



Speech Analytics: Key to Unlocking Voice of the Customer for Business Transformation Across the Enterprise

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Introduction: an enterprise vision for monitoring and improving the customer experience

Coming to grips with big data is one of the greatest challenges for organizations that seek to thrive in the digital age. As a subset of that challenge, Voice of the Customer (VoC) is emerging as a force that is realigning marketing, public relations, customer service, and every element of the supply chain, for enterprises around the world. Organizations that understand the importance of VoC are prioritizing the need to engage customers more effectively and to monitor what customers are saying for business intelligence, responsiveness, and planning. Those who haven't been monitoring and responding effectively to VoC would benefit by catching up.

Most companies recognize that it's essential to know—as quickly as possible—what people outside of the organization are saying about their products and services, and in turn, to strategize how the organization can optimize the customer experience.

This white paper provides information about the latest technologies available to mine relevant VoC data that reaches a company via voice media, and presents best practices for utilizing these technologies most effectively to provide value across the enterprise, at both the tactical and strategic levels.

Why all the hype about speech analytics?

The importance of speech analytics technologies is dramatically demonstrated in the February 2013 Customer Effort Impact survey¹ conducted by Harris Interactive, which indicates that in spite of the proliferation of text-based communications, voice interaction is still the most dominant and preferred form of customer communication with a company (see *Figure 1* and *Figure 2*).

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¹Avaya Customer Effort Impact survey conducted by Harris Interactive, February 2013.

Method Used by Customers to Communicate with a Company in the Last 12 Months

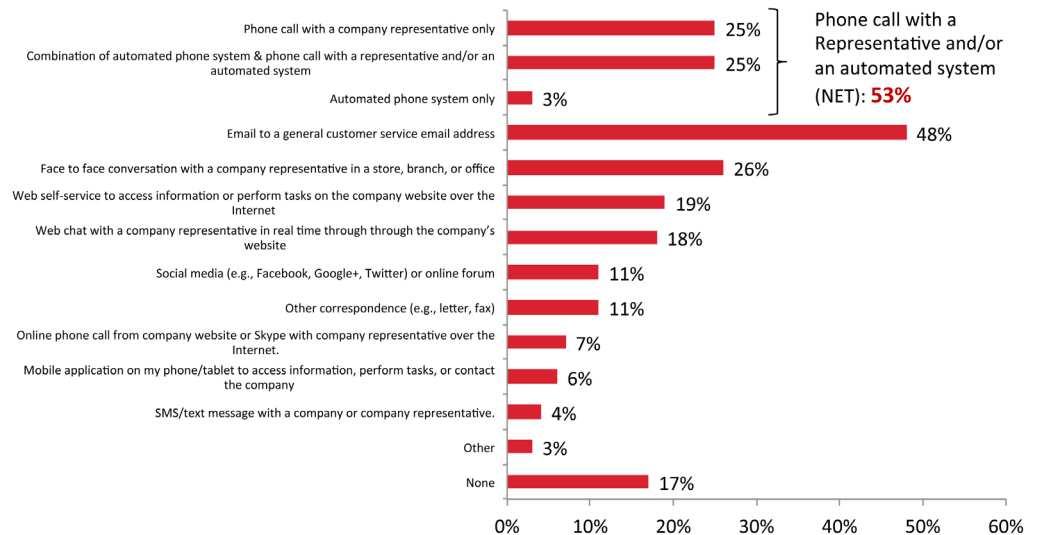


Figure 1

Figure 1 illustrates that over half of customers utilize voice media for communications with companies. It may be surprising to some that social media such as Facebook, Google+ and Twitter—widely hailed as the new customer forum—account for only 11 percent of customer-to-company communications. Web self-service and web chat have healthy levels at 19 and 18 percent respectively, but even in combination do not approach the importance of voice.

Similarly, Figure 2 demonstrates that speech dominates by a wide margin as consumers' preferred method for communicating with a company in five out of seven categories; and in the two categories where speech does not dominate, it is a very close second to email.

