Industry Insider Guide

SELF-SERVICE

Questions
Solutions
Expert Views
Definitions
Insight
Knowledge
Results
What is self-service?

In a nutshell, self-service happens when customers directly communicate with a company’s systems without any interaction with employees.

For example:
- **via a telephone**, through typing in numbers on a touchtone phone or speaking to the system directly. Customers can give long and complex information via speech recognition (such as is needed to provide an insurance quote), or through typing a few numbers, can get balance information from a bank or credit card company
- **through a store or bank-located kiosk** which can print vouchers, give tailored special offers or provide balance information
- **through a company’s website**, which can allow customers to book tickets online or solve a technical query
- **through SMS messaging**, which can proactively inform customers of a low bank balance before they go overdrawn

### Merged voice and web self-service systems

This simple schematic diagram shows an example of the way in which voice and web self-service can fit into a contact center.

### Interaction cost per channel

<table>
<thead>
<tr>
<th>Interaction</th>
<th>US Dollars</th>
<th>Euros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web collaboration</td>
<td>$15.00</td>
<td>€12.00</td>
</tr>
<tr>
<td>Unassisted email</td>
<td>$9.00</td>
<td>€7.00</td>
</tr>
<tr>
<td>Telephone (US agent)</td>
<td>$9.00</td>
<td>€7.00</td>
</tr>
<tr>
<td>Text chat</td>
<td>$5.00</td>
<td>€4.00</td>
</tr>
<tr>
<td>Assisted email</td>
<td>$2.50</td>
<td>€2.00</td>
</tr>
<tr>
<td>Telephone (Indian agent)</td>
<td>$2.40</td>
<td>€1.90</td>
</tr>
<tr>
<td>IVR</td>
<td>$1.10</td>
<td>€0.90</td>
</tr>
<tr>
<td>Web self-service</td>
<td>$0.50</td>
<td>€0.40</td>
</tr>
<tr>
<td>Automated email</td>
<td>$0.25</td>
<td>€0.20</td>
</tr>
</tbody>
</table>

### What is self-service?

In a nutshell, self-service happens when customers directly communicate with a company’s systems without any interaction with employees.

**Kiosks** can be located in stores or banks, providing balance information, allowing customers to book tickets online, or solving technical queries through SMS messaging.

The automated self-service options (IVR, web self-service and automated email – where no agents are involved at all) are much cheaper than interactions involving real people. ‘Assisted email’ is both automated and human-driven: agents are provided with a list of possible responses to a customer’s email, which they may choose from and amend. (Whereas, ‘unassisted email’ involves the agent reading and responding to every email individually).

It was estimated that in 2001, self-service accounted for around 28% of customer interactions, and that voice-driven self-service (normally through touchtone IVR) had an nearly 2-to-1 lead over web self-service.

What is self-service?

Self-service is prevalent across all industries: there is normally at least one function that self-service is used for, as seen below.

<table>
<thead>
<tr>
<th>Self-service activity</th>
<th>Typical business type which would offer this form of self-service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem reporting and resolution</td>
<td>IT helpdesk</td>
</tr>
<tr>
<td>Account access</td>
<td>Banking, telecoms</td>
</tr>
<tr>
<td>Product information</td>
<td>Retail</td>
</tr>
<tr>
<td>Online registration</td>
<td>Any</td>
</tr>
<tr>
<td>Order entry</td>
<td>Retail, travel</td>
</tr>
<tr>
<td>Balance enquiry</td>
<td>Banking, credit cards</td>
</tr>
<tr>
<td>Dealer or store location enquiries</td>
<td>Car sales, retail</td>
</tr>
<tr>
<td>Ticket booking</td>
<td>Cinemas, other entertainment, travel</td>
</tr>
<tr>
<td>Real-time punctuality checks</td>
<td>Airlines, trains</td>
</tr>
<tr>
<td>Status checks</td>
<td>Retail (esp. online), IT helpdesk</td>
</tr>
<tr>
<td>Address changes</td>
<td>Subscription services, utilities</td>
</tr>
<tr>
<td>Form filling</td>
<td>Any</td>
</tr>
<tr>
<td>Brochure request</td>
<td>Travel, retail</td>
</tr>
<tr>
<td>Password reset</td>
<td>Finance, IT</td>
</tr>
</tbody>
</table>

The most widely-used (yet unpopular) method of self-service is through IVR.

