Driving Performance with Embedded Business Intelligence Analytics in Your Voice Application

Turning Customer Data into Customer Service Excellence for Competitive Advantage
INTRODUCTION

Globalization, intense competition and the volatile economic climate are forcing companies to re-evaluate how they manage customer interactions. Customer expectations are higher and budgets are tighter. While companies seek every opportunity to improve the customer experience and increase customer satisfaction, they’re carefully watching the bottom line and looking for ways to be more productive by leveraging new applications as a way to help them ‘do more with less’.

In today’s increasingly competitive marketplace, a company’s voice application (i.e. IVR or voice portal) can become an important source of competitive advantage. Indeed, companies with top-performing voice applications typically have more satisfied customers, lower costs, and higher revenue per customer. To achieve these results, however, organizations must rigorously track and analyze key metrics within the voice application—for example, hourly call volumes, task completion, and speech error rates to name a few, and take the appropriate actions to maintain performance levels.

Business Intelligence (BI) analytics and reporting is becoming an invaluable strategy for data analysis that provides a deeper understanding of what is happening in the voice application. Leading edge companies are using BI analytics to examine voice interactions holistically, including the experience prior to reaching an agent and the experience of callers who self-serve. The end result is visibility into the caller experience as a predictive indicator of both customer loyalty and total cost per call.

In this whitepaper you will learn about the value of BI analytics and the rich information and insight you can gather to improve the customer experience and gain a competitive advantage. We’ll also discuss technology innovation that makes BI analytics easy to implement. Once considered too complex and expensive to be practical, technology has advanced to make BI analytics easily accessible through a built-in integration into the voice application. Software as a Service (SaaS) is the ideal way to implement a BI analytics solution in tough economic times. SaaS is faster to implement, much less expensive than a standalone BI analytics solution that is not part of the voice application, and it carries a much lower risk burden than traditional enterprise software.
LACK OF VOICE APPLICATION DATA DAMAGES THE CUSTOMER EXPERIENCE

Analytics is a concept that’s been around for a long time. Web analytics is used to measure, collect, analyze and report internet data for purposes of understanding and optimizing web usage. Speech analytics analyzes speech patterns, focusing on caller tone and keywords with agent interactions, and turns that information into reportable customer data. But it does not provide deep insight into the actual performance of the voice application itself.

Many enterprises have standard voice application reports that list the basic information on performance, such as the number of calls taken, ports in use, and calls abandoned, to name a few, but they lack key information on their customers’ behaviors and experiences. The voice application reports never try to understand what’s really happening and how your customers are being treated. The reports don’t show you the common paths through the voice application that lead to failure; they don’t give you the tools to understand what’s happening in your voice application and the power to tune its performance. To improve operations and deliver quality service, it’s necessary to have meaningful insight into what customers are doing at all touch points in the voice application and have the ability to fine tune instantaneously to have a positive impact on the customer experience.

EMBEDDED BI ANALYTICS IN YOUR VOICE APPLICATION PROVIDES INVALUABLE DATA ON CUSTOMER BEHAVIORS AND ATTITUDES

Business Intelligence (BI) Analytics is an invaluable tool to identify trends and patterns in customer behavior and attitudes to understand the impact every customer experience has on costs, profitability, retention, customer satisfaction and brand loyalty. It enables enterprises to create invisible guidelines so that the customer feels their experience is personal and unique to them and the enterprise utilizes the best, most cost effective service path to insure every customer experience generates the most brand loyalty.

So how can BI analytics provide an immediate and tangible return on your voice application?

For illustration purposes, let’s look at an example of a customer trying to check their account balance. When the customer calls into the voice application, they could be prompted to provide their account information and enter their PIN. If they have it readily available, they can hear the balance and then hang up – that is a successful self-serve call. If they hang up when asked for their account details because that person doesn’t have their account information handy; that’s probably a failure and a frustration point for the customer. They may opt out to a Customer Service Representative (CSR), who then again asks for the account information and PIN. These repeated attempts for resolution substantially drive up operational expenses. At $6 per call for servicing the customer, the ability to predict such “triggers” to session drop-offs would optimize efficiency and lower cost, as well as keep the customer happy enough that cross-selling and up-selling would be possible using the same predictive analysis.
The use of Business Intelligence (BI) analytics to look at voice applications end to end enables management to extract critical business intelligence that would otherwise be lost.

