



## White Paper

### Self-service: Unleashing competitive advantage

The contact center is the single most powerful customer transaction point in every organization, handling 30 percent to 70 percent of all customer inquiries. It is the key point of interaction for influencing customers, identifying problems, selling products and services, communicating brand, and building customer satisfaction and loyalty. Enterprises are beginning to see the powerful potential of contact centers in creating competitive advantage. Meanwhile, customers are increasingly savvy, demanding better service and more satisfying interactions, as endless prompts and 'on hold' times drive end users to the competition. Fortunately, contact center self-service technologies are maturing to meet both increasingly sophisticated business needs and customer requirements.

The challenge for companies now is to effectively harness the latest technologies and strategies in the contact center to ensure competitive edge. This paper examines how effective customer self-service achieves this goal while also saving companies money, in three important ways:

- Communicating business brand value
- Improving customer satisfaction and experience
- Driving profits

#### Self-service in the contact center

Self-service enables customers to *help themselves to the resources they need to perform business interactions*. It can include finding information, solving problems, updating personal data, making payments, applying for credit or jobs, and purchasing products and services. On a macro level, three catalysts are driving the adoption of self-service in contact centers.



- **Enterprises are increasingly realizing the importance, and evolving role, of contact centers in improving the bottom line.** Yesterday's contact center fulfilled a utilitarian purpose: facilitating customer interactions. Today's contact center communicates brand, and influences customer satisfaction and loyalty, which ultimately determine competitive advantage and your bottom line.
- **Customers are demanding greater satisfaction and immediate, 24x7 availability.** The Internet and mobile devices have trained customers to expect nearly instant — and efficient — gratification in all business interactions.
- **Contact center technologies are maturing into real-time, dynamic enterprises.** In response to increasingly sophisticated customer expectations, forward-thinking enterprises are turning to new technologies — such as speech, Internet and mobile voice applications — to meet those expectations, communicate brand awareness and lock in customer loyalty.

How effectively a company uses self-service to interact with customers and prospects directly impacts competitive advantage and long-term success. During the last two years, there have been significant improvements in self-service technologies and applications. Although effective self-service can create invaluable competitive advantage for today's enterprises, the challenge lies in how enterprises implement and use these technologies.

Nortel has identified five trends that are eliminating enterprise and communications barriers and accelerating the adoption of open platforms in self-service. Following is a summary of each trend and its impact.

## Trends driving open platform adoption

- **Standards** — Before the rise of standards in self-service technologies, many companies that wanted to invest in self-service to provide a more satisfying customer service experience could not afford to do so. Today, standards such as Voice XML (Extensible Markup Language), MRCP (Media Resource Control Protocol) and SIP (Session Initiation Protocol) enable companies of all sizes to deploy effective, platform-independent solutions, which reduce the total cost of owning and managing contact centers. Standards enable this because they simplify development, maintenance and integration time and cost.
- **Mobility** — Customers are increasingly using mobile tools and applications to facilitate business interactions. Devices such as PDAs and cell phones are themselves becoming multimedia communication tools. Customer-to-business communications now include voice, text and video. The SIP standard harnesses these technologies in multimedia interactions. Companies must successfully leverage such technology to meet customer requirements and business needs.
- **Decline of distance** — Directly related to the rise of mobility and the Internet is the increasing obsolescence of physical distance between customers and businesses.
- **Customer empowerment** — Self-service puts customers in the driver's seat, enabling them to initiate and conduct business interactions how, when and where they wish.
- **Business rules** — The trend of doing business via the Internet has forced most companies to rethink and standardize their business rules. Business rules in this context are the ways a

company chooses to conduct business with its customers and addresses the entire customer life cycle — from the first contact through the sale and ongoing support and service. This includes building the brand and establishing a loyal customer base.

Enterprises that recognize and take advantage of these trends within contact center and self-service environments will optimize performance, reduce operating costs, innovate ahead of competitors and dramatically improve the customer experience.