IVR self-service: the love-hate solution

Telephone self-service as we know it has been around since the 1970’s, when the first IVR (interactive voice response) units became widely-used. Basic IVR allows customers with a touchtone phone (also known as ‘DTMF’ – dual-tone, multiple frequency) to access and provide information in a numerical format. The ‘V’ part to IVR has really been a bit of a misnomer – the majority of IVR applications require buttons to be pressed, and where the customer’s real voice is actually required, it is often only to say ‘one’, or ‘two’...

For the past 30 years, the international press has been full of how customers hate using IVR; yet it continues to be adored by businesses (especially in finance departments), being an enormously useful and powerful tool for cost reduction. The main reasons that customers ‘hate IVR’ is that too many companies have been either over-enthusiastic about implementing it (and automated everything they could), or seemingly had no idea of the pain they caused customers by guiding them down long-winded and badly-designed routes into IVR Hell, where no-one can get the answer they want and human interaction is denied.

![An exaggerated example, yes, but by how much?](image)
IVR has four main functions:

- to route calls to the right person or department (e.g. “Press 1 for sales, or 2 for service…”)
- to identify who’s calling via either caller-line identity (where the caller’s number is recognized, and their records brought up immediately), or through inputted information, such as account number. The caller’s information is then “popped” onto the screen of an agent who then understands who the customer is and what they are likely to want
- to segment and differentiate between customers, identifying the most important in order to deliver a premium standard of service to them (e.g. minimizing time on-hold, spending longer on the phone with them, offering high-value services such as web collaboration, if required).
- to deliver a total customer service interaction without having to use a human agent, saving the business money

This booklet only covers the fourth element in depth, although the cost savings, efficiency gains and revenue increases found in the first three instances are often very significant.

### Self-service - strengths and weaknesses

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fantastic cost-cutter: 8 IVR calls cost less than a single person-to-person call</td>
<td>Can be inflexible to change IVR options, due to proprietary nature of many existing IVR solutions</td>
</tr>
<tr>
<td>Captured customer data from an IVR enables key CTI (computer-telephony integration) solutions, such as screen popping and skills-based routing to take place</td>
<td>IVR menus difficult to visualize for customers, leading to stress and dissatisfaction. Users may feel ‘there is no end in sight’ and become frustrated.</td>
</tr>
<tr>
<td>Frees agents from boring and repetitive work, reducing staff attrition and improving morale</td>
<td>Long-winded menus annoy customers, where shorter ones can reduce the options available, and thus, the functionality</td>
</tr>
<tr>
<td>Allows agents to spend more time doing high value-add work, like cross- and up-selling, and complex customer care and loyalty work</td>
<td>General negative perception of IVR: it is seen as a low-cost option aimed at helping the business, not the customer. Over use of IVR makes customers feel as though the company does not value them</td>
</tr>
<tr>
<td>Reduces queue times and call abandonment rates, improving customer satisfaction for those needing live agent help</td>
<td>Expensive, proprietary hardware has kept businesses locked into existing suppliers</td>
</tr>
</tbody>
</table>

### IVR self-service success rates

<table>
<thead>
<tr>
<th>Contact center effort</th>
<th>Caller motivation</th>
<th>Average call completion rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard effort</td>
<td>Standard motivation</td>
<td>15% to 25%</td>
</tr>
<tr>
<td>High effort</td>
<td>Standard motivation</td>
<td>45% to 65%</td>
</tr>
<tr>
<td>High effort</td>
<td>High motivation</td>
<td>75% to 90%</td>
</tr>
</tbody>
</table>


It is certainly tempting to think “Let’s put everything we can onto IVR, so costs will plummet. OK, customers may hate this, but everyone uses IVR anyway, so it’s all the same”. This doesn’t always work: the psychology of IVR self-service needs to be considered.

It’s no use trying to shift every customer service interaction onto IVR self-service, as if customers don’t want to use IVR, they will ‘zero-out’ (press 0 for a live agent) straightaway. And if you don’t offer a live agent option to an irate and frustrated caller, you won’t need to worry about providing customer service (or anything else) to them in the future.

Customers need to be persuaded to use IVR self-service, and you can measure success in two ways: through the ‘play’ rate (what proportion of your customers try to use IVR), and the ‘completion’ rate (how many can successfully interact with your company without having to involve a human agent). The big deal about this is that your customers need to be motivated to use IVR (i.e. there’s something in it for them), and you need to design, maintain and promote the self-service application to get them to keep using it.