Using built-in business intelligence (BI) analytics and reporting in your voice application, you can drill down to specific steps in your call flow to analyze hang ups, when and where customers abandon the process, and get the information you need to understand how to improve self service throughput. It helps drive your voice application’s performance. It understands your definitions of success, failure and partial success to give you, for the first time, the ability to get top level and detailed information using dashboards. With the in-depth information you gather, you can make iterative changes to optimize your voice application and provide a positive customer experience.

The use of Business Intelligence (BI) analytics to look at voice applications end to end enables management to extract critical business intelligence that would otherwise be lost. It provides enterprises with powerful insight that enables them to proactively highlight the root causes (problems) that have a negative impact on business and analyze all aspects of the voice application performance and monitor the level of improvement over time.

This information, in turn, is used to increase profitability; focus the company on the customer’s needs, and provide enhanced accuracy in cost benefit analysis.

By analyzing and categorizing customer interactions and behavior, useful information can be discovered relating to strategy, product, process, customer satisfaction / retention, and operational issues. This information gives decision-makers insight and the ability to react quickly to customer sentiment and behavior, as well as customer response to both outbound and nascent market and brand positioning.

In essence, BI analytics embedded into the voice application allows you to:

- **Discover reasons why callers opt out of the Voice Application.** Many customers don’t complete transactions in the voice application due to confusing menus or lack of sufficient prompts that cause a caller to abandon self-service for an assisted call. This results in a rise in costs for agent-assisted calls.

- **Gain insight into VUI design effectiveness.** Voice User Interface (VUI) design can make all the difference in the effectiveness of a voice application. A simple and smart VUI design that anticipates your customers’ needs and automates tedious tasks results in higher customer loyalty that ultimately impacts the bottom line with lower churn rates and increased sales.

- **Determine reasons for customer defection.** Often it takes months to find out why customers cancel their accounts, and then it’s too late. By spotting issues that indicate potential customer frustration, it’s enables enterprises to address those issues with individual customers and save the account.

- **Gain intelligence into application performance.** Performance and reliability are the lifeblood of a voice application. Exposing hidden task / automation performance and reliability issues in the entire chain of voice application layers, enterprises can identify the root cause of the problem and fix it before it escalates.

Now that we understand the value of BI analytics for voice applications, let’s take a closer look at the type of information that can be tracked and how it can be used to find issues.
CALL CONTAINMENT ANALYSIS MEASURES THE SELF-SERVICE EFFECTIVENESS IN YOUR VOICE APPLICATION

The more customers that self-serve in the voice application, the more enterprises can benefit. Handling a call through a voice application costs between one-seventh and one-tenth of what that same call would cost if handled by a customer service representative. An increase in automation can save enterprises millions of dollars each year.

Measuring call containment using BI is a smart way to assess the self-service effectiveness of the voice application. BI takes it to another level by providing critical information on performance. You can easily identify customers that must go to an agent for help, this includes sales calls, billing errors, and already upset customers who have been trying to resolve their billing problems for weeks. BI also provides clues to why customers hang up before transferring to an agent. They might be confused by the voice application menu choices, angry because they feel they need to talk to an agent that moment but the system won’t let them, or simply they need more information or time to complete the call.

In essence, using BI analytics that is built into the voice application, you can get rich containment information about the system to measure the big picture - how well automation is working in the application. Breakdown of containment by timeframes, such as hour of the day, day of the week, week of the year or by month, can help with call center staffing schedules, as well as get a better understanding of customer satisfaction and operational costs.

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<thead>
<tr>
<th>Case Study</th>
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<tbody>
<tr>
<td>Company</td>
<td>Leading biopharmaceutical company with primary focus on the discovery, development and commercialization of prescription medicines</td>
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<tr>
<td>Situation</td>
<td>6 disparate IVRs for 6 different brands with no visibility into the ‘health of the IVR’ and effectiveness of multiple programs running for each brand. The systems were costly to maintain with long lead times to make changes. Additionally, the different siloed IVRs had minimal reporting capabilities</td>
</tr>
<tr>
<td>Solution</td>
<td>Deployed Angel’s voice applications (Inbound IVR and Outbound IVR) and Caller First Analytics to gain insight into all programs running for multiple brands. Having unified vendor for all brand programs provided visibility into program success.</td>
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| Results    | • Saved nearly $1 million dollars in first-year vendor costs  
            • Increased cost containment by 80 percent  
            • Saved over $1 million dollars annually per brand |

**FIGURE 1:** Leading Biopharmaceutical Company saves nearly $1 million in first-year vendor cost savings.
VOICE USER INTERFACE (VUI) ANALYSIS MEASURES
IN-DEPTH THE HEALTH OF THE VOICE APPLICATION

VUI design is perhaps the most critical factor in the success of any voice application, determining whether the user experience will be satisfying or frustrating, or even whether the customer will remain one.

