improvement in call analysis? Let’s explore further.

Call Analysis: More Than Just Answering Machine Detection

For the last couple of decades, answering machine detection has been the critical capability of call analysis on the dialer. As the use of voice mail proliferated, accurate answering machine detection ensured that live speakers were getting connected to collectors — and that answering machines were not. Detection also ensured messages intended for answering machines were only played to answering machines — and started at the best possible time so the message wasn't truncated or began playing too late.

Call analysis, also referred to as Call Progress Analysis (CPA) or Live Speaker Detection (LSD), is often mistakenly seen as another word for answering machine detection. However, answering machine detection is just one component of call analysis. Rather, call analysis is a set of algorithms that determines how — and if — a call is answered by analyzing the audio and phone network signaling when an outbound call is placed.

Just as smartphones have revolutionized the cell phone industry, an expanded view of call analysis has changed the game for those companies that are dependent on automated outbound dialing. Advanced call analysis now is able to differentiate between six different outcomes of a call:

1. Live person answer
2. Answering machine
3. Busy signal
4. Special Information Tones (SIT) from the network (aka, tri-tones)
5. Ringtones
6. Network messaging (ex., "The caller has not set up their voice mail...")

Hardware Versus Software-based Dialers

Today's technology providers take one of two approaches to dialing and call analysis — traditional solutions are hardware and board-based, whereas newer solutions use software in lieu of the boards. That's where the differences start.

Board-based solutions generally achieve an answering machine detection rate in the range of 82%-92%. In other words, 82%-92% of the time call analysis has correctly identified that an answering machine has answered, and the call is then treated accordingly. Typically, either a recorded message is played or the call is disconnected. The other 8%-18% of the time, the answering machine is incorrectly determined to be a live person.

In contrast, software-based dialing solutions can achieve higher percentage rates from call analysis overall — and not just for answering machines.

Seeing what once was immeasurable

What about the results of an outdial that have not been measurable with board-based dialers?

Live speaker detection. Challenging audio cases such as loud background noise, hold music, and extended live greetings are detected as answering machines, resulting in live callers receiving answering machine treatment. How often does that happen? Legacy dialers are unable to answer that question. By using media servers and sophisticated algorithms, software-based dialers such as Interaction Dialer from Interactive Intelligence can.

Callable versus non-callable SIT tones. Approximately 30% of SIT tones delivered by North American telecommunications providers do not include a tri-tone. Without the tri-tone, only media server call analysis solutions are able to identify those messages. The remaining messages that are fronted by tri-tones are commonly lumped together and given a single treatment, as many hardware-based dialers have not been programmed to differentiate among the various tones. To the contrary, advanced media server call analysis is able to recognize virtually all network messages and then categorize them into "callable" (no circuit available, reorder) or "non-callable" (bad number, vacant code) for appropriate treatment.

So what's the problem?

Why would a 1% improvement in call analysis be important from a day-to-day business perspective? It's that small change that can have dramatic ripple effects both on your agent utilization and account workflow. Let's look at a few different scenarios.

- 1) Non-productive calls sent to collectors.** The easiest to understand and measure, this happens when anything except a live person is sent to an agent or collector.

The result? Every misdeteected call decreases agent utilization (significant impact) and decreases the number of calls auto dialed, as agent availability is a key factor in the dialing algorithm.

- 2) FDCPA compliance.** To remain in compliance with FDCPA (Fair Debt Collection Practices Act), you have a policy to not leave more than one voice mail per day to a consumer. The dialer incorrectly interprets a network message ("Please wait while your party is located...") to be an answering machine. The IVR plays the prerecorded message; the debtor's account is updated showing that a voice mail was left; and the debtor's phone number is removed from the call list for the remainder of the day.

The result? The account is incorrectly updated and no more call attempts will be made to that debtor that day. Subsequently, the account's call statistics were updated with inaccurate information and the account likely changed status, causing an incorrect shift in the workflow.

- 3) Not differentiating SIT tones — scenario A.** The dialer places an outbound call and receives a SIT tone from the network. The dialer is programmed to treat SIT tones as "network busy" and try again. For this specific number, the SIT tone was actually for "no longer in service."

The result? An out-of-service phone number will continue to be recycled and outdialed again and again; account will retain bad number.

- 4) Not differentiating SIT tone — scenario B.** Similar scenario as above, but this time the dialer is programmed to treat SIT tones as "no longer in service," and the particular number that was outdialed is receiving a SIT tone for "no circuit available."

The result? Phone number is incorrectly removed from the call list and the debtor's account.

- 5) Not recognizing cellular ringtones.** When autodialing mobile phones (assuming with prior express consent), it's possible the standard ring will have been replaced by a ringtone. The music is mistakenly interpreted by the dialer as an answering machine.

The result? High potential for a live caller to be treated as an answering machine.

As a single event, each of these scenarios impacts one distinct call, debtor, and account. Multiplied by the number of times this event occurs each day — and we'll contend that it happens often — the ripple effect overall on your account flows, agent utilization, accurate penetration rates, and the integrity of your call lists and accounts is enormous.

What's your answering machine detection rate?

If you haven't already, take a moment to determine your own answering machine detection rate (AMDR). This most commonly used formula is straightforward — take the number of answering machines sent to an agent and divide it by that same number, PLUS those determined to be answering machines by the dialer.

$$1 - \left(\frac{\text{Total Answering Machines Detected/Coded by an Agent (AMDA)}}{\text{AMDA} + \text{Answering Machines Detected by Dialer (AMDD)}} \right) = \text{AMDR}$$

For a more precise calculation, set up a sampling size and redial those calls manually. Be sure to note which of the six call analysis outcome types actually occurred:

1. Live person answer
2. Answering machine
3. Busy signal
4. Network SIT tones (may want to note if they did/did not have the tri-tone)
5. Ringtones
6. Network messaging (ex., "The caller has not set up their voice mail...")

It's a cumbersome project, but companies that have undertaken it are astonished by their results and the actual (lower) detection rates their getting across every area except busy signal detection.

Now let's determine the value of 1%

Now that you've determined your current answering machine detection rate, you can calculate the value of single percentage point improvements. Data that help include:

- Total dials attempted (TDA) during the selected time period
- AMDR (from previous calculation)
- Right party contact (RPC) average/percentage
- Promise to pay (PTP), both from live parties and right party contacts
- Average \$ value of each payment, promise to pay (\$PTP)

$$\frac{\text{TDA} * (1-\text{AMDR}) * \text{RPC}\% * \text{PTP}\% * \$\text{PTP}}{(1-\text{AMDR}) * 100} = \$ \text{Value of 1\% reduction of AMDA}$$

In Summary

The expansion in ISDN codes and more precise telecommunications network messaging, coupled with more advanced algorithms from software-based dialer solutions, have enabled the next leap forward in call analysis capabilities. Knowing the vital role dialer call analysis plays, an incremental improvement can dramatically impact collector utilization, the integrity of your account and list data, and overall penetration rates. So in the case of improved call analysis, what does a 1% improvement mean to you?

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