Gartner Research measured the success of IVR self-service depending upon how much effort the business puts into it, and how motivated customers were to use it.

Simply making IVR self-service available without too much thought or effort will result in perhaps fewer than 20% of calls being completed without human interaction. Designing the IVR self-service experience with customers’ needs in mind, rewarding the customer for using it and tuning the application to make it even better can mean up to 90% of calls are dealt with automatically: a massive cost saving, an improvement in the customerservice experience and a boost for the company’s reputation with its customers.

IVR has been a notable success for many businesses, but it is now ready to move away from the limits of touchtone service. It can now leverage both the added flexibility and power of speech recognition as well as being able to share the functionality that businesses have recently developed with their web self-service applications.
The benefits of self-service are extremely tangible and measurable, which is why so many businesses are offering customers at least one of the self-service options shown in the previous diagram.

The following diagram shows how self-service may be offered to customers at the moment, segmented by the device they employ to contact the business and the method of operation – whether by voice or by touch.

<table>
<thead>
<tr>
<th>COMMUNICATION DEVICE</th>
<th>TELEPHONE</th>
<th>PC</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOUCH</td>
<td>TOUCHTONE IVR</td>
<td>WEB SELF-SERVICE</td>
<td>KIOSK TOUCHSCREEN (example)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WEB SELF-SERVICE</td>
<td>KIOSK TOUCHSCREEN (example)</td>
</tr>
<tr>
<td></td>
<td>SPEECH RECOGNITION</td>
<td>VOIP SPEECH RECOGNITION</td>
<td>SPEECH RECOGNITION (example)</td>
</tr>
<tr>
<td></td>
<td>MULTIMODAL SELF-SERVICE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

“Multimodality refers to the blending of multiple access channels, enabling users to choose the most appropriate access channel for interaction. Users can interact with a device using keypad text entry, toolbar navigation tools, or their own voices and can receive information both visually and audibly.”

“Being able to use voice to input information such as an address is preferable to tapping in large amounts of information on tiny keypads. In addition, the ability to switch back to visual mode to view the directions removes the difficulty of memorizing large amounts of audio information.”

Even leaving aside the venerable touchtone IVR, self-service via touch is still more established than speech-driven applications. Kiosks and web self-service have been around since the mid-1990s, and although speech recognition via the telephone has been used in business applications since the 1980s, it is still seen by many customers and businesses as ‘space-age stuff’.

As will be shown, speech recognition is available as a trustworthy, mission-critical application today, but non-telephony speech recognition is found very infrequently (e.g. through interactive digital TVs or in devices requiring security voice-printing).

The benefits of self-service are extremely tangible and measurable, which is why so many businesses are offering customers at least one of the self-service options shown in the previous diagram.
Large volumes of simple requests from customers (and who use agents simply as a means of reading the information from a screen) should have implemented self-service by now. Datamonitor estimates that 70% of calls to helpdesks are password/passnumber reset requests, which could be handled via self-service.

Where businesses only deal in a relatively small number of complex interactions, the cost of implementing a sophisticated, probably speech-enabled self-service application – and keeping the knowledge base up-to-date – may be greater than any associated salary cost reduction.

Businesses having a small number of simple interactions now have the option to have their voice self-service functionality hosted off-site, paying perhaps only for the number of times that it is used. This model allows basic self-service functionality at a fraction of the cost of owning and maintaining a premises-based system.

Businesses which deal with large numbers of complex interactions are building and using some of the most interesting and potentially beneficial self-service applications. Examples include filling in insurance forms to get a quote – a lengthy and time-consuming business, which can last for tens of minutes, costing the business a great deal of money. Moving this to web or voice self-service can save huge amounts of money, as an agent may only need to be brought in to close the sale or clarify finer points of the policy. Stock purchase is another classic example of this: sophisticated users can buy and sell stocks as quickly as they could by talking to a human agent by communicating via speech recognition directly with a business’s applications and databases.
Industry experts’ corner
Views from the analyst community

What does self-service bring to a business?

“Evidence gathered…strongly suggests that businesses that successfully migrate customers to a multichannel service support strategy can cap growth in service costs, (60% of which is tied to personnel), increase the number of contacts with the customer and gain customer loyalty.”