## Self-service technologies: creating options and competitive edge

Self-service is an application that drives convenience, improves productivity and gives customers choices in how they conduct business. The mobile phone is increasingly a multimedia, personal device used to organize many tasks. The trend is clear: mobile phones are portable devices that act as portable PCs, facilitating business and personal interactions. And mobile devices are expected to continue to grow at a rapid rate worldwide. In fact, adoption rates across North America and Europe currently run at roughly 79 percent, with Asian adoption as high as 95 percent (according to Ipsos Insight research). More than 900 million mobile phones will ship in 2006, according to ABI Research's Mobile Devices Research Service. Significantly, mobile users are willing to pay for services that deliver convenience, including self-service options.

It comes down to this: enterprises that want to remain competitive *must* deliver flexible self-service solutions for mobile devices. These solutions will be enabled by speech technologies, including speech recognition, speech-to-text, text-to-speech and voice verification.

The following six technologies dramatically improve the self-service environment. Enterprises that adopt these technologies will be better equipped to create competitive advantage via self-service. The main technologies are speech recognition, persona, text-to-speech, Web, multi-channel communication and presence.

### Communicating brand: an opportunity in the making

Each time a customer interacts with a business, there is an opportunity to communicate brand and build loyalty. Brand is, effectively, the totality of customer experiences with a given company.

This means that every customer interaction (or experience), whether through a retail store, contact center agent or self-service system, represents a chance for a company to express and build brand. Self-service provides a separate and unique channel, of which a company can take advantage, to communicate and create brand awareness. Effective self-service technology optimizes and extends that brand communication throughout each customer interaction *with little cost to the company*. To do this right, enterprises need the right technology and best practices.

### Retail example

A large clothing retailer with a booming catalog business decided to add speech recognition and rewrite its self-service IVR to enhance flexibility and increase its usage. In the process, they realized they had some agents who were much better salespeople than the rest of the staff.

To start, the company asked its leading agents which options they recommended adding to the IVR. They then surveyed a group of customers to learn if their perspectives matched the staff IVR recommendations or whether they had other preferences.

### Six that matter

- **Speech recognition (extending to Natural Language Understanding [NLU])** — This enables the user to speak complete sentences in the request for service or information. This obviates the limitations of “directed dialogs” guiding the user to speak a relevant word from a menu.
- **Persona** — NLU enables “personality” in the voice, permitting brand to shine through. This was impossible with a directed dialog since it tended to be “choppy” and difficult to establish a natural, humanlike interaction.
- **Text to speech** — Voices used to sound robotic. Now, machine-synthesized voices can sound very natural; similar to a recorded voice.
- **Web technologies** — Technologies such as VXML, CCXML and J2EE enable a standard open programming environment for these applications. Before, a unique set of programmers were necessary to maintain the equipment. Since these applications run on the same web servers as other organizational applications, corporate data is easily accessible and one set of business rules can exist for the entire enterprise.
- **Multi-channel communication** — As devices (such as cell phones) become more advanced (or more feature-rich), companies can communicate with customers using multiple media types simultaneously; for example, displaying a list as it is spoken, or sending a video or a picture of a product.
- **Presence** — Presence is the ability of a customer contact agent to identify herself as available, regardless of the device in use. This capability will become more complex as companies will be able to define which agents are available, or not, and under what circumstances.

Management also identified the top three sales performers and critiqued and analyzed their performance to understand the reasons behind their success. This information was shared with the training group and used to identify a friendly personality and voice for the speech recognition application.

The company hired a voice user interface expert with experience in retailing to collaborate with their in-house touch-tone IVR script experts. They quickly realized that speech self-service is a unique user interface that requires speech-specific expertise.

Then, the company introduced the new and improved self-service system to contact center staff and to a limited number of customers. After a trial period, the company honed the application based on customer and agent input before full roll-out to the entire customer base. Within six months of introducing a new speech-enabled IVR, the usage rate had increased by two percent, with an investment payback in just 12 months.

### Raising the customer experience to a new level

Another major benefit of effective self-service applications is improving the customer experience and increasing productivity. The best self-service solution ensures:

- **Faster service.** A well-planned, streamlined, intuitive self-service solution enables customers to more rapidly complete business interactions and transactions. The application must be defined from the customer perspective and allow them to “fast-forward” when appropriate and not be stuck in “loops”.
- **Greater responsiveness to customers.** Self-service applications empower people to help themselves when they want, where they want and how they want. Organizations that use self-service technologies effectively understand the importance of giving customers service options. To make this work, it is important to seamlessly integrate automation with the servicing infrastructure and organization. The result: customers can

get in and out, do what they have to do, and avoid wait time, 24x7.

