Enhancing the Self-Service Experience

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IVR Integrated Voice Response (IVR) is the most widely used call center technology worldwide, after the switch or Automatic Call Distributor (ACD). IVR is a telecommunications technology that accepts a combination of voice and telephone touch-tone keypad input and provides appropriate responses in the form of voice, fax, callback, e-mail and perhaps other media. IVR technology has evolved from DTMF (Dial Tone Multi-Frequency, or touch-tone) to ASR (Automated Speech Recognition) in recent years with the maturity of voice recognition engines.

A Little History

In the technology’s infancy, Auto Attendants (AA) and Voice Response Units (VRU) provided menu options and scripting tools to direct callers to certain queues or to provide information to callers, with minimal interaction. The IVR brought integration with enterprise information systems and the ability to interact with callers to customize questions and responses. ASR, which is slowing coming into its own, adds conversational interaction with callers as well as a more effective way to gather input for interaction and customization.

It’s taken more than a decade for IVR acceptance to grow, but only after companies realized they were alienating customers at the expense of automation. The push in recent years has emphasized the importance of the “customer experience” and its linkage to customer satisfaction and profitability.

Companies are now actively addressing IVR usability through customer-friendly design. Our study results confirm this transformation—IVR-handled calls have increased as a result of continuous improvement in IVR usability and functionality. However, the drive for automation has been somewhat moderated with the quest for “self-service”—providing IVR services as an option for customers to help themselves, rather than forcing callers to use IVR services.

In short, IVR technology offers companies more cost effective call management through call segmentation, automated call handling, and informational messaging. IVR offers customers 24-hour services and privacy. IVRs can also help companies manage peak call volumes, enabling companies to be more responsive to more customers.

Automated Speech Recognition (ASR) is slowly gaining in popularity, as our survey results confirm. ASR facilitates communication between man and the machine by letting callers speak, often naturally, commands and menu options, rather than pushing touch-tone buttons on the telephone keypad. Recognized speech is then digitally converted so it can be processed by the IVR and other associated systems. Correctly designed speech recognition IVR applications offer a more personal, pleasant, and efficient customer experience—a more human interface.
ASR has evolved over the past few years. Earlier applications were clumsy with low recognition rates, frustrating callers and the companies that implemented the solution. Recent technologies have improved recognition rates by increasing vocabulary and dealing with other challenges like pitch, accents, speech patterns, and foreign languages. Speech recognition technologies include: small and large vocabulary, natural language, speaker verification, and text-to-speech.

**Evolving Technologies Expand Opportunities**

New standards in speech technology are giving a much-needed boost to the predominately proprietary IVR technology market. SALT (Speech Application Language Tags), VoiceXML (Voice Extensible Markup Language), and CCXML (Call Control XML) are making it possible to create solutions that work on multiple platforms—making it possible to use the same infrastructure and language to manage web-based and IVR self-service.

SALT concentrates on speech communications from phones, cell phones, PDAs, or other handheld devices (multimodal) and host computers. Companies like Google, Yahoo! and Microsoft are raising the bar for consumer expectations by creating voice-activated search services to deliver location-based information such as directions to cell phones and other handheld devices.

VoiceXML helps IVR voice applications be more easily integrated with internet-based applications. It allows voice applications to be created in an environment familiar to anyone with any web development experience. VoiceXML's major goal is to bring the advantages of web-based development and content delivery to interactive voice response applications—the voice portal. Voice portals make it possible for callers to obtain news, stock prices, e-mail, and other information from the Internet and perform transactions using voice commands.

CCXML markup language is designed to provide telephony call control support for VoiceXML. CCXML provides control for how phone calls are placed, answered, transferred, conferenced, and more. CCXML allows the industry to leverage the strength of Web platforms and technologies to intelligently control calls on and off the telephone network.

Making voice applications easily web-compatible allows for voice applications to be delivered more easily through a hosted model and through the Internet, through VoIP (Voice over Internet Protocol). Many companies and call centers are actively replacing old PBX/ACDs with VoIP telephony. VoIP is also becoming popular with consumers and small businesses, mainly because VoIP service is not currently subject to the taxes and fees incurred by traditional landline telephone service.

In fact, new standards have enabled a standardized approach to deploying speech-enabled applications throughout a corporation, including: voice-driven IVRs, speech-enabled voice mail and email, voice-activated dialing, and text to speech. Now the corporation can automate internal and external business processes more efficiently through voice interaction.

The new standards and open platforms are creating a shift from hardware to applications and services. The standards are also opening up a proprietary market, enabling more vendors and solutions to offer new services and solutions.
There is certainly a great deal of potential moving forward. And realistically, IVR technology, and its earlier descendants, is blazing the trail to automated self-service and voice-enabled services. All of the mistakes and lessons learned, however painful, are advancing this technology.

