

## White Paper

# Delivering Actionable Customer Intelligence

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### Synopsis

Business intelligence and Analytics are playing an increasingly pivotal role in decision making, as organizations realize the true value of information and how it can affect the bottom line. The majority of successful organizations will employ business analysis staff to ensure that the data they get is properly interpreted to help support business-critical choices and strategies.

By making use of the swathes of data available about any number of metrics within a company, clear and relevant insight into issues can be translated into more effective decisions and outcomes, based on verifiable knowledge. But these decisions often need to be taken quickly, across multiple departments and divisions, and this need for agility is only going to increase.

Customers are only one half of the key to the survival and eventual prosperity of any business, and so it is to the data they provide which organizations must turn if they are to uncover the key themes which require immediate action. Genuinely actionable customer intelligence is the other side of the equation – information which metaphorically ‘gathers dust on a shelf’ is completely pointless. Gathering data must be done in conjunction with a proper strategy for analysis in mind, otherwise it simply becomes a number-gathering exercise in futility.

In this paper, we look at the opportunities and limitations offered by current models of data analysis, and how adopting a strategy of combining both statistical and contextual analysis can provide the extra edge needed in an environment where decisions must be made quickly. [READ ON...](#)

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Organizations need to be far more agile and responsive, able to identify and actively deal with issues as they crop up

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## Size matters

This is the accepted wisdom. Bigger is better. Go Large. Supersize it.

Having a large dataset can undoubtedly provide solid information, and we can use the statistical variances it provides to identify problems or areas for investigation. But it is inherently limited by the fact that it will only highlight significant variances in a fairly vague manner, showing, for example, that repair calls for a particular product line were up by x% month on month, or year on year.

There are two main issues with this approach.

First, it takes time to wrangle huge volumes of data into a usable format. This may be ok for a longer term review, but it is no use identifying a key issue weeks or months after it was upsetting your customers - the damage to sales, profits and/or reputation is done, sometimes irreversibly so.

Second, despite the complexity and depth of the numbers crunched, this large-scale analysis still doesn't provide reasons, nor does it drill down into what it means for the business – just that “something” happened.

This combination of delayed data and unidentifiable problems is not acceptable today. Organizations need to be far more agile and responsive, able to identify and actively deal with issues as they crop up. This level of “data dexterity” can be achieved by supplementing traditional data analysis with Contextual Insights.

## Contextual Insights

Contextual Insights are pieces of information obtained not through large-scale statistical variations in the data set, but through observation of “outliers”, or information that “doesn't fit”.

Through observation, e.g. reading transcript log files of customer-to-agent live chat, subject matter experts are easily able to spot anomalies. This is simply possible because the analyst knows the business domain, knows what are normal questions asked and also what is a normal occurrence of these questions asked. When the analysts browses through the transcripts s/he will be able to quickly spot questions that are not usually asked; or questions that are not normally asked so often.

## Case Study - Peter

Peter is the Customer Experience Director for an online retailer. He is responsible for ensuring the online experience for the customers is as hassle-free as possible. A key part of Peter's job is to continuously improve the customer experience through the various online service applications that the customers use to interact with the company. Peter spends a lot of time using analytics tools to monitor the status of the customer's interactions and to find opportunities for improvement.

Peter has now been looking at Teneo Insight's user-friendly Analytics charts to evaluate the volumes of the different areas of questions asked. He normally drills down to evaluate specific areas and then compares them over different time periods, and today he has observed that the

last couple of days there has been a relative increase in questions about returns of purchased products.

Usually, Peter would note this down for the monthly steering committee meeting, where he would bring this to the group and ask whether the increase in returns was a generic trend noted across other customer communication channels and contact points. But by using Teneo Insight to evaluate the customer interactions with the Virtual Assistants, Peter can not only look at the charts but also drill down to read the relevant chat logs – contextual insight. Peter reads 20-30 chat logs about the returns and quickly discovers that many of them are complaints from customers because their Pacific Blue paint cans were actually shipping with Tuscan Yellow inside instead. Armed with this information, Peter spoke to the Operations Manager, who was able to correct the problem straightaway. By employing the right combination of statistics and contextual insights, Peter was able to pinpoint the issue and react much faster than he would otherwise have been able to.