- **Improved efficiency.** Effective self-service delivers extensive benefits on the business side as well, including cost reduction and higher agent productivity. If your self-service application satisfies customers and allows them to help themselves, customers will depend less on live agents. And, once a transaction happens in an IVR, the entire workflow can be fully automated. Typical examples include customer requests for check orders and stop payments. Less common examples include credit line increases or requests for documentation.

## Utilities example

Pacific Gas and Electric (PG&E) discovered the importance — and benefits — of implementing the right speech technology and best practices firsthand. The California gas and electric utility company handles more than 14 million calls yearly and serves 8.8 million customers in a 70,000 square-mile area in California. PG&E had three goals: to differentiate its self-service program within the industry, enhance overall service and bolster customer satisfaction.

PG&E's overall goals for the customer contact center were to improve the IVR take rate and improve customer satisfaction. By achieving this, they would be able to lower costs, as an IVR assisted call costs about 50 to 70 cents versus an agent assisted call, which ranges from \$4 to \$10 each.

PG&E worked closely with Nortel to implement speech self-service technologies with Advanced Speaker Recognition utilizing Natural Language — a natural means of communication — to improve more IVR customer service options for their customers. They coupled this with directed dialog, followed by 'Speak

Freely' routing for address recognition to achieve these business goals.

Speech enabled PG&E to improve call take rates by four to six percent, improve customer satisfaction rates by two to four percent, and improve first call resolutions by two to four percent. PG&E specifically converted the following service call categories to automated self-service:

- Storm-related service interruptions
- Seasonal savings rebates
- Bill payments
- Service starts and stops

### Storm calls

PG&E handles an enormous amount of outage calls every month due to storm-related service interruptions — up to 28 percent of all service requests. The company urgently needed a way to effectively handle a larger percentage of these calls via speech to speed service resolution, reduce agent usage and save money. Working with Nortel, the company implemented Speech Recognition and Text To Speech (TTS) running on the Nortel Media Processing Server 500 (MPS 500). When outage calls go to the speech application, the customer simply talks through their outage problem; there is no fumbling in the dark to push buttons. It's working very successfully; today, PG&E's automated speech application handles approximately 68 percent of these calls.

"When we're dealing with such high numbers every month, each percentage increase in automation makes a big impact," said Kent Barnes, Senior Project Manager, PG&E.

### Rebate calls

Launched in 2005 for customers diligent in practicing energy conservation, PG&E offered 20/20 and 10/20

seasonal savings programs. Under these programs, customers who successfully reduced their energy use received a rebate on charges.

Using speech technology, PG&E was able to initiate the program quickly and offer an automated way for customers to gauge their progress; it was very simple for them to call and determine if they qualified for the program and track their progress towards reaching the rebate threshold.

Today, approximately 20 percent of such calls are handled via speech automation. How did PG&E achieve this success? The company upgraded its customer speech IVR with Nortel MPS 500 so that customers could call in and speak freely, working through interactive dialog to learn how to get a rebate.

### Bill payment

Many of PG&E's customers call regarding bill payment or credit issues. Today, an estimated 43 percent of callers are checking on financial status. And 84 percent use the company's speech IVR on the Nortel MPS 500 to pay their bill by check or credit card without ever speaking to a live agent. PG&E was able to gain a six percent increase in customer acceptance of self-service.

### Start/stop service

With its large, geographical dispersed coverage region, PG&E receives 650,000 calls annually to start or end service, typically when customers relocate. In 2004, 100 percent of such calls were handled by agents. Since implementing speech recognition on the Nortel MPS 500 in early 2005, PG&E has successfully converted six to 10 percent of all service start calls to self-service. PG&E reports higher levels of customer service as a direct result. And, the company converted 20 percent of all stop service

calls to self-service in 2005 — more than 30,000 “stops” were handled by IVR between March and August 2005. The cost to process these calls has been significantly reduced. Also, PG&E is looking to add functionality by expanding the system functions with field orders such as providing tracking numbers, building upon interfaces with customer service online — to pull information from the Web page for customers through IVR, expanding the MPS platform for outcalls and Spanish; and rewriting the application to open platform VXML.