Ultimately, IVR success rests on the quality and outcome of the conversation or interaction, just like calls into the call center or visits to a web site. Regardless of the channel—IVR, email, letter, voice, website—it all comes down to the quality of the interaction and the ultimate resolution.

Companies are now realizing the importance of aligning internal quality goals and measurements with the customer or end-user’s quality goals and expectations—measuring the “customer experience” rather than management’s interpretation of the customer experience. This approach is now being reflected in call quality monitoring and the coaching of agents. The same concept is also applied to the “virtual” rep—whether it’s the IVR or the web site.

**Benchmark Study of IVR Deployment**

To better understand the state-of-IVR, the Ascent Group recently conducted a benchmarking project to evaluate IVR performance, to understand the never-ending IVR deployment challenges, and to identify IVR “best practices”. Thirty-one companies from seven industries participated in the research. This is the seventh study of IVR deployment study conducted by the Ascent Group.

The main objective of the study was to evaluate the strategic deployment of interactive voice response technology and to identify best practices or opportunities for improvement. Secondary objectives included understanding:

- The range of deployment strategies;
- Primary business objectives and drivers of IVR deployment;
- How IVR technology fits into a customer service strategy, and
- How companies incorporate the customer experience or perspective.

Participants were asked to share the history of their IVR deployment, including design strategies, performance statistics, best practices, and lessons learned. The study also asked companies to relate how they measure the success of their IVR implementation and to relay any improvement plans moving forward. The following pages summarize the study’s findings, observations, and recommendations.

Study participants ranged in size from 80,000 to 285 million calls handled per year. Industries represented included:

- Financial Services
- Services
- Insurance
- Consumer Products
- Telecom
- Manufacturing
- Utilities
Automation is most important driver of IVR deployment for our participants, followed closely by customer satisfaction. Participants deploy IVR applications that satisfy from 5.7 percent of calls handled to as many as 86 percent, indicating varying degrees of maturity and functionality in the panel’s technology and the variations by industry.

Typical self-service applications offered to customers include:

- Account inquiry,
- Trouble reporting and status inquiry,
- Payment extensions,
- Pay by phone,
- Ordering,
- General Company information.

The most popular IVR self-service application was not surprising—account inquiry, something that is common to all industries. Eighty-four percent of participants offered the ability to obtain account and billing information through the IVR.

IVR technology has been deployed within our panel, on average, for 7 to 8 years. Only 16 percent of study participants utilize automated speech recognition (ASR). Another 19 percent have near-term plans to implement speech recognition in the near future. In total, only 35 percent of participants have or plan to have ASR. In a similar study conducted by the Ascent Group in 1996, speech recognition was offered by less than 10 percent of participants. At that time, most were waiting for the technology to improve, and it clearly has. However, deployment since then has been slow. In contrast, seventy-one percent of participants have deployed CTI (Computer-Telephony-Integration) in conjunction with their IVR.

Participants rank “selectively forcing callers through the IVR prior to speaking with an agent” as the most important IVR deployment strategy. Forcing callers through IVR applications increases system utilization and success, especially for callers who are unfamiliar with system options and
functions. Selective forcing can encourage higher IVR usage for the more routine tasks while freeing up representatives to handle the more complex service issues. Selective forcing can also be dynamically deployed. Companies can selectively force callers into IVR applications during peak calling periods or off-hours, but allow callers to choose during slower periods.

Also ranked highly, deploying the IVR to provide optional services and for call routing. A much smaller percentage uses the IVR primarily as a back-end, over-flow service—during peak calling periods. For instance, electric utilities often rely on an IVR solution to handle callers reporting service outages, especially during a large storm or outage event.

Several participants have the capability to send a percentage of calls to an outside vendor’s IVR, transparent to the customer. This option is usually used during heavy call volume to supplement existing in-house resources or to provide specialized functionality.

Appropriate deployment of customer-facing technology is a key determinant of customer satisfaction. Successful deployment of IVR technology requires extensive research and design to ensure a customer-friendly application that will meet customer needs. And as we’ve seen in the past, poorly designed systems can do more damage than good.

Nearly all participants reported benefits of reduced or avoided costs and improved customer satisfaction. Companies migrating from touch-tone to ASR generally reported a 15 to 20 percent gain in call completions. Others reported increased customer satisfaction for after-hours self-service options. Estimating the number of agent-equivalents that would have been required to handle IVR completed calls—our panel averaged 267 equivalents—very real cost benefits.

Study Findings & Recommendations

*IVR implementations must be reflective of customers’ values and expectations.* It is critical that you understand and incorporate your customers’ needs and expectations into your IVR applications. Customer research through phone and mail surveys or focus groups can confirm fundamental needs and expectations. Further testing of IVR prototypes and subsequent enhancements can ensure that customer needs are met.