Preferred Method for Making Transactions and Inquiries by Type

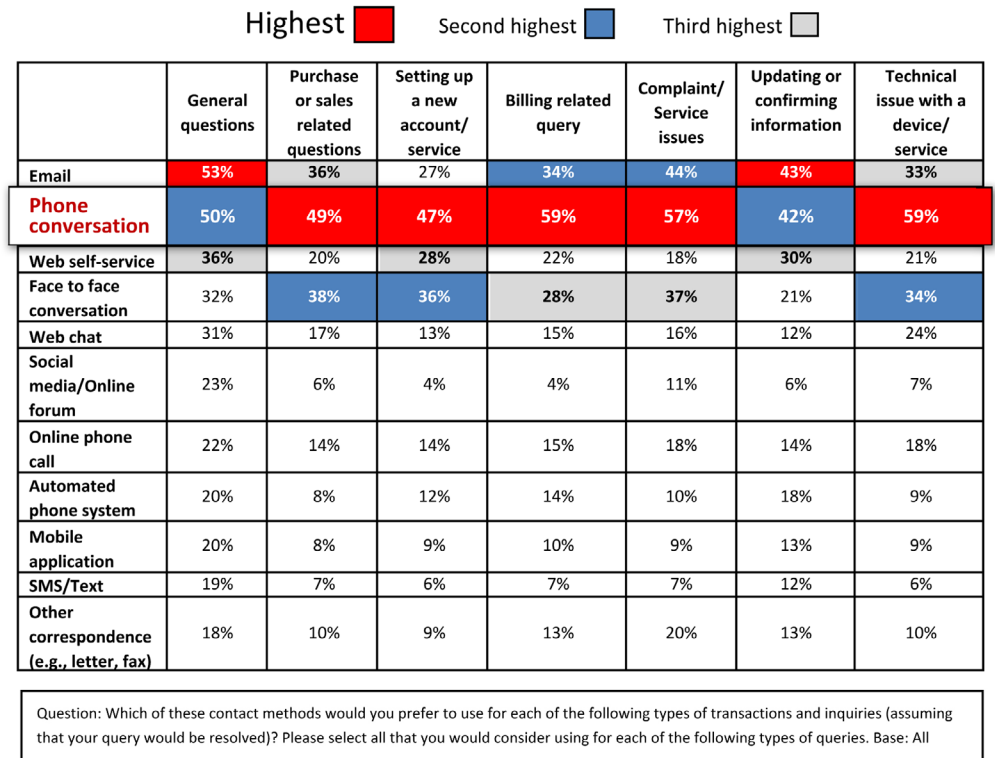


Figure 2

In practical terms, the preeminence of speech as a major source of VoC data means that thousands of hours of voice communications take place at many companies each week. The traditional method of monitoring these data by human supervisors or analysts via the process commonly known as “manual listening” results in only a miniscule number of calls being reviewed, with no guarantee of those calls being representative of the larger metadata base. On this basis alone, the vast amount of business intelligence that passes through the contact center can never be mined. Negative impacts of this failure are illustrated below.

Results of Failure to Mine Voice of the Customer Data



Figure 3

For organizations to benefit from the vast amount of VoC data that passes through voice channels, automation is required. This is where speech analytics technology enters the picture in a major way.

Currently, there are two primary approaches to automate monitoring and analyzing of voice traffic. First, there is **voice-to-text speech analysis**, which involves the manual or automated transcription of voice communication into standard text documents before searches can be performed. The process involves the development and maintenance of dictionaries, because a particular word can be recognized only if it resides in a dictionary associated with the analytics system. This technology has been used on a commercial basis for several years.

Second, there is **phonetic speech analysis**—a technology that can be used to monitor voice without the intermediate step of transcription. It utilizes the few dozen phonemes (speech sounds) that constitute a language, rather than specific words, which number in the thousands. Since the early days of phonetic speech analysis in the 1990s, the technology has resided primarily in academic laboratories and national intelligence and military installations. Over the past few years, phonetic speech analysis has begun to find its place in many commercial contact centers throughout the world, as the technologies have become less complex, smaller in footprint, more economical, and easier to deploy.

What is phonetic speech analytics and how does it differ from voice-to-text analytics?

Phonetic speech analytics is the first commercially viable approach to gaining real-time and near real-time intelligence about verbal interactions between your organization and its customers, clients, and the general public.

Phonetic speech analysis searches for strings of phonemes (speech sounds) that form words and phrases within a stream of live or recorded speech, as in recorded phone conversations or teleconferences. It can be set up to “listen” to hundreds of hours of recorded speech in a few minutes. Results are “tagged” in such a way that a user can see which portion of the selected audio content contains phrases or utterances that were searched. If desired, a human listener can focus directly on portions of recorded material to review; or, direct analysis can be extracted based on the automated review alone.