How can I best persuade customers to use self-service?

Forrester Research recently came up with the top three ways contact centers persuade customers to use web self-service:

1. Agents train the customer to use the web self-service option
2. Promote the web in the IVR script which customers hear
3. Use direct mail campaigns to educate about customers about self-service


What role will voice interactions play?

“Although it is predicted that web self-service interactions will grow fivefold over the next 5 years, we are seeing a return to the basics. And what is basic for customer service, is voice.”


Some key messages can be drawn from these opinions, that voice will remain critically important, and an integrated multichannel support strategy is best: offering a consistent self-service experience across channels is a real competitive advantage.

Can’t web self service just handle everything?

“The most common requests (a business receives) are the simple ones. Travelers turn to (live) customer service for basic tasks, even ones that websites are currently designed to perform automatically.”


“Some users we have spoken with recently feel that there is less uncertainty with offering phone-based self-service using solutions from IVR and speech recognition vendors (than from web self-service applications).”

“They also remark that having more controllable factors makes it easier to show a quick ROI…an optimized self-service strategy will fully leverage the capabilities of both channels.”

What do you need to know about self-service implementation?

Although this section has a voice self-service flavor, much of it is relevant to web self-service too. If you accept that self-service could have a key role in improving your business’s customer service and decreasing associated costs, it’s time to look in a bit more depth at some of the more complex technical and commercial issues which need to be resolved, specifically:

- standards: VoiceXML or SALT?
- knowledge bases and individualization
- customer-centricity
- merging voice and web self-service
- choosing a solution

Standards: VoiceXML or SALT?

VoiceXML (or VXML) is a specification which allows developers to use similar techniques to those employed in building HTML web applications, in order to build voice applications which offer DTMF or speech access to web applications. VoiceXML was driven by the telephony community in an attempt to bring proprietary voice solutions such as IVR into alignment with standardized approaches to programming. VoiceXML, however, does not enable multimodal access; it is presently focused upon voice, although a subset of the VoiceXML Forum has begun to consider multimodality.

This weakness has led to the development of Call Control XML (CCXML), which has been designed to integrate with VXML and provide more of the telephony support required for advanced call control.

SALT (Speech Application Language Tags) is a more recent standard, aimed at supporting both speech and multimodal applications. Supported strongly by Microsoft, initial intentions for SALT appear to be more focused on speech-enabling multimodal devices for consumers and small-medium businesses, rather than impacting directly upon the large contact center.

Most analysts believe that the two standards are not yet in direct competition (VoiceXML is the de facto standard for now, due to it being released some time ago). It is believed the most likely scenario to be some form of multimodal VoiceXML standard becoming the standard in contact centers by 2005-6, although it is certainly possible that both VoiceXML and SALT will co-exist happily, serving separate markets and devices.

As a general rule, self-service interaction types towards the left of the diagram will tend to be easier to implement initially, and should not involve excessive maintenance to keep them up-to-date. As we move towards the right of the diagram, self-service queries become more complex, and may have to access many databases, which may be being altered all of the time.

Low individualization self-service occurs when the system does not need to know anything about the customer. This is the case in brochure requests, timetable queries and service status updates: none of these is personal to the customer.

Provision of high individualization self-service means that businesses have to supply to or take information from the customer based upon who they are. Successful balance enquiries, order entries and address changes are obviously based upon knowledge of the customer, and access to their details. Technical queries and stock purchases take self-service a level beyond individualization, as they must also cope with extremely complex enquiries and knowledge bases which change by the second in the case of stock purchases.

Knowledge bases and individualization

All forms of self-service require some form of database to support them, whether they hold records on customers, products, or service status, for example. However, businesses implementing self-service have to understand the dynamism and complexity of the information that customers will be accessing and the level of individualization required, in order to provide a useful service which customers will go back to.

Knowledge base is a database, or collection of databases, that are accessed in order to provide answers to questions. The processes for accessing may be automated or human-driven, and may be initiated either by customers (in the case of self-service), or employees.

Individualization refers to the level of personal information that the system has to access to fulfill the request. A timetable query can be a long and complex enquiry, but the information provided is likely to stay the same, regardless of whom the enquirer is.

One of the most important things to understand about self-service is this:

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If self-service is implemented and/or supported poorly, it will cost your business more than if you have not offered it in the first place.

