

Insights from Interactions

Using Interaction Analytics To Drive
Customer Insights

White Paper

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R E S E A R C H

Aligning Business and IT to Improve Performance

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The Changing Face of Customer Interactions

A 2006 study by Ventana Research confirmed that voice – the telephone - is still the channel customers prefer to use when communicating with companies. Although companies seeking to reduce costs have been eager to introduce alternate channels of communication such as e-mail, fax and the Web, customers still would rather talk with a person.

But paying people to handle phone calls is costly, and so most businesses quickly focused on how to handle the maximum number of calls using the smallest possible number of their highly skilled employees. During the last decade this resulted in many companies centralizing their handling of customer interactions, including calls, in contact centers that were staffed by agents specifically recruited to deal with customer interactions. The goal was to lower costs by gaining economies of scale while providing customers with better service. Businesses also looked to optimize the handling of calls by judicious use of information technology.

As call numbers rose, companies deployed various technologies in attempts to keep down costs. Two popular self-service technologies, interactive voice response (IVR) and Web-based portals, were intended to reduce the number of transactions handled by live agents by offering automated services to customers. The results of these cost-control initiatives were mixed; in some cases they increased the number of calls handled. IVR in particular quickly became very unpopular with customers, negatively impacting customer satisfaction. From this experience, companies learned that bad automation actually can increase both workload and costs while reducing customer satisfaction.

As well as being costly, the telephone channel generates huge volumes of call records. These should be a valuable source of information about customers. But companies typically discarded most of these records because they had no way to make full use of the information they contained. The little use they did make of the calls was to assess agents' performance. This was done by recording a subset of calls and then manually assessing how well the agent handled the call by listening to the recorded calls. The results were used to determine the performance of agents, to decide how they should be rewarded and to shape their training.

Today, business use of customer call data is changing as emerging technologies such as speech recognition and speech analytics make it possible to automate the assessment of all calls and to derive greater understanding from their content.

Another significant change is the realization that to improve customer satisfaction, companies need to involve more experienced workers in dealing with customers. Companies therefore are looking to distribute some interactions to people in specific business units, to mobile workers or to experienced staff that prefer to work from home. This trend makes it even more important to capture and use all data relating to interaction-handling so companies can optimize the entire process both from the company's and the customers' points of view.

Making Full Use of Data

As companies deploy more technology to automate more processes, the technology produces more and more data. According to some forecasts, the volume of data companies produce will double in the next 18 months. Understandably, executives want to derive from all that data more information about what is happening in their companies, and they want to do it in real time, to help their decision-makers react to change faster than the competition.

When it comes to handling customer interactions, companies generate data from a myriad of sources. They include:

- recordings of calls
- captures of agents' desktop activity
- records from computer telephony integration (CTI) software detailing calls put on hold, transfers and other call flow information
- copies of e-mails and faxes
- copies and scanned images of postal mail
- transcripts of how customers navigated through IVR menus
- transcripts of how customers navigated through Web-based self-service applications
- data entered into application systems as a result of customer interactions, such as new customer names and contacts or new sales orders
- records of workflow items created as a result of customer interactions, such as an alert to the sales department about a new sales opportunity or a scanned image sent to a department in the back office
- customer surveys from IVR, the Web or postal mail, or surveys completed by the agents.

All this data exists in one of two forms, structured or unstructured. Structured data, such as customer or sales order records, has defined properties, such as size, type, characteristics, content and rules that define how the content should be validated. It thus is relatively easy to share between applications. For example, a customer relationship management (CRM) system should contain records for every customer. These can be extracted, aggregated and analyzed to produce a view of any customer's information, though the view will be limited to the data held within the CRM system. To obtain a wider view, companies need to combine this data with data from additional sources.