Most importantly, phonetic speech analytics provides near real-time analysis. This is critical in today’s business environment because at both the tactical and strategic levels, companies must be able to mine and act on VoC intelligence as quickly as possible in order to achieve and maintain competitive advantage.

By contrast, voice-to-text analysis requires the intermediate step of transcription from voice to text and the establishment and ongoing maintenance of dictionaries. For some organizations, these may be limiting

CASE STUDY

A municipal tax agency wanted to monitor all its calls for a full-scale audit to determine why residents called, how effective their agents were, and how they could improve their service.

Using phonetic speech analytics, the agency discovered that agents were inadvertently boosting call volume by 30% because they were suggesting residents call back to check on the status of their requests. Agents were also failing to suggest self-service options, such as Web payments, to callers.

As a result of these analytics, the agency was able to create new policies that cut inbound calls by 16% and moved another 23% of callers to self-service options, such as its improved website.

OUTCOME: Fewer calls requiring live agent handling, improved employee performance, increased citizen satisfaction

factors because maintaining both voice and text files for a single conversation consumes considerable CPU and memory resources, and there is limited flexibility to do ad hoc searches due to lengthy set-up times. Additionally, the process of transcription is by its nature error-prone, because the farther content is removed from its original source, the more likely it is that errors will be introduced during the conversion process.

A growing number of IT and analytics professionals advocate the use of both speech-to-text and phonetic speech analytics concurrently for different applications within an organization.

What benefits can organizations derive from speech analytics?

Organizations can use speech analytics for the identification and analysis of virtually any issue that is discussed in either live or recorded voice traffic, so the possibilities are limitless. Currently, the most prevalent usage of speech analytics falls within, but is not necessarily limited to, the following areas.

Quality management and process improvement

Every contact center has internal practices and standards that apply to the specific language and approaches that agents are expected to use during customer calls. However, when listening by supervisors is the only way to verify that standards are being followed, only a tiny percentage of calls can actually be monitored. With speech analytics, ***all calls can be monitored***, and calls that are out of range can be tagged for special attention by supervisors. These calls can be incorporated into processes that help agents to improve their skills, work experience, and adherence to standards.

Speech analytics may also be used to:

- Help ensure compliance with the regulatory standards that apply within many industries
- Enhance agent training and development
- Achieve operational efficiencies (for example, are there certain customer issues coming to agents that could be handled more efficiently and at less cost via an IVR or self-service website)

CASE STUDY

A travel retailer wanted to minimize the cost-per-customer booking. Its website was not performing well—only 60% of travel bookings were completed at the site, which is below the industry average. As a result, the company was getting 4,500 calls per week that were believed to be related to transactions started, but not completed, at the website. This cost the company an average of \$5.05 per call.

Using speech analytics to perform a root cause analysis, the company was able to confirm that diverted Web bookings were, in fact, the primary problem. That led the firm to enhance its website to help customers book their travel online without phone assistance, thus reducing the number of expensive calls to its agents.

OUTCOME:
Identification and remediation of issues with company website, resulting in significant cost savings

Improving the overall customer experience

Speech analytics can be a prime driver for proactively improving the overall customer experience. For example, it can help identify major pain points among customers and, conversely, what delights customers most. It can pinpoint specific agent behavior that leads to customer frustration during an interaction (such as long pauses when the agent is not speaking) and, again, behaviors that invoke customer satisfaction. If calls are running longer than expected, if there are an excessive number of callbacks, or if sales or upsells are lagging, speech analytics can help identify why.

In fact, for virtually any voice-related problem within a contact center, speech analytics should be considered as a potential contributor to the solution. And as experience and familiarity with the speech analytics system grows within an organization, these potential applications become more immediately evident.

Business intelligence throughout the organization to advance business objectives

Insights that are gained from voice-based interactions can be applied constructively across the organization. It is possible to identify the reasons customers are calling, so the organization can take steps to meet their needs more effectively. This will assist in addressing the identified customer needs and can both engage and benefit various functions within the supply chain. Searches can be designed to learn what competitors are offering and how customers are responding to marketing and promotions.

Many businesses make sizable investments in voice-of-customer research and social media monitoring. Speech analytics can easily become a third component of this business intelligence model; and it's especially valuable because, although various media are now capturing VoC, voice traffic remains the largest source of customer contacts.

Best practices

Avaya has established a short list of best practices that companies should follow in order to set the stage for optimum utilization of speech analytics, both as a standalone platform and as a core component for merging various streams of metadata into a holistic enterprise-wide system for convergent analysis. By following these best practices, stakeholders will be well-positioned to garner maximum analytics value for both tactical and strategic purposes.