### Pay station locations

Text To Speech helped PG&E exceed their challenge to keep more than 9,000 pay-station information messages current with 50 to 200 changes per month. TTS provides current status for electric circuit geographical routes, outage causes, crew status or estimated restoration information. Messages are now easily updated in a text database and they are current for the caller, greatly increasing customer satisfaction.

Since full deployment of the system in late 2004, and with the start and stop enhancements in 2005, PG&E has seen a three to nine percent increase in call completion in the IVR. A one percent improvement is the equivalent of about 500 calls per day, so PG&E has seen a take rate of 1,500 to 4,000 calls per day. The system continues to have an improved take rate almost on a monthly basis.

“Our new speech application has clearly differentiated our service and has been very positively received by our customers,” said Kent Barnes. In particular, Barnes said customers appreciate the overall streamlined self-service menu, which enables them to make service appointments, pay bills and report storm outages faster.

According to Donna Fluss, Principal of DMG Consulting LLC, “There are several proven IVR best practices that improve customer satisfaction and increase the IVR utilization rate, but they are still not widely used. Many companies mistakenly believe that giving customers a choice will divert more calls to agents and therefore cost more.” DMG Consulting disagrees and recommends that companies invest in these best practices with the result of “improved customer satisfaction and loyalty without an increase in the volume of calls to agents.”

### DMG Consulting’s Top Ten Best Practices:

1. Do not lock customers into the IVR. Make it easy for customers to access agents. (In informal studies of poorly designed self-service IVRs, this is the number one complaint.)
2. Do not provide customers with a long list of options. Limit the number of options to three or four, even if this means you cannot get them all on your IVR. Too many choices are confusing for customers, who don’t remember them all anyway.
3. Limit nesting to two and, at most, three levels within an application. Again, this may mean that your company won’t be able to offer all options, but it increases the chance that the options you provide will be used. Given too many choices, people will forget the earliest ones, causing them to default to agents and defeating your self-service goals.
4. Redesign your script when implementing speech recognition technology. Speech recognition is a much more friendly and flexible user interface than a touchtone-based application. When adding speech recognition, take the opportunity to rewrite the application to make it easier to use. (Note: It is important to continue to provide an option for customers who prefer to use touchtone prompts.)
5. Do not assign a programmer to design your IVR script. Use a script writing specialist who understands your customer needs and wants and how to best present options to them.
6. Develop your script based on an assessment of customer needs and wants; not solely based on corporate priorities. Your customers do not care about the options and activities you’d like them to perform and will opt out if the choices you offer do not meet their needs.
7. Do not implement new scripts without first testing them on your users. It is important to continuously improve the performance of your system, but ensure that customers are satisfied with changes before fully rolling them out. (It is easier and less costly to test than to have to back out of functionality and apologize to the public later.)
8. After implementing new and improved functionality, monitor these features carefully to determine if customers find them satisfactory. It generally takes time before new functionality is widely adopted, but it quickly becomes clear when customers are flatly rejecting a new feature.
9. Set up a schedule for reviewing and improving your IVR script ongoing. Just as you have to invest in up-training and retraining agents, expect to make regular adjustments to your IVR. Changing customer preferences must be addressed in the IVR script.
10. Brand your IVR persona and voice and review them every nine to 12 months. Enterprises should identify their most effective agents and then try to emulate their performance in the IVR. This takes a lot of time, but is well worth the benefits.

Source: How to Fix Your Hated IVR, by Donna Fluss, Principal, DMG Consulting

A leading home improvement retailer was facing an increasingly common challenge. Its most valuable asset – product experts – were dispersed across stores and product aisles and not easily available to customers calling for help. The company realized that by making the experts available they could achieve two goals: better utilization of this rare and effective resource, and improved customer satisfaction that would extend the brand beyond the in-store experience.