A Real-Life Example

A customer of an online UK bank made a mistake while moving money and wanted to rectify it immediately. For ten minutes, he searched the website for the telephone number of the contact center, and finally found it hidden away.

He called the bank, which took five minutes to answer after putting him through a four-tier IVR menu, where none of the options presented were what he wanted.

The agent answering was off-hand, surly and impolite. His only suggestion was putting the phone down and sending an email.

After failing to persuade the agent to help further, the customer did as he was told and sent an email to the bank. An hour later, the money was moved back into the right account.

Rather than being pleased with the speed with which his previous request had been handled, the customer felt that the self-service was in place to save the business money, and that the level of service across all channels was patchy and inconsistent.

Bearing in mind the speed with which his previous request had been handled, the customer sent another email to the bank. It began “Dear Sir or Madam, I wish to close my account with you…”

The customer service experience is only as good as the worst link in the chain: if you cannot provide a similar (high) level of quality across all channels, then don’t offer these channels at all – they will harm your business.

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Self-service applications are useless unless customers actually use them. Businesses can force customers to use web self-service by refusing to reveal a contact center telephone number, or make them use voice self-service by making it almost impossible to speak to an operator.

While this strategy will certainly save on the cost of employing live agents, the business is likely to lose customers who are prevented from talking directly to the company. Those customers who use the self-service and do not leave are likely to feel much more negatively about the company, and be more prone to future defection.

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Customer-centricity

Views of self-service from business and customer

<table>
<thead>
<tr>
<th>Business view</th>
<th>Customer view</th>
<th>Necessary business action</th>
</tr>
</thead>
</table>
| “We have a commitment to customer self-service.” | “They have a focus on using self-service to reduce their costs, not to improve customer service.” | • Identify critical customer needs and determine which can be addressed by self-service  
• Make superior self-service a priority  
• Make self-service as good or better than alternative service methods |
| “We have self-service as a visible and viable customer service channel” | “They have self-service available, but why should I use it?” | • Understand self-service needs  
• Promote the use of self-service  
• Reward users of self-service  
• Institute policies demonstrating commitment to self-service |
| “We have a good, easy-to-use site, filled with up-to-date and relevant content and functionality.” | “They have a difficult user experience, with some useful self-service functionality.” | • Understand the core self-service requirements your customers want  
• Deliver a self-service experience along 80-20 rules – 20% of functionality is used by 80% of users  
• Make site easy to navigate and visualize |
| “We have a self-service experience that customers trust.” | “They have a self-service experience which is personally invasive.” | • Build trust across all service channels, realizing that a bad experience in one channel will color the customer’s view of the whole  
• Give the customer time to build trust, only capture information that is vital, and explain why you are doing it |


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As personal digital assistants (PDAs) and other mobile communication devices come to the fore, voice self-service will become increasingly more prevalent.
If you are implementing self-service, this checklist will help you to understand the pitfalls that a hasty or internally-focused implementation can experience.

### The checklist to Voice Self-service success

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do I have the right volume and complexity of interactions to implement self-service?</td>
<td>NO</td>
<td>Use live agents instead.</td>
</tr>
<tr>
<td>Do I understand what my customers will use self-service for?</td>
<td>NO</td>
<td>Self-service may be under-utilised. Increase in phone interactions and cost will result.</td>
</tr>
<tr>
<td>Is the self-service experience designed with my customers in mind?</td>
<td>NO</td>
<td>Frustrated users, increased costs, longer wait times and negative perceptions of the company.</td>
</tr>
<tr>
<td>Do I wish to leverage voice and web self-service to provide consistent quality across channels?</td>
<td>NO</td>
<td>Inconsistent service levels and functionality possible. May increase application development time</td>
</tr>
<tr>
<td>Am I using open standards, an open platform and off-the-shelf hardware?</td>
<td>NO</td>
<td>Proprietary hardware and software increase cost of ownership. Slow, less-flexible development.</td>
</tr>
<tr>
<td>Am I benchmarking self-service use, performance and customer satisfaction?</td>
<td>NO</td>
<td>Risk of underperformance, lack of usability, may drift away from what customers want and need.</td>
</tr>
<tr>
<td>Am I keeping the knowledge bases up-to-date?</td>
<td>NO</td>
<td>May be decreasing completion rates, frustrating users and increasing calls to agents.</td>
</tr>
</tbody>
</table>

**Self-service is optimised:** more satisfied customers, lower costs and a good reputation

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**Merging web and voice self-service**

Leveraging existing web self-service functionality onto a voice platform should not be too difficult technically. If the integration between the back-end databases and the web self-service application has already been done, a 40% reduction in development costs can be achieved. VoiceXML and HTML are similar in architecture and process. The main difference lies in the way of prompting the application: customers click a link on a website, but speak a word or push a button on the phone.