CASE STUDY

Debt collection is a highly regulated industry. Agents must be precise in their language, not just for legal compliance, but also to maximize their effectiveness.

One large debt recovery agency was able to boost its effectiveness by 500% after utilizing Avaya Speech Analytics to discover which agents were incorrectly stating key phrases. This translated to better “Promise to Pay” rates among debtors, as well as increased revenue. It also reduced the number of fines the agency had to pay resulting from agents failing to adhere to their scripts.

OUTCOME: Better regulatory compliance, higher revenues

1. Begin with a broad enterprise vision that includes both short-term tactical and longer-term strategic capabilities

An advanced speech analytics engine can become the core of a multifaceted approach to monitoring and analyzing all of the speech traffic throughout an enterprise and merging it with other sources of metadata. The ultimate goal is to enable managers to continuously perform analytics in aggregate so they can spot trends as early as possible and make decisions quickly. What was once a mash-up of real-time and historical data from various sources can become a seamless integration that can help make analysis and decision-making processes faster than ever before.

Practically speaking, this means that you should build a monitoring and analytics system that is, first of all, flexible, agile, and robust in its speech analytics capabilities. It must be able to deliver near real-time or real-time data that relate directly to the needs and interests not only of the contact center, where it may reside, but for stakeholders across the enterprise from the CIO, CMO, Chief Risk Officer, and Customer Experience/Customer Satisfaction Director, to the IT Manager, Marketing Managers, Quality Control Managers, and beyond. *Figure 4* illustrates common applications of speech analytics that span many functions and deliver multiple business benefits

Voice of the Customer Monitoring and Analytics Reveal Trends and Accelerate Decision-making Across the Enterprise

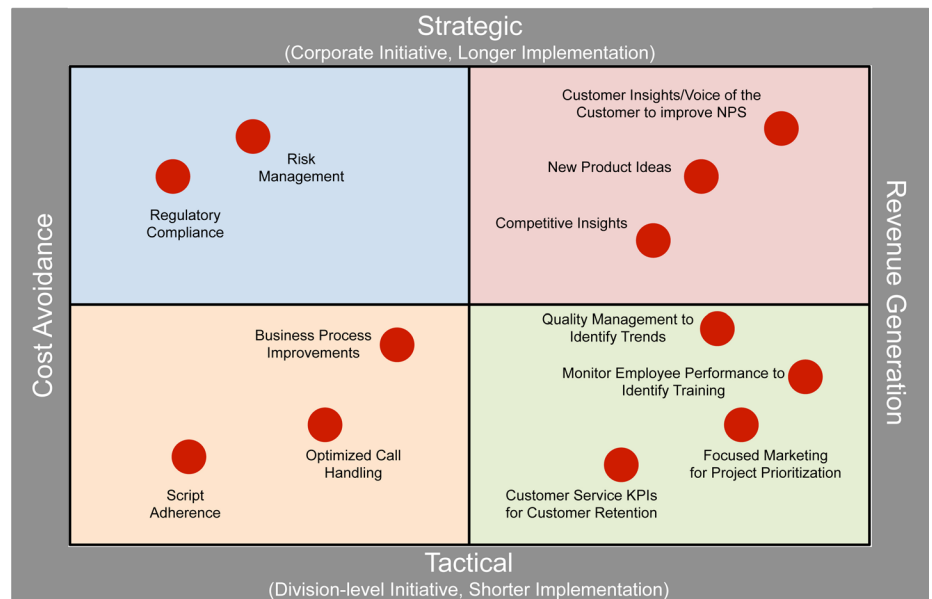


Figure 4

The basics of a system will include a speech analytics engine; a quality recording application and a reporting platform. (Please note: the success of speech analytics is predicated on the availability of quality recording).

The best bet is to use equipment that easily integrates with other applications so that ultimately a holistic and comprehensive analysis of metadata can be achieved. Open standards hardware and software provide maximum flexibility to achieve this.

If a recording application and a reporting platform are already in operation at a facility, it is very likely that a quality speech analytics engine may be integrated with this existing equipment.

Expanding to the level of incorporating multiple data streams will require the ability to interface with different applications. That flexibility should be an inherent feature of your speech analytics system, even if it is not utilized immediately.