Positive user experiences are created when voice applications anticipate the needs and preferences of the user and conform to the user’s mental model of the domain and of conversation. This is where BI analytics comes in.

Using VUI analysis, you can track:

Path Analysis. Path analysis is the starting point for initial discovery into customer behavior. It shows traffic patterns for customers navigating the voice application and identifies problem areas within the application. It also provides information on where the customer enters and departs the application. Furthermore, it sheds light into the most dominant path that customers chose to traverse through the system and allows analysis to compare customer preferences and see whether they were impacted by menu structures, system design, confusing sections that caused them to repeat or fail, etc.

Page Visits and Hang-ups. What are the most used voice pages in the application? Are there areas of the application that are not used very often or at all? Using the VUI analysis reports you can track the page type and number of page visits to a particular spot in an application. As web analytics track the web pages where users drop out, you can track the spot where callers are hanging up in a voice application, which is a basic indication of a trouble spot. Tracking the average time callers are spending on that same spot offers even more insight into the effectiveness of the voice page. If a high percentage of callers are hanging up in the same spot and they’re spending twice the amount of time in that portion of the application than they should, that should give an indication that that part of the application is not performing well. The ability to drill down to the individual calls and listen to recordings or analyze call data (like the area code of the caller or total call duration) of a subset of calls that saves valuable time and resources.

Error Tracking. Tracking ‘no input’ and ‘no match’ errors that occur in a particular spot in the application is another way to pinpoint trouble spots. A ‘no input’ error occurs when the system is expecting a response from the caller and the caller gives no response (speech and/or touchtone). A no match error occurs when the caller responds but it was not the response the system was expecting. Tracking the average no input or no match errors per visit to a particular spot in the application can help bring sections of the application that are visited less frequently to light. These metrics can tell us anything from whether a prompt is worded incorrectly, an option is not being covered by the existing speech grammar, or if a section of the applications is generally confusing the caller.

In a nutshell, proactive problem-solving and resolution promotes a positive experience. In addition to improving the customer’s experience, it also helps organizations better control their operational costs.

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<td>Company</td>
<td>Leading provider of broadband satellite services, products, and network solutions</td>
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<tr>
<td>Situation</td>
<td>Touch-tone IVR was a constant source of caller frustration, as identified in a customer satisfaction surveys as the top point of dissatisfaction for customers nationwide. Touch-tone IVR lead to: • Low customer satisfaction • Decrease in customer loyalty • Customer Attrition</td>
</tr>
<tr>
<td>Solution</td>
<td>Natural speech-recognition based IVR and Angel Caller First Analytics</td>
</tr>
<tr>
<td>Results</td>
<td>• Over $1M in first year savings • 10% increase in overall call containment through speech recognition • 43 second call time reduction in the IVR</td>
</tr>
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Figure 2: Leading provider of broadband satellite services saves over $1 million in the first-year by increasing call containment by 10%.
Measuring automation rates in your voice application using tasks allows you to view information about your customers’ traversals within your application. Tasks can be used to analyze how well a defined process is performing within an application. If callers start a task and don’t finish it, or if a caller starts and is transferred out of the application, that can measure the effectiveness of that particular process. Task reports let you focus on a specific behavior pattern (intended or unintended) and learn more about callers who follow this pattern. If tasks are more complex, creating sub-tasks within a particular task, you can perform a more granular analysis. Tracking the average time it takes to complete the task or reach incomplete or transfer outcomes can offer more insight into how well that task is performing. Drilling down to individual task data, or the time the task was started can help identify task-related issues with individual callers.

You can view various report types and display a myriad of information about callers and their behavior. You can also create new Tasks depicting behavior patterns you would like to look into, with a simple, drag and drop Task component.

**Call-Level Task Analysis.** Call-Level Task Analysis shows a complete customer experience (positive or negative) and allows for a granular understanding of the customers’ behaviors and experiences. Successful task completions are easy to quantify, while unsuccessful attempts allow you to dive deeper into the reasons leading to a negative experience. A multitude of additional information is available, such as departure points, customer identification, geographical segmentation, and custom segmentation information.