The screenshot displays the Teneo Insight analytics interface. On the left, there is a navigation menu with options: Analyze, Last 3 Months, Last 2 years, Historic, Browse, Last 3 Months, VA Answers, Customer Inputs, Answer Triggers, Dialogues, Last 2 years, and Dashboard. The main content area features a 'Top 100 Inputs' table with columns for 'No.', 'question', and 'Count'. The table lists various customer questions and their frequencies. To the right of the table, there are several control panels: 'Current Selections' showing filters for 'name' (CARA), 'week' (8, 9, 10, 11, 12), and 'analysis\_cate...' (31 of 151); 'Time period' with 'Start' (3, 11, 2010) and 'End' (4, 11, 2010) dropdowns; 'Time filters' with a grid for Week (7-13), Month (8-13), Day (9-13), and Hour (12-13); 'Analysis...' with a tree view for ASol, CarryMe, ChatHandover, Dialogue, and Library; and 'Advanced filters' with a list of filters including VA name (CARA), Emotion, Transactions, Rank, OS, Browser, Accuracy, Handover, and Relevance.

No.	question	Count
38	How do I get Silver- or Goldstatus on my CarryPoints account?	8
	What is my CarryPoints number?	8
40	transfer points	7
41	How many points will I earn when I fly?	6
	frequent flyer	6
	Can I add my CarryPoints number to a reservation I just made?	6
44	pandion	5
	upgrade?	5
	I lost my CarryPoints card, how can I order a replacement card?	5
47	CarryPoints fly with family	4
	How do I register missing points? / How can I retro register Carrypoints points?	4
	points	4
	how many points do i have?	4
51	email CarryPoints	3
	I would like to e-mail CarryPoints	3
	how do i register missing points	3
	HOW CAN I CLAIM MILES FOR THE FLIGHTS FROM THE A FEW DAYS AGO?	3



What is important  
today may be completely  
different tomorrow

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### Flexible dimensions.

Another trait often assigned to statistics is 'rigidity'. By their (very voluminous) nature, statistics can be unwieldy and difficult to work with. The Business Intelligence (BI) systems needed to interrogate and analyze this data are also notoriously expensive to implement, thanks to the time and resource needed to design different dimensions, set up data warehouses, etc. This is compounded by the ongoing need for ever-expanding databases to host the colossal amounts of data, and the powerful servers needed to process the analyses. Even after the systems are up and running, they are costly to maintain due to continuous changes in the defined parameters and dimensions of the system. In other words, our environment is constantly changing. What is important today (and thus what we want to measure now), may be completely different tomorrow, or the day after that.

Organizations are quickly realizing that BI tools must be flexible, quick and easy to implement, in order to match the fast pace of business and the way information flows are now instant and two-way. The need is for a BI system which can not only easily create new dimensions, but also perform flexible cross-dimensional analysis.

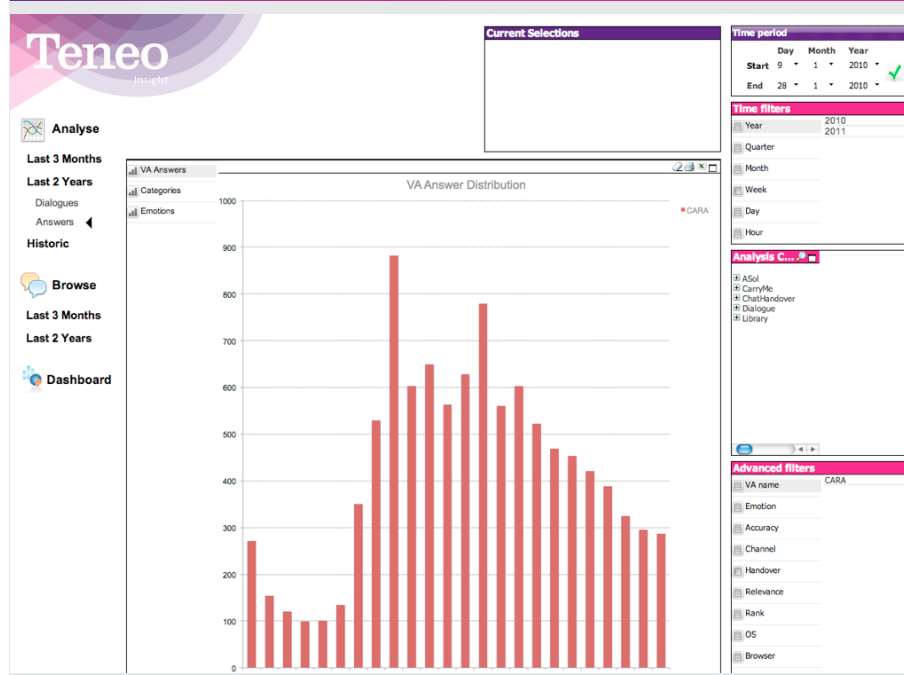
## Case Study - Laura

Laura is the online service coordinator for a global consumer food business. She is responsible for the website, and the online Virtual Assistant which helps customers with their queries. Laura receives a phone call from Daniel, marketing director for fast-food operations, a subsidiary of the business. Daniel's team wants to launch daily coupons with offers at national restaurants, and are wondering what would be the best time of the day to publish these on the website.

