STATE OF THE IVR: INDUSTRY EXPERTS WEIGH IN

Insights and best practices for getting the most out of your IVR interactions.

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The interactive voice response (IVR) system is probably the most reviled component in the contact center technology portfolio. We've all heard people say, "I hate those automated machines. I just want to talk to a live person." Some businesses even focus their advertising against these "robotic-sounding devices"—for example, Discover card's "We treat you like you'd treat you... talk to a real person." And yet IVR enables self-service, identifies callers and routes them appropriately—all essential functions. It's not going anywhere anytime soon.

In this review of the IVR, we decided to augment our experience with input from some other industry experts on the current state of the IVR. The resulting "best practices" show how you can help your customers get the most out of their IVR interactions while reducing those inherent annoyances.

Do We Really Still Need an IVR?

The voice channel for customer contact is not going away. IVRs continue to provide effective self-service and play a key role in routing, if configured correctly. In fact, IVR usage continues to grow. Walt Tetschner with ASRNews projects that, while overall usage of touch-tone IVR will remain static or slightly decline through 2017, the speech-enabled segment will grow approximately 23.5% over that same period.

IVRs serve many useful purposes. They validate the customer before speaking to an agent through identification and verification (ID&V). This reduces the number of questions reps have to ask to ensure that they're speaking to the responsible parties, which ultimately reduces handle time and operating costs. Through concise and well-designed menus, IVRs also help route callers to the right people, reducing transfers and misrouted calls. And finally, IVRs provide self-service to customers, where appropriate. If customers just need to check the status of their orders, get their account balances or check on payments, why send the calls to live agents? Let's use those precious agent resources for more complex customer interactions.

> *"Customers prefer self-service for simple and routine transactions (for example, check balance)... Customers will almost always want to go straight to an agent for disputes, technical support or if any self-service channel failed."—Peter Leppik*

Done correctly, IVRs can provide a balanced front-end approach to customer calls by providing self-service where appropriate, allowing simple transfer to an agent for those who need it, and delivering speech-assisted prompting (also known as speech recognition) and read-back of variable text (also known as text-to-speech).

> *"There has been a continued focus on making sure that the customers who choose to stay within the IVR have an excellent customer experience, and the ones who choose to transfer out are finding it easier to do so."—Cheryl Fortier*

How Effective Is Speech-enabled IVR?

Automated speech recognition (ASR) holds the promise of increased customer satisfaction. To deliver on this promise, ASR must be appropriately applied to a well-designed IVR system and work seamlessly alongside traditional touch-tone functionality. As mentioned earlier, speech-enabled ports are catching up to touch-tone, but our experts generally agree that 40% to 60% of the IVRs out there are still touch-tone only. The rate of growth of speech-enabled IVRs will largely depend on how that technology's effectiveness evolves (meaning higher accuracy rates, better menu designs and customer acceptance).

THE ROLE OF VoiceXML

Everybody likes standards, right? Most IVR manufacturers hype their product's adherence to VXML, but how important is it? VXML uses the same language base to program the website and IVR, standardizing across channels. However, in most cases, VXML applications contain some degree of proprietary coding, making application porting between systems problematic. IVR vendors also showcase graphical user interface (GUI) design tools, which may create VXML or proprietary code. These tools are simplified, more efficient and often require less programming expertise. If you are going to do IVR programming in-house, determine the option that is the best fit for your environment.

"A well-designed and properly maintained speech system gives a better customer experience than DTMF-based IVR... And while a good speech system is better than a good DTMF system, a bad speech system is worse than a bad DTMF application."—Peter Leppik

Mike Burke
IQ Services

It is undeniable that we are becoming an increasingly mobile society. We are more reliant than ever on our smartphones for conducting self-service (more on this later) and interacting with a contact center. When prompted to make a selection or enter their account numbers, users may fumble around to find the "keypad" that they infrequently use on that "smart" phone and feel it would be much easier to speak the choices.

ASR detection rates used to suffer from customers using cell phones. According to Daniel Hong at [24]7, today's smartphones have improved microphones, which has greatly improved the accuracy of speech detection. But don't ditch the touch-tone just yet. Speech should not be a replacement for IVR. It is important to provide customers the choice to use the interface they prefer, and the application design should use the right input depending on the nature or step of the inquiry or transaction.