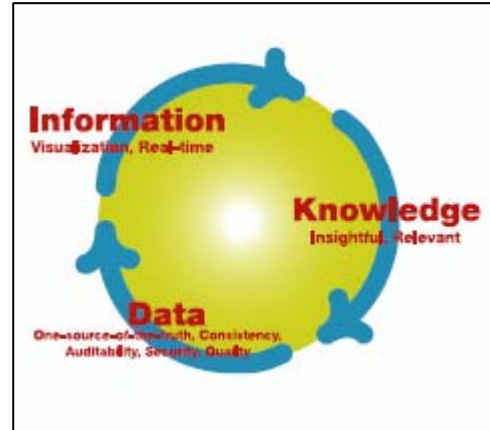
Making business use of unstructured data, such as call recordings, multimedia interactions, e-mails, faxes and scanned postal mail, is much more difficult because this "humanized" information cannot be defined in a precise way for computers to process. For example, a call recording has no defined form, content, length or standard validation rules.

Analyzing unstructured data is a two-step process. Typically the first step has been a manual process in which someone examines the data – reads the e-mail, fax or letter or listens to the recorded calls. That person then completes a defined electronic record that is stored in an application system and becomes available for analysis. Given cost and time constraints, companies often have been able to examine only a small percentage of the calls recorded; as a result, they have not gained the maximum benefit from what should be a primary source of data.

Slowly but surely the process is being automated. Two technologies have matured enough to reliably automate the processing of at least some unstructured data: text recognition and automatic speech recognition. Documents can be scanned and the content converted to digitized words that can be stored in structured electronic records for subsequent analysis. Similarly, speech recognition software can extract data from recorded calls and store it in a structured form that can be analyzed. In addition, call recording techniques have improved to the point where companies now can record and analyze all calls, making full use of this previously underutilized asset.

Speech into Data

There are several forms of speech recognition software, but each relies on one or a combination of three different methods: large-vocabulary continuous speech recognition (LVCSR, also called speech-to-text software), phoneme indexing and search or keyword or key phrase spotting. These techniques work in different ways, but all allow the software to analyze the content of recorded calls and pick out targeted words and phrases. These can subsequently be analyzed to yield an understanding of the content of the calls. Recent versions of these tools offer improved performance and keyword-spotting capability, which is measured by the number of words correctly spotted, the number incorrectly reported and the number of times a keyword is missed.



In addition to advances in keyword spotting, speech recognition software now includes the ability to detect emotion through changes in pitch, tone and speed of a conversation and other metrics. Detecting emotion enables businesses to identify not only what customers said and how the agents responded but also the nature of the interaction – was it, for example, a calm, rational conversation, or did tempers flare?

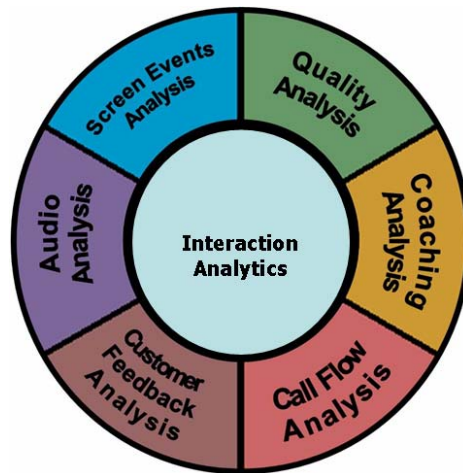
The pairing of speech analytics with call-recording technology now allows business to analyze the vast amounts of previously underutilized call recordings for information of interest. Such analyses can help businesses predict how a customer may behave in the future, determine how agents are dealing with customers under stressful circumstances, ascertain the effectiveness of marketing campaigns, learn about competitive products and pricing and gather other valuable information.

From Data to Business Insight

Capturing data previously unavailable and processing it into a usable form is only the first step toward understanding and improving business performance. Once companies have this information available, they need to derive from it insights that will help define strategies and contribute to more effective decision-making.

For example, there always are two perspectives on a customer interaction, that of the customer and that of the agent. Analyzing the customer's side of a call allows companies to draw an accurate picture of why customers are calling, how they behave during calls and what they are looking for in terms of products or services. Analyzing the agent's side of the conversation makes it possible for companies to ascertain needs for coaching or training, analyze performance more rigorously and determine appropriate individual levels of reward.

But the insights should not stop there. Interactions are a part of larger business processes; by integrating the call data with other data gathered at the same time the interaction occurs, companies can derive insights to use to improve the overall processes.