Using Teneo Insight, Laura was able to instantly view aggregate statistics of the last year of all the questions asked by the web visitors. Filtering on the subject dimension to get data on the restaurants only, Laura changed the dimension to the average per hour for the last year. Within only 1-2

minutes, she was able to tell Daniel that the best time to launch the coupons would be right before the peak periods of 9-10am and 2-3pm, when the majority of people were asking questions about the fast food restaurants.

As Laura's experience shows, the ability to quickly drill down through large data sets, apply different filtering parameters and then easily changing dimensions to suit is key in getting access to the right information at the right time.





Newer, customer interaction-focused technologies add significant value to existing web analytics-based output

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## Know your customer

A key concern for any organization is knowing who your customers are. Previously, it was relatively easy to understand who your customer was, when they met with your salesperson or walked into your store. Now, with so many communication options, customers can remain as anonymous as they wish. Companies invest millions in ever-more sophisticated web analytics, hotspot technology and similar services in order to gather information and customer intelligence, but even the most powerful web analytics tool still relies on educated guesswork for the “final mile” of analysis – extrapolating findings and running complex models based on past performance does not equal the experience of hearing the customer’s own voice.

Newer, customer interaction-focused technologies, such as live chat and virtual assistants, offer the ability to gather this overall customer voice, adding significant value to existing web analytics-based output. The sum of data gathered in this way – from click analysis and browsing records, to having accessible, written details of the customer telling you exactly what’s on their mind, in their own words – is a huge step forward in obtaining real customer intelligence.

So, Customer Intelligence Systems that allow businesses to combine powerful data analysis with flexible dimensions, and which offer the capability to get right into the customer’s mind (by reading the actual words they’ve written, a.k.a contextual analysis) is a fundamental stage in filling the customer insight void, since your customers stopped visiting your store.

## Case Study - Lisa

Lisa is the web analyst for an online consumer electronics retailer. She is responsible for the web applications in the online e-commerce environment. Last year, Lisa successfully implemented a Virtual Assistant, Ella, who helps customers with product, customer service and general enquiries, and also handles online transactions.

More and more customers are asking Ella questions, so the marketing team asks Lisa to help them identify how they can improve the check-out section of the website, using the log files generated by Ella's conversations with customers.

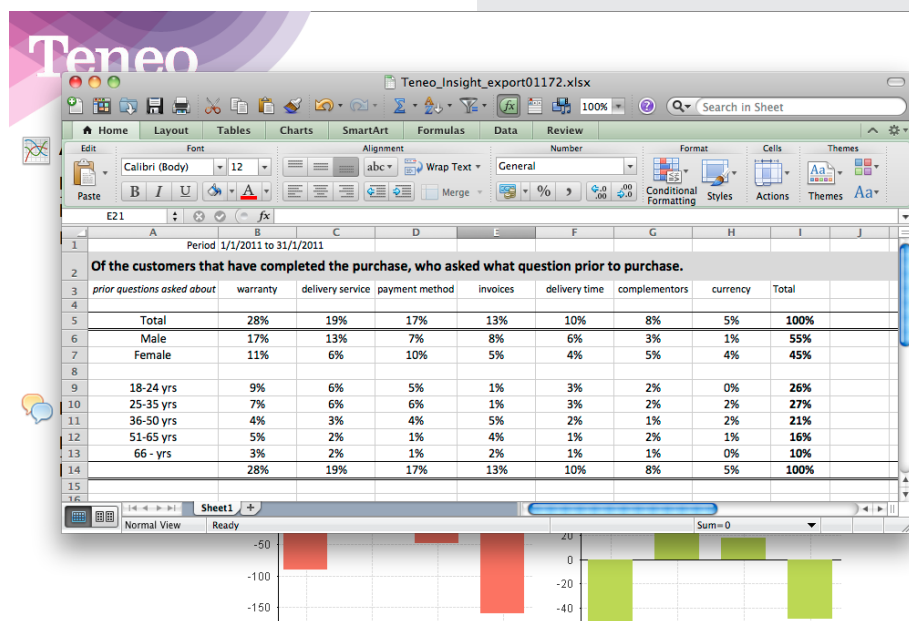
Lisa performs some top-line analysis with Teneo Insight which gives her an initial idea about what the most frequently asked pre-purchase

questions are. But because customers are logged in when they complete their purchase online, Teneo Insight can also map individual customer profiles to online behavior and the specific questions they asked Ella.

