



Improving Business Processes by Automating Call Control

White Paper

Abstract

This paper provides an insight into some of the advances taking place in the Interactive Voice Response (IVR) marketplace and how the maturing of speech recognition technology has added significant value and flexibility to IVR applications, making them an increasingly powerful tool for the enterprise seeking to manage the costs of incoming calls while maintaining high levels of customer service and customer satisfaction.

In any drive to increase the operational efficiency of a business, three key areas are usually considered: reducing staff costs, improving staff effectiveness and reducing non-personnel related operating costs. In most medium to large organisation today there will be a telephony based call centre that handles incoming calls to the business. The size of this group will depend on the nature of the business but it will, in general, be larger in organisations that are more customer/end-user facing, than in pure B2B organisations.

The typical pain points for team managers, telecoms managers and others relating to call control could include

- Maintaining an acceptable number of active agents at both busy and quieter times
- Maintaining the enthusiasm of agents handling basic/simple and repetitive calls
- Accessing databases from a phone system
- Informing callers reporting a fault that the fault has been identified and is already being dealt with.
- Managing the IVR call flows

Interactive Voice Response

Interactive voice response (IVR) is a well-established technology which can bring great communications benefits and enhance customer interactions. Theoretically, IVR can be used in every sphere of business. However, industry has tended to utilise IVR, primarily, within call centre environments. Initially, providing the ability to intelligently route calls to specific contact groups based on simple menu choices and, more recently, enabling callers to access large databases of information using standard touchtone telephones, without needing to talk to contact centre agents, were seen as a means of reducing call times and, ultimately, staffing levels. It may then be tempting to ask why more agents have not been replaced by this technology. Well, in practice, some IVR systems can be difficult to implement successfully and poor implementation will often damage customer relations rather than improve them.

Recent advances in the IVR marketplace are well placed to salvage the slightly tarnished reputation of IVR. Despite progressing tentatively, the global IVR market has recently come of age thanks to consolidation in the market, broadening of product portfolios and the maturing of speech recognition.

Why Consider IVR?

A major reason to consider implementing IVR is the cost benefit that it can bring. If customers can access account balances, for example, via an IVR system rather than having to talk to a live agent, there are obvious cost savings as fewer agents need to be employed. While there will, of course, be an initial capital expense, this can often be recovered through savings in the first year. However, for the maximum cost benefit to be realised, it is important to ensure that the IVR system is well implemented.

One factor that, importantly, affects the usability of IVR is the very nature of touchtone telephones. While callers can, potentially, be offered access to a large database of information, the number of options available at any one time is limited by the keys on a standard phone, numbers 0-9, # and *. This means that, in order to access information, if the IVR application is not sympathetically designed, callers may have to wade through deeply nested menus. This can cause frustration, so that callers may be tempted to break out of the loop and opt to talk to a live agent instead. 'Zeroing out' can cut the cost benefit of IVR, as well as putting customers off.

If an IVR is being used to direct callers to call centre agents, so saving the need to transfer calls between departments, not only is the IVR design paramount, it is also necessary to ensure that the call distribution environment has the appropriate functionality and enough agents available to deliver the call effectively. The ideal scenario is to design, from the outset, the IVR application with the capabilities and capacity of the call distribution environment in mind so that callers feel that the self service facility that IVR offers is flexible and usable enough to direct them to the appropriate department and that it then delivers the call in a timely manner. There is nothing more frustrating to a caller who, having made the appropriate menu selections within an IVR system, rightly assumes their call will then be answered promptly but is kept waiting an inordinate amount of time. Chances are, they will hang up before their call is finally answered by an agent. It is then important to design the system effectively to avoid this and to ensure that there are enough agents and agent groups available to service the IVR application.

With a correctly designed, implemented and managed IVR will be simple enough to ensure that calls are routed successfully to agents that are free to take the call.

Advanced Speech Recognition

A solution that should be considered is simply to side-step nested menus where appropriate. One way to do so is to integrate advanced speech recognition (ASR) into the IVR solution. The integration of ASR into an IVR system means that a user can call up and interact with the system using natural language speech, rather than wrestling their way through menus. Combining ASR with a traditional touchtone system means callers can identify themselves and then speak to the IVR requesting, say, account balance details, while still having the option to zero out in order to request agent assistance, if required. Integrating ASR into IVR improves the service by allowing a flatter menu structure, as well as making the whole experience seem more natural to the end user. A flatter menu structure will, typically, mean that call length will be reduced. This is an important consideration, especially for companies that provide information on a free-phone number.