With today's advanced software capabilities, companies can analyze all the various types of data generated in contact centers to produce a complete view of all aspects of customer interaction.

For example, our research shows that in order to resolve a customer call within a contact center, agents typically must access and possibly update data in at least two business systems. This can be a complex, time-consuming task, since most business applications were not designed to handle customer calls. Using screen-capture technology to see how agents actually interact with the systems during calls, companies can decide how to modify the call-handling process, the application or both to make the process more efficient for the agent.

Another possible consequence of needing to navigate around complex business applications is excessive hold times for customers. This problem can be identified by combining the screen-capture data with data from call-routing CTI software, which also can show if calls have to be transferred multiple times before they are resolved. The resulting insights can point to the need to change processes or business applications or revise training.

By combining customer-supplied data, such as that from customer feedback forms, with call analysis, screen capture and CTI data, companies can begin to develop a true understanding of customer satisfaction levels. This can lead to the development of more granular customer segmentation strategies that identify different operational targets for different segments. For example, agents dealing with high-value but difficult customers might be given longer average call length targets.

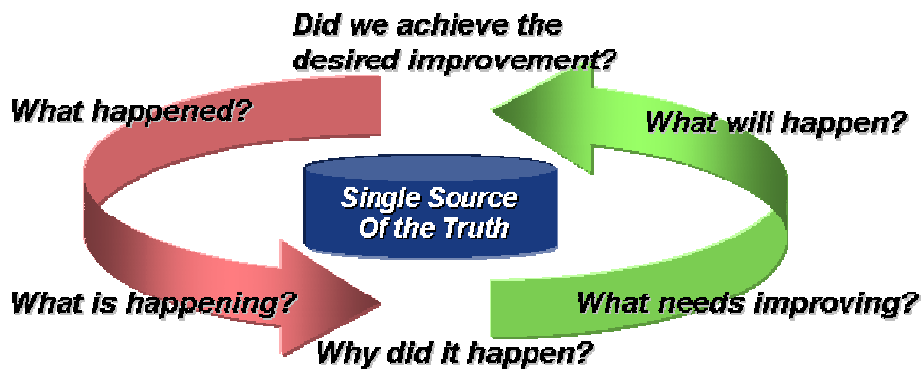
Combining multiple sources of interaction information allows companies to gain better insight into their center's performance. In fact, gaining previously unobtainable information from unstructured data sources like call recordings or screen captures and combining it with existing forms of structured data is the first step toward really managing customer relationships.

Understanding Customer Relationships

Merely analyzing unstructured call data is not sufficient to deliver a better understanding of the company's relationship with its customers. Achieving this necessitates that other types of information be included in the analysis as well.

Most of the information traditionally used in customer management has been about transactions – for example, the number of calls, the average length of a call or the percentage of calls resolved during the first interaction. Little of the information generated has been more broadly about the business – such as how much new business was created, how many calls it took to generate the additional sales or how many customers are really satisfied.

Speech-based analytics can add to this new category of information. For example, by analyzing what customers say and how they say it and then putting that information in the context of previous calls, it is possible to make a more objective assessment of how satisfied they really are and to predict how they may behave in the future.



Performance improvement in contact centers is a cycle that requires companies to answer the questions above, implement changes based on what they learn, and continue to monitor the process for further improvement.

Improving customer relationships begins by looking at past and present performance. Today, however, much of the information in the contact center is backward-looking, and typically it has been used to apportion blame: Agent X's calls lasted longer than the target time, so his or her performance is judged as below expectation.

More usefully, this same information can be used to analyze why things happened: Perhaps Agent X's calls lasted longer than the target because he or she wasn't properly trained, because the customers were particularly difficult or because the supporting applications are hard to use. Gaining this type of insight helps companies make changes that will positively impact future performance: If Agent X learns better contact-handling techniques or has to navigate fewer screens, the length of his or her calls should shorten.

Doing More with Data

Businesses achieve incremental performance improvement by making operational processes more efficient and effective. Doing this requires understanding not just what is happening but why it happens. Identifying the root causes of problems with people, processes or technology, making any necessary changes and then monitoring to confirm

whether the expected results were achieved is a proven method for improving performance. Dramatic improvements are possible by improving, reducing or even eliminating the need for some processes.