"The highest performing IVR systems switch back and forth between input modalities during a call to achieve the highest success rates with the lowest customer effort."—Joe Alwan

Cheryl Fortier
IQ Services

Speech-enabled IVRs must be properly designed (menus, scripts and libraries) and properly tuned. ASR systems measure confidence of the spoken utterances to enable system designers to adjust or tune the application. If a particular word or phrase consistently scores a low confidence rating, designers need to modify the application to avoid this potential problem. Or, they may need to add to the libraries for words or phrases that weren't expected. One method to enhance accuracy is through directed dialogue ASR. Directed dialogue essentially "helps" the caller to speak the right word(s) and results in a high confidence match. For example, "Would you like to check your balance or transfer funds?" This design technique greatly improves accuracy, but may not deliver the "wow" user experience that natural language ASR applications can (more on that in a second).

All of our experts agree: Don't force callers into speech recognition—or self-service in general, for that matter. Customers generally fall into two categories: those who want or are willing to try self-service, and those who only want to speak with a live person. Help them to follow the path they prefer with a well-designed interface, and allow callers to fall back to touch-tone if they are having a difficult time with ASR.

"The main problems occur when contact centers try to 'force' callers to use speech recognition rather than letting the caller choose the modality that is best for them on any particular call."—Rex Stringham

Daniel Hong
[24]7 Inc.

Natural language has long been touted as the best use of speech applications. Natural language allows callers to "converse" with the IVR without being directed to speak a specific word or phrase. ("Thank you for calling X company. How can I help you today?") Used in the right situations, natural language can deliver the ideal customer experience. With that said, our experts have not seen an overwhelming number of clients opting for this technology (vs. touch tone or directed dialogue). Reasons include:

- **Return on investment (ROI) over alternatives:** Success with touch-tone (or directed dialogue) reduces the need (and ROI) for the expensive natural language program.
- **Limited budgets:** Best practice suggests backing up natural language prompts

with directed dialogue. For example, "How may I help you?"... "I'm sorry, I did not understand you. You can say: Check balance, make a payment or transfer funds." If directed dialogue is necessary as a backup in case the natural language prompting fails, then why buy ASR in the first place? Those dollars can be spent on better menu design, proper stress testing, speech engine tuning, etc.

- **Ease of use:** Low detection rates and confusion surrounding what callers should say frustrates them and creates negative customer experiences. Customers expecting a menu of options tend to panic when simply asked, "How can I help you?" EIG's Stringham dubs the resulting silence the "deer in the headlights" response. Also, customers are easily frustrated by hearing, "I'm sorry, I didn't understand you... Can you repeat that?"

"Natural language gives an enormous amount of design flexibility, and can produce better systems than directed dialogue. But it is a huge technical challenge to get it right."—Peter Leppik

Peter Leppik
Vocal Laboratories Inc.

To Use or Not to Use Text-to-Speech (TTS)

Opinions on the proper use of TTS in IVR applications vary. Clearly, not all responses can be pre-recorded, but where is the proper delineation? TTS should be used where data to be played back to the caller is highly variable and can't be cost-effectively recorded, such as customer names and addresses, or large or dynamic product sets. Variables, such as currency, numbers, dates and times, can be recorded in the same voice as the menu prompts for improved customer experience.

To be fair, there are various opinions about whether companies should keep using professional voices for their IVR variables, or if TTS quality is good enough to use for all messages. Licensing, implementation and tuning costs for TTS could potentially be more than simply recording. On the other hand, TTS provides flexibility and a quicker deployment than waiting on the studio to turn recordings around. As TTS technology improves and becomes increasingly less "robotic," TTS use will undoubtedly grow.

Joe Alwan
BBN Technologies

"TTS must be tuned. That is, a contact center can't just dump text in and expect proper pronunciation to come out."—Rex Stringham

Mobile Apps and "Visual Menus"

There continues to be a big push in the market for smartphone applications that not only allow self-service, but seamlessly transition to agent contact. Most service-related companies already have apps for self-service, such as checking account balances, depositing checks, filing claims, changing airline seat assignments, etc. They may also have a button to call for customer service. Many are expanding these applications to include menu choices rather than just dialing the toll-free number into the center. These "visual menus" mimic IVR menus and help get the customer to the right agent.