Research from prior Ascent Group IVR Benchmarking studies confirmed that “best-in-class” companies conduct extensive customer research in conjunction with any IVR design changes or additions. Best performers use customer focus groups and other research methods to establish customer expectations and the demand for self-service options—to test design prototypes, validate scripting and prompts, and confirm menu options. Not just once, but over and over—every time a change or enhancement is considered. IVR applications are fluid systems and customer expectations are ever changing. Make sure you have the ability to continually monitor customer needs so you can meet expectations.

*Speech Recognition can dramatically improve IVR utilization, however, its implementation requires a different approach than touch-tone.* Speech recognition adds another dimension to IVR design. The benefits of voice recognition-driven applications are enticing—higher usage, shorter call lengths, natural conversation interaction, and increased
customer satisfaction. Sixteen percent of our participants have implemented some form of voice recognition in their IVR application. However, adding voice is not a simple enhancement. You just don’t take a touch-tone application and convert it to speech. Voice recognition systems present the ability to create a conversational IVR application—this is vastly different from a simple “press 1” application. Our panel reported a steep learning curve. Many have found that offering both speech and touch-tone concurrently has helped ease the transition.

Overcoming the learning curve and other challenges introduced by adding speech recognition is possible and rewarding. Our participants suggest the addition of speech to IVR applications has increased IVR utilization from 35 percent to 70 percent. Customers really like speech-enabled applications if it’s done correctly.

**Accept IVR Payments.** Electronic payments are becoming more commonplace. Fifty-eight percent of our panel offers self-service “pay by phone”. Accepting and processing payments through the IVR offers significant time and cost savings. Another study by the Ascent Group revealed a growing trend towards the acceptance of credit card and debit card payments through all channels, especially for consumers.

In lieu of a mail payment, most consumers prefer to pay by debit or credit card. Make sure your IVR can accept payments—by check, ACH transfer, credit, and debit card. This will help increase the percentage of electronic payments handled while reducing call center traffic.

**Train Agents to Promote IVR Services.** By far one of the most successful, and probably least expensive, educational efforts a company can undertake is to encourage call center agents to suggest that callers access and complete transactions within the IVR. When appropriate, agents can inform callers that the transaction just completed with the agent could have been completed, without a wait, through the IVR.

“Best in class” companies recognize that call center agents have a vested interest in helping customers learn how and when to use the IVR. As more callers are encouraged to use IVR applications, more time will be available to deliver truly exceptional customer service to other callers. All too often we hear of companies whose call center agents sympathize with caller

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complaints of how complicated or difficult the IVR is to operate. In some cases, the agent is encouraging the caller to bypass the IVR completely. This usually occurs when companies haven’t taken the time to adequately train agents on the use of the IVR. The new technology has been implemented with the expectation that it will reduce call volumes and maybe even call center staffing. Agents, unless told otherwise, will naturally feel threatened. This anxiety will make it easier to side with unhappy callers and in some cases even bad-mouth the IVR. Companies should ensure that call center agents are IVR proponents. Call center agents need to be educated on IVR usage even more so than customers, especially if you expect them to recommend and encourage usage.

**Target Your Research and Promotional Campaigns at those Callers who Voluntarily Opt-Out or Frequently Talk with Agents.** Only 35 percent of participants promote IVR features through targeted campaigns. Even fewer, 29 percent offer customers incentives to use IVR services. Talk to these customers to better understand why they are opting out. This research might yield insight that will improve the design of your system or increase its functionality. Try a combination of agent promotion and a targeted mail or email campaign. Agents can point out the instances when it makes sense to use the IVR while the targeted campaign can reinforce the benefits. Customize the system, through dynamic menu options, if possible, to cater to these segments.

**Measure and Track IVR Performance.** Build your IVR application so that it’s easy to dissect each application and track call flow, errors, voluntary and involuntary opt-outs and opt-out points, hang-ups, and success rates. Make sure that you can track the caller’s outcome—measure performance from the customer’s perspective—how it impacted what he or she was trying to accomplish.

Few companies test IVR operational performance. Only 23 percent of participants use or have used a service or application to monitor and test IVR system reliability and operational performance. These applications conduct stress tests and other simulation tests to measure IVR, system, and network responsiveness and reliability.

Take advantage of a service or tool to actively test and monitor your IVR applications. These services can point out application, network, and system inefficiencies and failures that you may not recognize or hear about from customers. These tools can also track transactions, system availability, and system reliability, and even test your applications under varying degrees of stress and at varying times of the day, week, month, and year.

**Monitor IVR Call Quality.** You are asking technology to handle some of the same calls as your agents—monitor the call quality of IVR transactions similar to your agents. Have your call quality experts record/review IVR transactions to better understand the level of service that your IVR is offering customers. This is especially critical for speech-enabled systems. Surprisingly, nearly half of participants do not monitor IVR transactions (listen to live or recorded calls).
routinely or even periodically. Even more surprising, 80 percent of our participants with
speech-enabled applications do not monitor IVR interaction.