Close analysis of the reasons that customers contact the organization and what they are expecting helps companies identify underlying causes to address. For example, the majority of calls to telecommunications companies are about billing. Some might be calls from customers questioning the amount they have been charged, which could be reduced by providing clearer information about the billing plan they have subscribed to. Or it could be that the billing system is not working correctly, and these calls could be eliminated by correcting the system.

These sorts of improvements require multiple layers of analytical capability, and our research shows that few companies have them. At the most basic level, companies need to enhance the reporting capabilities of their stand-alone applications. The scope of these reports is limited to analyzing the data held within the application, and they typically are generated in the standard formats provided by the vendor. Companies must customize them or add a separate analytics capability that draws on the data embedded in the application.

To gain broader insights, companies must deploy analytics that can extract data from multiple systems. The analytics tools should be able to access all the data sources and repositories within the contact center, and preferably also data from sources and systems anywhere in the company. Information about identical customers or products existing in more than one system can have different forms that make them appear not to be the same person or product. As companies deploy analytics systems that can extract data from these different systems, they need a cleansing process that resolves these conflicts.

Once the data is extracted and cleansed, the analytics software can apply the appropriate business rules to produce information and valuable business insights that reflect the individual user's requirements. An additional benefit of an enterprise-wide analytics system is that information used to make business decisions is derived from a uniform company dataset – a single source of the truth.

Once companies have a handle on the past and why things happened, the next step is to look to the future. Being able to predict how a customer is likely to behave in the future is of tremendous value in helping companies decide how to deal with an interaction. For example, if a longstanding customer who has spent several thousand dollars with a company calls, but the call pattern and his or her behavior on calls indicates that the customer's business is at risk, it might be better to route the call to a supervisor and make available an exceptional offer in an effort to retain the customer. By combining traditional analysis with emerging techniques that take into account behavioral pattern analysis, agents can be better equipped to handle individual interactions.

Keeping Ahead through Customer Insights

In today's ever more competitive markets, customers are still a company's most valuable asset. They interact with businesses in many ways: observing marketing messages, receiving sales calls, asking for service, making complaints and of course purchasing products. These interactions occur through an increasing variety of channels: the telephone, e-mail, postal mail, the Web, Web-based chat and video. These many interactions and channels produce large volumes of data, in various formats.

In total, these interactions define the customer experience and provide the basis for organizations to understand how well they are performing. All this said, one-on-one calls

still make the biggest impact on the customer experience; one badly handled call can sour a whole relationship.

The importance customers place on phone interactions gives companies a strong reason to implement technology that can evaluate and manage the effectiveness of this interaction. Analysis of the calls, combined with quality monitoring assessments, training assessments and customer feedback, not only shows how well agents perform but, more importantly, how the process can be improved and customer satisfaction increased.

Call recording employs new compression technologies that make it more feasible to record all the calls occurring in a center; speech analytics open the information previously hidden in these recordings to be mined and converted into meaningful business insights. Combined with data from other interactions, these tools allow businesses to create an all-encompassing view of their customers and their experiences in dealing with the company.

Over the last decade, much has been written and debated about customer relationship management (CRM) software. Many CRM projects failed to fully meet expectations of improving customer experiences or business performance. This was primarily because they relied too much on a single source of data – the CRM system – and could not utilize the largest source of data – the actual customer interactions. Analyzing these interactions opens up a new basis for managing business performance more effectively than ever before.

About Ventana Research

Ventana Research is the leading Performance Management research and advisory services firm. By providing expert insight and detailed guidance, Ventana Research helps clients operate their companies more efficiently and effectively. We deliver these business improvements through a top-down approach that connects people, processes, information and technology. What makes Ventana Research different from other analyst firms is our focus on Performance Management for finance, operations and IT. This focus, plus research as a foundation and reach into a community of more than 2 million corporate executives through extensive media partnerships, allows Ventana Research to deliver a high-value, low-risk method for achieving optimal business performance. To learn how Ventana Research Performance Management workshops, assessments and advisory services can impact your bottom line, visit www.ventanaresearch.com.