**A typical deployment might be:**

1. Decide what you want voice self-service to add to your business, and benchmark existing processes.
2. Design the system around the customers’ needs, not your own business processes.
3. Buy a web server fitted with telephony cards (to answer calls, play prompts, etc.).
4. Project management stage, probably with a mixture of internal employees and professional services staff from your provider.
5. May need to write interfaces to the web self-service application, or may be able to use existing interfaces.
6. Test and tweak before live deployment.
7. Monitor use and success, and tune application/change business processes accordingly.

The cost of deployment is likely to be on a per-port basis, and will include software licenses, maintenance agreements, third-party hardware and professional services.

Deployments are often counted in weeks rather than months, especially if the web self-service applications have been written, used and tested already. Businesses may have the option to do a trial implementation first, for a token outlay, or to take a purely-hosted option.

**Return on investment (ROI) is a strength of self-service, regardless of whether it is voice or web-based.** Vendors and end-users consistently quote return on initial investment is achieved between 6-18 months in most cases.

Due to the initial relative levels of cost and complexity, ROI tends to be quicker where DTMF touchtone self-service is implemented, but speech-enabled self-service has the greater returns over a longer period, as the complexity and level of functionality which can be offered to customers is so much more.

**Blending voice and web self-service adds even more advantages:**

- the shared knowledge base only needs to be updated once.
- can use the same databases and customer profiles.
- easier to provide a consistent, branded experience to the customer, regardless of channel.
- shared business process functionality means less back-office support required.
- voice applications written in VoiceXML are likely to be relatively quick and cheap to write, as a large pool of HTML programmers exist.
- customers happier with the familiarity of the self-service offered regardless of channel.

The real complexity comes in providing the right levels of usability and functionality in a non-visual environment.

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**Vendors and end-users consistently quote return on initial investment is achieved between 6-18 months in most cases.**
Businesses looking to purchase new voice self-service platforms and applications should consider the following:

- Savings of 30–40% on total cost of ownership are possible when voice and web self-service applications are integrated in an open environment.

This breaks down as:

- 30% through standardized IT processes and systems
- 35% through leveraging existing web infrastructure; replacing IVR development resources with existing web resources
- 35% through reduced software and hardware maintenance through purchasing off-the-shelf hardware

Developers working in an open, standards-based environment do not need to know how complex telephony environments work. Choosing a solution with an intuitive GUI-based (graphical user interface) development environment will ease the cost and complexity of adding functionality.

Some voice self-service applications can go beyond self-service, and add intelligent call handling functionality, allowing customers to be segmented by value to the business, and offered various options accordingly. Furthermore, if a customer leaves a self-service session for whatever reason, an agent can be passed their details as well as what they have been trying to do, to cut call times and improve customer satisfaction.

Open standards, systems and voice/web self-service integration receives support from analysts META Group:

“(By implementing such solutions), new users will avoid long and costly migration tactics promoted by current IVR vendors, and gain more flexibility and speed in deploying speech-enabled applications.”

Source: META Group News Analysis, 18/6/2002

and is seen as demand-driven by Frost and Sullivan:

“(Businesses) are likely to increasingly select products based upon open standards, so they have greater flexibility in modifying and expanding the solution.”


- Scalability of solutions is important: if self-service is successful, customers could actually use it as the channel of preference. Businesses must take into account the effects of an successful implementation, and plan for the future when increased use of mobile telephony and other devices will encourage voice self-service further.

- Businesses which implement self-service but do not measure it have no idea if it is doing what they want it to. Choose a solution which allows reporting across multiple channels, both live and self-service, so you can calculate the cost or savings your business experiences.

- New legislation is coming in to promote equal access to the Internet for disabled, including the blind. Businesses can circumvent future issues with this legislation by planning for it now.

- Those businesses presently offering voice self-service over proprietary systems can also benefit by moving up from their legacy IVR environment.