2. Pursue a long-term vision by starting small, typically at the tactical level

“Start small” is the mantra for virtually any beginning analytics strategy. This may seem counterintuitive for an undertaking that is slated ultimately to deliver transformative effects across the enterprise. However, the fact is that analytics in general and speech analytics specifically are areas of endeavor that may not be familiar to all stakeholders within an organization, and as such, some will need to be “won over.” By starting with a smaller universe, early successes can be achieved relatively quickly. That can yield specific actionable results and help acquaint staff members with both the concept and possibilities of speech analytics.

For early projects, as well as advanced ones, it is important to define objectives, measure success, and demonstrate results that enable positive change for the organization. From there, success builds upon success, as familiarity and expertise in deploying speech analytics projects grows, and as successes become more impactful. Results and positive change for the organization open the door to greater commitment. The rigorous discipline of defining objectives, measuring success, and demonstrating change from each initiative is what drives continued use.

By starting small, the initial time periods for education, deployment, and measurements can be minimized. With one quick win that demonstrates significant value, the commitment of others is far easier to gain.

3. Build a cross-functional speech analytics team

To succeed in realizing the benefits of speech analytics over the long term, you'll need a core team of administrators from the areas that are most likely to benefit from the data that can be derived from VoC analysis. It's best that they be people with imagination and vision, since the potential benefits of speech

analytics can be far-reaching when astutely planned and managed. Consider drawing from areas such as marketing and PR, sales, finance, operations, R&D, quality assurance, and, of course, customer service.

Those who administer the speech analytics system are generally IT and contact center analysts who are skilled at their jobs and genuinely willing and able to master a new technology, having an analyst experienced in speech analytics is ideal but not always possible.

Identify an executive sponsor at a level high enough to represent the interests of several areas within the organization. The executive sponsor's endorsement and involvement can go a long way in engaging other advocates on more than a perfunctory basis. An executive sponsor can strongly reinforce the message, "This is important to our organization."

Finally, you may want to call in a consulting service team, perhaps from your system vendor, to work with you in the early phases of designing, training, testing, and deploying.

4. Provide different levels of training to achieve the optimum level of skill and understanding for stakeholders

Everyone on the project team should have some initial education about what is possible with speech analytics and the value that the organization can derive from it.

For the core team, leverage vendor expertise to introduce the concept of speech analytics, a bit about how it works, and some success story examples to the core team.

System administrators will receive further training to build the "mindset" of speech analytics, which is both an art and a science. The science is in learning how to build and report on phonetic search processes; the art comes gradually, from practicing phonetic speech analytics principles—seeing what works and what doesn't—so that knowledge and intuition develop to make the process optimally effective.

As speech analytics becomes established within an organization, further training for the wider team can be useful, so that the person who decides what to "listen for" will know how the person who "builds searches" constructs them; the person who determines the data required in reports can understand what searches are used to create those data; and the person who views the outcomes can understand "how we got here."

5. Embrace a growth paradigm in which the area of engagement between customers and the organization is the sweet spot

Best practices offered thus far position the organization to understand and appreciate the potential of speech analytics — and by extension, other forms of analytics — for transforming customer and brand experiences, which ultimately impacts business results.

Figure 5 illustrates the perspectives of customers and the organizations that provide products and services to them. Customers expect personalized and consistent service that they can access conveniently, according to their own schedules. They also expect to be empowered by information and multimedia options for interacting with a company. Organizations, on the other hand, are measured against objectives that are based on strategies that leverage their technology, processes, and people within a competitive environment. Engagement is the sweet spot at the center of this paradigm.

The “Sweet Spot of Engagement” between Customers and the Organization

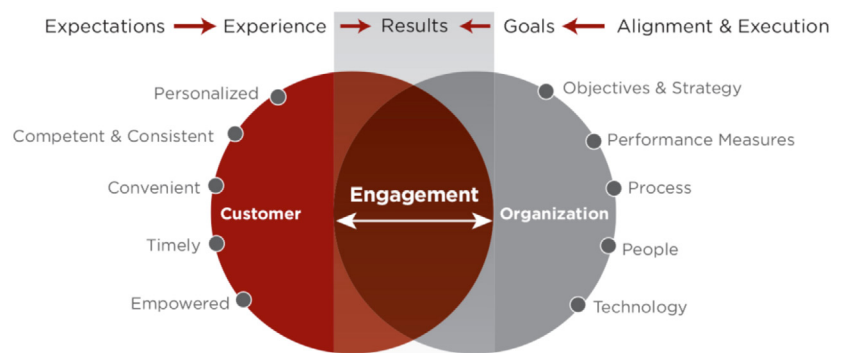


Figure 5

As you consider all the analytic tools available today, pose the question: Will a particular tool help us enhance the engagement between customers and my organization in operational and/or strategic ways?