Lisa is able to filter down to all the chat dialogues where the customer completed their purchase, and creates a report showing a breakdown of all the questions buyers asked before completing checkout. The report shows the most frequent questions asked prior to purchase, in this case broken down by gender. The report shows that men are particularly worried about warranties, whilst women are more interested in payment options.

Similar analysis of the topics, but by age bracket, shows that the 36-50 and 51-65 years customer segments have a much stronger interest in invoices than other age brackets. Therefore the product pages targeted at these age groups would benefit from clear signposting to invoice information.

Lisa exports the report into Microsoft Excel spreadsheet and shares it with the marketing team who were then able to redesign the website content and structure, all with reference to the actionable customer intelligence provided by Teneo Insight.



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### Customer Feedback

The web provides a unique channel for businesses to collect feedback from its customers. Not that many years ago, feedback had to be sought through expensive and time-consuming focus groups, user surveys and phone calls etc. The web has revolutionized the way you can contact your customers, allowing you to talk to everyone, individually. But, more importantly, it allows your customers to communicate back to you – whether you've asked them to or not. Today's customers can and will review, report on and react to your company and its products and services in an instant. It is clear, then, that companies need a system to be able to quickly and effectively sort and analyze this unstructured feedback if they are not to drown in it.



## Case Study - Carl

Carl works in the call center for a large utility company. His role is to collect customer feedback, and to do this, he uses information gathered from phone calls, emails and the company's website feedback form. He presents his findings to a cross-functional "Customer Experience" panel on a regular basis.

Last month, Carl deployed a survey via Carola, the company's Virtual Assistant, who would ask seemingly random questions during chats with customers. The goal of the month-long survey was to find out how to increase traditionally low survey response rates. This somewhat clandestine method of surveying customers was unexpectedly successful; and after the survey closed, Carl turned to Teneo Insight to analyze the results, quickly producing reports and intelligence about respondent volumes, percentage of survey questions completed and other quantitative metrics. In addition to Carola's proactive questions, customers had been able to add their own personal comments. Carl took advantage of Teneo Insight's

powerful Text Analytics function to discover the most important comments or running themes in these free-format comments.

Because the survey was deployed via Carola, the questions she asked naturally formed part of a wider conversation with each customer/respondent, which meant that Carl could also overlay previously inaccessible contextual information. For example, he found that some negative responses to survey questions had been logged as part of a wider generally abusive dialogue with Carola, showing that the responses were not serious and could be discounted from the analysis of real customers' opinions.

Using Carola, a virtual assistant, to actively engage with customers was a novel and engaging way to conduct the survey, leading to high response rates. Using Teneo Insight then gave Carl the ability to delve deeply into the core concerns and issues, and present these validated findings at the next Customer Experience panel.



Contextual analysis  
adds meaning and  
actionable insight

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## Conclusion

As we can see, the scope of customer intelligence has changed. In addition to vast data warehouses and traditional statistical analysis techniques, contextual analysis adds a layer of meaning and actionable insight, all based on flexible and multi-dimensional systems. This enables timely, more effective decisions to be made, but still based on solid evidence and substantiation.

Implementing a strategy based on this powerful combination of statistical and contextual analysis capitalizes on the data you already hold and collect on a daily basis, bridging the gap between quantitative and qualitative assessment and opening the way for better, deeper and more accurate analysis and action, using the voice of your most important resource – your customers.

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### Teneo Insight

Teneo Insight is the flexible, multi-dimensional analytics system for the Teneo platform from Artificial Solutions. Teneo Insight allows you to continually improve and refine your Virtual Assistant's value by analyzing the conversations held by him or her, helping you understand your customers and delivering actionable customer intelligence.

### About Artificial Solutions

Artificial Solutions builds the world's most humanlike, intelligent and capable virtual assistants, available on any platform, in any language, anywhere. By delivering advanced intelligent features, the customer experience is improved and significant cost savings can be achieved as complex issues are resolved without the need to revert to a live agent.

With Artificial Solutions' Virtual Assistants customers save time and effort; and organizations save money by streamlining their customer service operation. We achieve this using Teneo, our award-winning, natural language interaction technology that enables people and computers to engage in intelligent conversation, over any digital channel and in numerous languages.

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### About Artificial Solutions

Artificial Solutions develops and implements software-as-a-service based virtual assistants that allow intelligent conversations between people and computers to be held in 21 different languages across multiple channels including the web, mobile (smart phone), SMS, email, social networks and live-chat. Utilizing its natural language interaction technology, Artificial Solutions helps organizations improve customer experience and reduce the cost of online queries. With its development centre in Stockholm, its employees represent 30 nationalities in offices in Sweden, Spain, UK, Italy, France, Slovenia, Germany, Denmark, Japan and the Netherlands. For more information, visit [www.artificial-solutions.com](http://www.artificial-solutions.com)

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