**Completed Task Paths.** One of the ways to analyze ideal paths customers take in the voice application is by understanding completed task paths. The ideal path allows the caller to complete their intended transaction or information query in the shortest possible time leading to a satisfied customer experience versus a less than ideal path which contributes to a negative customer experience. By analyzing the completed task paths it is easy to see whether or not the task is easy for customers to follow; whether they experiencing difficulties along the way; or whether they are indeed following an ideal path or going through longer, unnecessary steps.

**Task Dashboards.** Task Dashboard reports, once generated, can be set to automatically run and create time-based reporting slices such as daily, weekly and monthly reporting. This enables business owners and management to track trends and changes in their key business objectives and indicators and track variances in task completion rates over a period of time.
ANGEL CALLER FIRST ANALYTICS℠ – A NEW BREED OF BUSINESS INTELLIGENCE ANALYTICS AND REPORTING THAT MAKES IT EASY TO ANALYZE VOICE APPLICATION PERFORMANCE END-TO-END

Recently the marketplace has been expressing interest in the merits of integrating business intelligence with voice applications. Angel has developed the first ever best-in-breed Caller First Analytics℠, a fully integrated business intelligence analytics tool. By integrating industry leading BI analytics and reporting from MicroStrategy® and best-in-breed customer experience solutions from Angel, Caller First Analytics puts all the discipline and decision making power of business intelligence at the fingertips of enterprises to innovate their voice application performance and profitability.

Caller First Analytics provides deep insight into how a voice application is being used, including the most popular customer selections and the most common caller path patterns, hang-up points and in-depth task completion information. Armed with business intelligence, enterprises can rapidly make positive changes to the call flow, contain common call issues with automation to reduce agent load, and increase customer satisfaction by addressing caller needs quickly.

Key attributes of Caller First Analytics include:

**True 360° View**
Caller First Analytics captures the entire IVR experience from the moment the caller dials the contact number until the caller hangs-up.

**Detailed Drill-down Reporting**
Caller First Analytics combines call data, call volume data, application performance data and VUI analysis data into a single interactive environment. Search and data views enable discovery of patterns (what happened), with drill-down to specific data points to understand caller intent and behavior (why it happened). As a fully on-demand model, enterprises benefit from having the ability to make iterative changes instantaneously to enhance the caller experience and realize immediate and long term ROI.

**Anytime, Anywhere Access**
Angel Caller First Analytics is a fully on-demand Software-as-a-service (SaaS), or cloud-based solution. There is no hardware or software to install. There is no need to buy costly BI analytics software and then spend more time, resources and money on integrating it with your voice application. Enterprises simply pay for usage and get access through a web browser. Caller First Analytics is much less expensive than standalone BI analytics, and it carries a much lower risk burden than traditional enterprise software. Integrated directly into Angel’s customer experience solutions, it helps enterprises realize immediate and long term ROI.

The SaaS model has many advantages for customers and vendors alike. For customers, it eliminates the risk of making the right vendor choice for the next 5-10 years. Each year, enterprises have the opportunity to decide if they want to renew the contract, cancel it, or switch to something better. This dynamic forces a tighter partnership, since vendors will lose business quickly if they fail to respond to customer needs. For vendors who are responsive and consistently deliver value, the SaaS model creates loyalty and predictable revenue growth.
CONCLUSION

Maintaining profitability through difficult times is the product of company investment decisions that are weighted with greater-than-normal significance. Going above and beyond to keep clients satisfied following an economic downturn is the key to gaining high returns. Thus, embedded business intelligence in your voice application remains one of the most expedient means of answering the problems of an economic downturn.

Using embedded BI analytics, enterprises can improve customer service, lower operational costs and increase profitability. BI intelligence can see enterprises out of an economic downturn unscathed - or even stronger than when they entered it.

Angel Caller First Analytics provides enterprises with new levels of insight by unlocking the information value hidden in the voice applications. Additionally, delivered as a software-as-a-service (SaaS), it is faster to implement, much less expensive than a standalone BI analytics solution that is not part of the voice application and carries a much lower risk burden. With Angel Caller First Analytics, enterprises have access to actionable information that drives greater customer satisfaction, lower costs, and increased revenue.

Angel is a leading provider of on-demand call center and Interactive Voice Response (IVR) solutions. The Angel solution delivers value to organizations of all sizes to more productively and efficiently address business problems through the power of voice technology. As a fully hosted solution, no investment in hardware, software, or human resources is required, delivering immediate ROI and easing and simplifying deployment of voice applications that meet unique business needs. Angel is the only provider to offer a web-based toolkit, Site Builder, that facilitates voice menu design through a simple Internet connection and our innovative technology enables complete integration with databases or CRM tools, enhanced scalability and flexible applications.

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