6. Plan to integrate speech analytics with other data streams to optimize the customer experience and promote business growth

As discussed, the development path for phonetic speech analytics within a company begins with starting small and expanding, through experience and exposure, across the organization. The growth curve, which tends to accelerate rapidly after initial training, can lead to a larger vision of where and how speech analytics — working in tandem with other enterprise analytics — will benefit the organization.

On a standalone basis, speech analytics can deliver insights that will drive business transformation. With this in mind, continued use cases will call for additional planning. The amount of data generated by the insights will require planning in areas such as how to mine and store data; how to take action; and most importantly, how to assess the impact of the actions.

“Avaya’s ability to place speech analytics into context and identify key words and phrases helps us intelligently interpret the findings and turn them into data-driven recommendations for our client. Avaya’s Speech Analytics technology reveals the DNA of the call. It breaks down the call into its different components: the who, the what, the why. Our understanding of the client’s business, coupled with our experience as operators and consultants, allows us to then turn that information into action.”

- David Naylor
Head of Analytics,
Ember Services

“The main differentiator is that Avaya has always had very strong analytical capabilities, and the new visualization tools enhance these capabilities by bringing the info to the users’ attention in real-time. Most competitors are behind Avaya on this.”

- Ken Landoline
Principal Analyst at Current
Analysis

For the highest-level of strategic planning, speech analytics can be integrated seamlessly with other sources of VoC data, including:

- Social media monitoring
- Surveys
- Website/chat data
- Web self-service
- Email
- SMS/text messaging
- Mobile applications

Selecting your speech analytics system

Avaya believes there are a number of “must haves” for a speech analytics system that will deliver the benefits described in this white paper.

For best results, your system should include:

- An easy-to-use interface providing a simple and efficient way to create searches, review results, and tag data for relevance
- An interface to easily connect to and automate integration with best-of-breed third-party business intelligence and analysis platforms
- Support for industry-standard telephony and audio formats
- Unrestricted terms for search
- Ability to support audio from any source

Avaya Speech Analytics has been designed as a fit-for-purpose solution that incorporates all of these “must have” features. It can be used for single or multisite locations, and is ideal for contact centers and general business requirements across a wide range of industries and use cases. A solution design is based on customer operating parameters such as geography, processing requirements, call volumes, and data retention needs. Due to the architecture of the solution, Avaya Speech Analytics is well-suited for ad hoc project-based analysis, which until now has not been possible in most cases, due to the complexity of legacy systems.

The Avaya Speech Analytics solution may be delivered as a combined end-to-end system, or alternatively, only the desktop client may be delivered. This enables the solution to serve both organizations that require a business intelligence and reporting platform in addition to the speech search capability, and those who wish to use an alternative reporting system with Avaya Speech Analytics desktop search engine client. Avaya also offers professional support engagements that assist the user in installing, training staff, and deploying Avaya Speech Analytics.

Conclusion: harnessing the power of big data to deliver exceptional customer and brand experiences

Most significantly, Avaya Speech Analytics is one of several next-generation solutions that can be used interactively to expand and synchronize multichannel customer interactions, to mine and analyze data holistically across those channels, and to deploy options for virtualized environments. The new solutions help companies improve and streamline the customer experience through any access point at any moment in the customer lifecycle, while increasing efficiency and adaptability in business operations.

Utilizing the available range of customer experience management solutions, organizations can proactively address the multifaceted requirements and expectations of customers today. It becomes possible to offer more personalized, seamless interactions that are built on a greater understanding of a customer's situation, preferences and value. Ultimately, a robust suite of multichannel/analytical solutions can help companies deliver an exceptional brand experience that grows net promoter scores and drives greater revenue.

Mark de la Vega, Vice President and General Manager Contact Center Business Unit, Avaya, concludes "Companies today are struggling to keep pace with serving customers the way they need to be served to increase their lifetime value. Customers want convenience, but on the business side, delivering on convenience can be incredibly complex. Avaya's customer experience management analytics tools coupled with our multichannel interaction solutions replace guesswork with certainty to support strategic decisions that enable a more personal, streamlined experience that is integrated across channels throughout the customer's journey."



About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

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