However, the major benefit motivating companies to deploy ASR is the potential for dramatic reductions in operating costs. ASR can dramatically improve productivity because a higher percentage of customer calls are automated; releasing agents from routine administration tasks and reducing costs as fewer agents are able to serve more customers. The cost of employing live customer service agents is rising and, at the same time, businesses are facing increased pressure to reduce the cost of serving their customers. A speech-enabled IVR application increases caller acceptance rates as it provides a faster self-service alternative to speaking with a customer service

agent. ASR also creates new opportunities in automating transactions that are too complex to perform using a touchtone telephone interface.

ASR technologies can be used to take the routine data collection away from an agent and free them to carry out the more interesting and higher skilled areas of their job.

Text to Speech

The technology behind text-to-speech (TTS) has advanced in recent years. Adopting an IVR system that takes advantage of modern TTS is another way to improve the usability of menus. If TTS is not used, the spoken prompts and phrases need to be prerecorded and stored. This often leads to changes in voice because the person who originally recorded the phrase is no longer available. Another restriction that is removed by employing TTS is the ability to respond quickly to changing events.

Originally, TTS was created using computer synthesis. Today, speech can be created using a memory bank made up of recordings of the simplest segments of human speech. Scripts can be vocalised from these recordings using synthesis techniques. This means that the created voice sounds more realistic than the voice produced by using computer synthesis and, as a result, it is considerably better received by the listener and far easier to understand.

TTS comes into its own when information that changes rapidly is needed as part of a dynamic call flow. This could be entries in a database, such as the number of stock items remaining. TTS can also be used to in conjunction with a suitable IVR to inform callers reporting a fault that the fault is already known about and being dealt with.

Modern TTS systems have natural sounding speech and can be successfully employed to speak dynamic data to a call.

The Easy to Use Approach to IVR Creation and Design

IVR routines need to be created and managed and the simpler the tools are for this, the better. There are two general approaches. One uses an industry standard scripting language and the other employs graphic basic applications.

The scripting language most often used is VXML (Voice eXtensible Mark-up Language) which allows programmers to create call scripts using commands that alter call routing, facilitate database interrogation or enable ASR and TTS features. The interfaces into the telephony environment will then be used by the VXML script to run the call flows.

The second option is to remove this layer of complexity and to use a graphical user interface (GUI) to build a visual representation of the call flow. This GUI could be the front end for a VXML script. The important aspect of a simple GUI is that it allows non-programmers to create and manage these potentially business critical scripts with ease. The GUI applications can either be tied to the physical

server(s) that the IVR uses or, more flexibly, they can be run from standard web browsers. This has the advantage of allowing access to the IVR scripts without having to be in the same location as the server.

Selecting GUI based design applications allows non-programmers to create call flows rapidly.

On-Premises IVR Platforms

In a mixed telephony vendor and, increasingly, IP telephony world, the standard on-premise IVR solution will, increasingly, be a separate platform to the telephony infrastructure and it will, typically, be delivered on one or more connected servers. An IVR platform requires resources to control the call flows and access the telephony platform as well as, potentially, requiring ASR and TTS components. Some suppliers are able to provide a total solution that includes unified communication, call centre capabilities, personal numbering, team working and support for ASR, TTS and database integration on the same platform as the IVR application.

A single on premise platform for all business applications reduces management and maintenance costs.

Hosted IVR Solutions

For smaller businesses that may not have an extensive IVR requirement or where the initial financial outlay is prohibitive, an alternative offered by solution providers is to host IVR applications on the customer's behalf. There are a number of advantages to this method of providing IVR facilities. For example, the customer can take advantage of the hosted provider's in-house design and implementation resources. It also allows customers to spread costs accordingly, as most are charged on a monthly or quarterly basis with the only non-fixed costs being standard telephony charges that would be accrued through usage of the IVR application.

Through web-based design tools, hosted customers can also design, create and control their own applications. The ability to offer the hosted customer advanced functionality, normally associated with premises-based platforms, certainly creates a compelling case when determining an appropriate method to deliver IVR services.

Hosted IVR solutions offer smaller organisations access to enterprise class solutions with minimal upfront costs.

Summary

A correctly configured IVR solution can significantly enhance the business processes and improve the productivity of almost any organisation. However, a poorly implement IVR can just as easily damage customer perceptions.

IVR can improve the operational efficiency of the organisation by empowering staff to use their skills to answer customer enquiries effectively. It can also remove some of the repetitive tasks that agents are required to perform. Ideally, the IVR platform should be integrated into other business applications and allow less technical staff to create and manage call flows. Both hosted or on-premises IVR today can deliver graphical interfaces for ease of changes although, to date, only on-premises IVR allows the integration into back end databases desired by some larger firms.

By intelligent use of IVR, a balanced service can be provided between cost and customer service - providing a personalised customer service while controlling expenditure through the use of fewer agents.

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