- Businesses can extend the service they offer to customers, by making web self-service functionality available over the telephone.

- Sharing functionality written for web applications lowers the cost of developing voice self-service applications by around 40%.

- Proprietary IVR resources are no longer needed.

- Sophisticated, tailor-made voice enables improvements in customer satisfaction and can be deployed quickly and simply.

- Programming of proprietary IVR systems was described by Yankee Group as “…inflexible: a ‘code it once, and walkaway’ scenario”. Standards-based VoiceXML makes the commercial managers decide how self-service should be used, rather than being held back by technical constraints.

- Time to develop applications decreases, so flexible pilot schemes can test user satisfaction and business utility without excessive time and cost.

- Simplified integration with web self-service, other voice applications and the business outside the contact center is possible.
What is the future of self-service?

Self-service will certainly be driven by technological advance, but to an even greater extent, by original and commercially-intelligent ways of growing the value of self-service to both customer and business.

- Self-service moves out of pure customer service, into delivering marketing opportunities
- The halfway-house: a self-service touchpoint with a hidden human agent close by
- Multimodality and seamless service
- Improved speech recognition technology
- Financial drivers for self-service

Beyond customer service

Marketing to customers using self-service

<table>
<thead>
<tr>
<th>Action</th>
<th>Effect on business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer action</td>
<td>Business opportunity</td>
</tr>
<tr>
<td>Researching or browsing</td>
<td>Educate and inform based upon actions and customer profile</td>
</tr>
<tr>
<td>Performing a transaction</td>
<td>Cross-selling and up-selling. Businesses must bear in mind that the customer is goal-focused upon completing the transaction, and will not want excessive extra interaction</td>
</tr>
<tr>
<td>Account management</td>
<td>Educate and cross-/up-sell based upon knowledge of customer</td>
</tr>
<tr>
<td>Problem resolution</td>
<td>Must focus firstly on resolving problem before trying extra interactions: trust must be built. Get customer feedback, offer discounts etc. after resolution is successful</td>
</tr>
</tbody>
</table>

Sources: Gartner, “Marketing Opportunity Knocks on Four Self-Service Doors”, TID-15-4770, 4/3/2002; ContactBabel

Self-service at the moment is driven by customers: in the majority of cases, they either want information or to carry out a transaction. In the future, businesses will try to market to customers while they are using self-service. Gartner Group has pointed out that while this provides another way to communicate to and learn from customers, businesses must understand why the customer is using self-service, and tailor any additional communication with them accordingly.

The halfway-house: self-service with a hidden agent

Already used in some cases, the halfway-house scenario refers to service which appears automated, but which may involve a human agent as well.

Also referred to as ‘secret service’, in these situations, a customer will interact with what they believe to be a self-service system. In reality, a human agent may be fulfilling all or part of the transaction, without revealing their presence.

There are several potential advantages to this:

- Human agents can act as a back-up if the system fails
- Ambiguous or incorrectly-interpreted information provided by the customer can be clarified
- Interaction times are much lower, as only the transfer of information occurs, without accompanying pauses or conversation
- Human agents may interact directly with the customer if it becomes necessary

Multimodality and seamless service

As personal digital assistants (PDAs) and other mobile communication devices come to the fore, voice self-service will become increasingly more prevalent as these devices do not yet lend themselves to web browsing. An increasingly demanding and mobile customer base means that providing multimodal service will be driven by customers’ needs.

An aspect of multimodality is its seamlessness. In order to get customers using and re-using self-service channels as a matter of preference, each self-service channel must be as good as the others. Added to this, all interaction channels – self-service and human – must provide similar levels of service and knowledge of the customer. This means that all interaction channels must be integrated to provide a single up-to-date view of the customer as they interact with a business.

Improved speech recognition

Although speech recognition has improved considerably in the last few years, becoming a viable option for businesses today, continuing development by suppliers will mean speech recognition will soon be an affordable and flexible choice for businesses which are presently concerned about cost, customer reaction and complexity. Specifically, the near future of speech recognition holds

- Improved background noise cancellation and filtering, essential for a customer base which is increasingly communicating with businesses via a mobile device
- Increased support for more languages and dialects
- Improvements in the persona and tone of the speech recognition unit. Specific personalities and voices can be chosen, depending upon a client’s preferences
- Biometrics and voice authentication can run alongside or instead of passwords/pin numbers for added security
In many cases, there is already a compelling reason for businesses to use self-service today. In the future, financial and commercial trend mean that these drivers will become even more undeniable.