Regardless of the channel, monitor the quality of each type of customer contact to make sure
the quality is up to your standards as well as your customers. Make sure your quality standards
are in alignment with your customers as well.

**Be Careful About the Information Provided.** An IVR can be a tremendous help in
relaying routine information to customers—office locations, phone numbers, payment options,
energy-efficiency information…freeing up agents to handle more complex customer service
needs. An outage status application is another excellent way to provide customer-specific
restoration-status information to customers and possibly avert an opt-out or a follow-up call to
an agent. But it must be done correctly and actually provide useful and accurate information to
callers. Inaccurate information actually creates more calls into the center and angrier
customers, perhaps more so than if they hadn’t had the information in the first place. Make sure
your account access data is as up-to-date as possible to increase the effectiveness of your CTI
matching.

**Best-In-Class Characteristics**

Companies who are achieving high customer satisfaction and high IVR utilization exhibit some
common characteristics. Best-in-class IVR deployments:

1. Conduct extensive consumer research in conjunction with any design changes or
   additions. These companies use customer focus groups, usability labs, or customer
   surveys to establish consumer expectations and demand for IVR services—to test
   design prototypes and validate scripting and menuing. Not just once, but over and over,
   every time a change or enhancement is considered.

2. Are easy for callers to use and navigate, whether by voice navigation or touch-tone. This
   means short menus and plain language. Limit options to 5 or less—otherwise it’s difficult
   for callers to remember all the options presented.

3. Offer control to the caller—Make it easy to traverse the menu, forwards and backwards
   and to cancel a transaction. Provide an opt-out and if possible and the ability to choose
   between waiting for a representative and using automation.

4. Use CTI and other systems integration approaches to provide an intelligent call to the
   IVR or agent. Personalize the interaction and do not make callers repeat information
   that has been collected in the IVR when they are transferred to an agent.

5. Measure and track IVR performance through performance monitoring, stress testing,
   customer satisfaction measurement. The measurement structure has been designed to
   measure IVR performance in a number of ways and in varying levels of detail—the ability
   to “peel back the onion” to determine operational performance and to identify
   opportunities to improve.

6. Are supported by call center representatives who recognize opportunities to promote
   IVR services to callers.
In Summary

Do not underestimate the power of consumer research. Take advantage of consumer opinion to make sure your IVR system is customer-friendly and provides the service options that customer’s value. This is not a one-time only effort; it should be a primary step in the design and enhancement process and a standard for post-implementation monitoring.

Secondly, make sure you evaluate the performance of your IVR as you would an agent—productivity, quality, and call resolution. IVR performance measures should track caller outcome and not just internal process flow. In other words, make sure you can measure performance from the caller’s perspective, how it impacts what he or she was trying to accomplish. Track voluntary and involuntary opt-out rates, at each menu decision point. These measures will help you understand if the caller has all the information necessary to complete a transaction. They can also indicate a lack of knowledge or familiarity with system scripts and applications, indicating a need for education. Track hang-ups at each decision point. This measures satisfaction or dissatisfaction with the system. The caller may be so disgusted that they give up or the caller may have received the information needed and ended the call.

Take advantage of a service or tool to actively test and monitor your IVR applications. These services can point out application, network, and system inefficiencies and failures that you may not recognize or hear about from customers. These services can also be used to “stress test” your technology to make sure that it operates as expected under heavy load. This is a very proactive way to measure IVR performance.

If you want to increase IVR utilization, empower and encourage agents to promote its use to callers. Ask agents to help callers understand the benefit of completing transactions in the IVR. For those frequent callers who bypass IVR applications to do business in person, try a combination of agent IVR promotion and targeted direct mail campaigns. Agents can point out specific instances when it makes sense to use the IVR while the direct mail campaign can reinforce the benefits. There will always be customers who refuse to use the technology, don’t penalize them; they are still your customers.

Proven design principles:

• Keep it simple
• Consistent customer interface (IVR, Web)
• Personalize the experience
• Make it easier and quicker than waiting for a rep

Keep in mind that there are many excellent service companies interacting with your customers day in and day out. These interactions influence your customers’ expectations about your service. With this in mind, all your customer-facing technologies must be scrutinized to make sure they support your customer service strategies and deliver the expected, and if possible even the preferred, experience to your customers. Review your customer interfaces frequently to increase adoption levels and ensure self-service success.

IVR technology offers a tremendous opportunity for self-service and cost reduction. Make sure you do it right. If you don’t, the impact could be much worse than if you hadn’t attempted it in the first place.
About The Ascent Group

The Ascent Group, Inc. is a management-consulting firm that specializes in customer service operations and improvement, performance benchmarking, competitive benchmarking, work management, and industry research.

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