First, they tried to address the problem by taking the experts out of the stores and putting them in a contact center. Unfortunately, the company did not foresee the potential downside of taking them out of their normal environment. Within four months, there was 80 percent turnover among this valuable group of product experts. Working with Nortel, the company took a two-tiered approach to resolve the problem and moved the experts back into their stores. Nortel set up a natural language, speech-enabled self-service application to address customer inquiries and equipped the staff with wireless devices that kept them in touch with callers. That strategy paid off, with these results:

- Contact center agents became more effective by using a “buddy list” to get information from mobile in-store experts.
- Agents began using IM for special customer follow-up.
- Contact center agents handled 20 percent more customer interactions, decreasing the volume of in-store calls.
- First call completion rates increased by leveraging presence and IM, providing agents immediate access to information.
- Store loyalty scores jumped 30 percent.
- Experts were back in the store where they wanted to be, selling more merchandise.

By leveraging the latest self-service technologies and harnessing the power of mobility, this home improvement retailer communicated brand, improved customer satisfaction and increased profits, ensuring greater competitive advantage.

## Bottom line benefits: driving profits

Companies that successfully convey brand and satisfy customers see those customers engage in more transactions. And more transactions, such as sales of products and services, result in greater profits.

## Crucial considerations: choosing the right self-service vendor

The next step on the road to implementing effective self-service is evaluating and selecting the right vendor for long-term success.

There are five considerations that are crucial to the vendor selection process. When evaluating potential self-service partners, be sure to ask these questions:

- **Does the vendor’s solution set encompass end-to-end customer contact?** The self-service technologies that companies invest in will not operate in a void. They are only as successful as any company’s overall customer contact strategy. Ask whether the vendor is focused on comprehensive customer contact, rather than just a slice of it. This helps ensure the vendor can understand your organization’s total customer contact environment and can tailor a solution that fulfills your objectives across the entire scope.
- **Does the vendor offer leading-edge technologies?** While breadth of offering is an important component, look also at whether the vendor is an industry leader committed to investing in, and developing, world-class self-service technologies. It is essential to have a partner that can collaborate with you over the short and long term and advise when to leverage what you already have and when to invest in new solutions.





- **What is the vendor's industry expertise?** On the surface, this may seem related to the last question, but there is a fine point of difference. It is important to research how a vendor compares with peers in the self-service space. Talk to and research industry analysts, journalists, and ideally, vendor references. And look at the vendor's experience in your particular vertical market and beyond.
- **Can the vendor ensure seamless integration?** A company may be ready to invest in self-service technologies for greater competitive edge, but no business can ignore the investments already made in customer contact infrastructure, related CRM and ERP technologies, and more. The best solution must effectively and seamlessly integrate with existing infrastructure.

- **What about service and support?** A world-class self-service solution should be backed up by world-class services and support. Whether a vendor offers in-house or integrated partner services, it is crucial to ensuring optimal long-term benefits from self-service solutions.

### **Conclusion: taking stock and taking action**

Businesses across vertical markets can leverage the latest self-service technologies and strategies in the contact center to create long-lasting competitive advantage. This paper examined how market-leading companies have successfully implemented customer self-service with Nortel to:

- Communicate business brand
- Improve customer satisfaction and experience
- Drive more profits

And, it illustrated how enterprises everywhere can select the right vendor to ensure their own success. This invaluable insight can help companies across vertical markets effectively harness the latest technologies and strategies in the contact center to ensure competitive advantage now — and into the future.

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**About Larry Ciccarelli, Business Development**

Mr. Lawrence Ciccarelli [Larry] is Business Development Lead for Nortel's Enterprise Multimedia Applications organization. This business unit designs and markets Nortel's Multimedia Applications business, which includes Nortel's Customer Contact Center, Self-Service IVR & Advanced Speech Applications, Unified Messaging & Voice Mail, and Multimedia Application Server portfolios. This portfolio is defining the next generation of integrated application suites based on Web-based open standards. Mr. Ciccarelli is directly responsible for shaping the strategic direction for Multimedia Applications.

With more than 30 years of experience in the communications industry, he has held various executive, technical and marketing positions in various start-ups as well as NYNEX and Siemens before joining Nortel. His efforts generated multiple design patents. Larry's wide range of technical experience includes Digital Signal Processing, hardware, and software design for use in telecommunications industry.

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