The concept of contextual-based choices in self-service is highly attractive for the mobile app. The visual menus can be dynamically associated with the area of the app the customer is navigating, or based on customer value or segmentation, thus greatly simplifying the visual menu. We see great potential in this area. However our experts have not seen widespread adoption.

Rex Stringham
EIG Inc.

"This is an area in its infancy; we see strong growth occurring in the next few years."—Gary Van Gordon

We are also seeing other multimodal user experiences associated with smartphone apps and the contact center. An example of this is notifications after an event trigger, such as potential fraudulent charge on your credit card, through SMS text message, email or outbound call. (For a deeper dive into mobile apps and the contact center, see "Mobile and the Contact Center: The Game is Changing," *Pipeline*, November 2012; and "Can Mobile be the Birth of Great Customer Experiences?" September 2013).

"We have... worked with a few early adopters that have implemented multimodal applications that combine ASR, visual displays and touch screens..."—Rex Stringham

To Host or Not to Host?

Hosted IVR vendors are many and varied. Most provide speech-enabled services, and some offer a suite of contact center technology applications. Hosted IVR solutions are ideal for smaller companies without an IVR, those with legacy or end-of-life IVRs, situations with highly variable volumes, or companies with limited capital but a need to expand into speech recognition.

"Cloud-based IVR solutions are gaining traction especially for companies that have large seasonal variations in offered traffic."—Mike Burke

A key benefit of a hosted solution is that you are essentially "renting" the IVR development expertise, which is good for companies of all sizes. These vendors have years of experience in designing applications in both speech and touch-tone environments. Their expertise and proven deployments can greatly speed your applications to market. Integrations to your premise-based ACD and backoffice core systems still have to happen and might prove challenging, even more than premise-based systems.

"Cloud providers frequently provide expertise, infrastructure and capacity that companies would otherwise have difficulty justifying or sustaining."—Joe Alwan

The New, Improved (and Lovable?) IVR

The IVR still plays a significant role in the contact center, and its role is evolving for the better. Today's IVRs support ASR, natural language, smartphone, TTS, etc. Script designs incorporate these functionalities where appropriate, and still respect customers who want to talk to agents.

The right mix of professional recordings and TTS can help optimize the interface. And seasoned professional services ensure properly tested and tuned applications. The end goal is that customers will not just accept it, but embrace it.

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INNOVATIONS TO WATCH

You may have heard "Voice Biometrics" referred to as voice print analysis (not to be confused with speech recognition) or speaker recognition. Whatever you call it, Voice Biometrics (VB) has two main functions in the contact center: (1) authentication (pin or ID&V enhancement), and (2) fraud detection. Authentication requires active enrollment of the customer by prompting them to repeat phrases several times to record and store their "voice print." Then the next time the customer calls, the phrase is validated against the recording. Walt Tetschner with ASRNews sees this as a rare novelty in the contact center. Fraud detection involves passively recording a customer while they are interacting with an agent, then using that recording to match and validate the customer the next time they call. By and large, our experts have found that customers do not trust that they can be validated through their own voice, and still prefer PIN use.

"We have found that voice biometrics is best used to augment security rather than replace the need to remember a PIN. Most customers are uncomfortable using only a voice print for authentication."—Rex Stringham

A new concept is emerging with the aim to improve speech detection, not by technology, but by human intervention. Live "gamers" act behind the scenes to help with IVR navigation and prompts when the technology is not able to confidently recognize what is said on its own. There is no direct contact with the customers, just using tools to put the caller on the right path. Companies that have deployed this have seen positive impact in customer satisfaction and success rates. We see this as an intriguing concept that requires a contrast of its cost-effectiveness with properly tuning the IVR speech application and accepting that some calls will go to agents and some will need rerouting.

A new element of customer relationship management involves the use of dynamic IVR scripts to customize the IVR menu for each caller. The system examines the customer profile, value, past interactions, etc. and presents custom scripts to improve the overall customer experience. For example, a customer who only has a checking account and routinely calls for balance inquiry or check status doesn't need to hear menu choices for mortgage, savings, CDs, etc. Menus can change based on where a customer is in the mobile app, reducing the amount of visual IVR choices. There are also options that adapt the speed of the scripts to the user based on their interactions.