- Labor costs will continue to increase, and businesses will decide to use agents only for high value-add work that automation is incapable of.
- Staff attrition rates are running at over 25% per year in many mature contact center industries. The full cost of recruitment, training and lost revenues through inexperience have only recently been fully understood. Keeping experienced staff drastically reduces costs, and using self-service to deal with the thankless and repetitive work will improve staff retention rates.
- Proprietary IVR systems will be coming to the end of their life within the next few years. Few businesses will buy more IVR hardware, preferring to take the increased functionality and flexibility that open systems can provide. This will reduce the cost of speech recognition and web/voice self-service systems, making them affordable to much of the market.

Using self-service to deal with the thankless and repetitive work will improve staff retention rates.

### A real-life example

A European provider of IT knowledge services runs five multimedia contact centers with around 2,000 agents supporting 15 languages and multiple products and clients.

Using a web-architected open voice self-service solution, tightly integrated with advanced contact control and distribution functionality, it has implemented a solution which has improved both customer and agent satisfaction (through swiftness of response and automation of routine work respectively), is re-used extensively by customers and offers tailored and personalized service.

Callers are prompted for their trouble ticket ID in an automated system, and their details are inputted into a CRM and knowledge base system, where both customer and issues are recognized. If the solution is available, the customer is given the option to hear it read out by the system, using text-to-speech technology. If the customer feels they require clarification, their call is routed to an agent with specific expertise in the area, who can then help them further.

The customer has experienced return on their investment within 14 months, and has improved productivity by 30%, as well as the gains from customer and agent satisfaction. It comments that such a solution would have been prohibitively costly and complex using an IVR system, but that the web-based architecture and application environment meant they had a working system within days.
Glossary of terms

IVR
Interactive voice response. Common, telephony-based self-service application, often requiring users to press keys on a DTMF / touchtone telephone.

Knowledge base
Database or collection of databases which act as the repository of information about products, issues and structured data which both voice- and web self-service applications use to answer customer queries.

Web self-service
Customer-driven service via a company’s website. Examples include order-taking and account management.

Voice self-service
Customer-driven service via a telephone. Voice self-service may be done through touchtone IVR or through speech recognition. Examples include balance checking, and ticket booking.

DTMF/touchtone
Dual-tone, multiple frequency. Otherwise known as touchtone, when its buttons are pressed, these telephones send a specific tone which the IVR application recognizes and acts upon. (e.g. “dial 1 for sales, 2 for service”, etc.)

CTI
Computer telephony integration. The capture and use of data from a telephone call (e.g. the number dialed, the caller’s telephone number, any IVR digits given), which is the used by an application to access and provide information about the customer, often to an agent.

Multimodality
The blending of multiple channels, enabling users to choose the most appropriate access channel for interaction. Users can interact with a device using keypad text entry, toolbar navigation tools, or their own voices and can receive information both visually and audibly.

VoiceXML
Voice Extensible Mark-up Language. A specification which allows developers to use similar techniques to those employed in building HTML web applications, in order to build voice applications which offer DTMF or speech recognition access to web applications.

CCXML
Call Control Extensible Mark-up Language. An extension to VoiceXML, which is aimed at providing more sophisticated call control functionality.

SALT
Speech Application Language Tags. A more recent standard than VoiceXML, aimed at supporting both voice self-service and multimodal applications. Initial intentions for SALT appear to be more focused on speech-enabling multimodal devices for consumers and small-medium businesses, rather than impacting directly upon the large contact center.

Speech recognition
An advanced form of voice self-service, this type of application allows natural language to be used (rather than simple words, or touchtones), extending the potential functionality.

HTML
Hypertext Mark-up Language. The programming standard for web applications. VoiceXML has many similarities, which means a large pool of potential VoiceXML programmers exists in many businesses.

‘Secret service’
Term given to describe self-service where a live agent is also involved behind the scenes, without the customer knowing. For example, a directory enquiries function may appear completely automated to the customer, but the ‘secret service’ strips out superfluous silences and words, before presenting the agent with the salient facts. The agent types in the request and the system relays the answer to the customer in less time than a totally-live call would have taken.
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