

# SAS bolsters visualization, contextualization apps with text analysis capabilities

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SAS Institute will launch version 13.2 of Contextual Analysis later this quarter, combining aspects of SAS Text Miner and components of SAS Enterprise Content Categorization into a single user interface. This update accompanies recent upgrades to Visual Analytics for front-end-visualization duties.

## The 451 Take

SAS is a market and thought leader in the advanced analytics space, and the enhancements to its front-end Visual Analytics product and Contextual Analysis data categorization product bolster its capabilities in the area of text. With text analysis becoming increasingly valued for anything from customer interaction analysis to social media sentiment analysis, the updates should certainly prove valuable. For less statistically savvy business users, however, the large array of different products in the company's portfolio is overly complicated, and may be considered costly for many simpler use cases.

## Context

SAS Institute is a Cary, North Carolina-based developer of analytics software, and one of the largest privately held companies in the world. It has a broad and deep portfolio of analytics and visualization technology, and it's in the process of making a number of enhancements to several of those to improve their ability to ingest - and subsequently visualize - both structured and

unstructured information, with a particular emphasis on text.

At the front end, the company has a visualization technology aimed at business analysts – SAS Visual Analytics – that combines data visualization and data discovery, and for which it claims to have around 1,500 customers. With the latest update, the company says users should see faster and easier data loading, new text and unstructured data analytics, more reporting features, and improved mobile device capabilities.

Visual Analytics uses SAS's in-memory processing technology, which the company says means it requires no data movement or user programming for fast analytical processing. SAS says customers have a range of deployment options, including on-premises or cloud-based. It can also sit on top of a Hadoop data storage infrastructure, in which case SAS supports Cloudera or Hortonworks Hadoop distributions.

Other enhancements with the updates include the addition of text analytics, enabling users to explore the likes of customer comments or Twitter streams to find opportunities. There are also word cloud and network diagram visualizations that can quickly show influences and trends, as well as enhanced mobile features for Apple iOS7 and Android devices to improve usability on the go.

SAS says improved self-service data import and improved data preparation can bring in data from 17 sources; parallel loading includes data from Cloudera, Greenplum, Hortonworks, Oracle and Teradata. KPI and metric-based alerts can now be triggered by user-defined business thresholds, and there's integration with Microsoft Office. Additional graphic, animation, and display options paint prettier graphs, charts and other visualizations.

In Q2 SAS will also launch a new version of its Contextual Analysis product, which is a Web-based categorization application that combines aspects of SAS Text Miner and components of SAS Enterprise Content Categorization into a single user interface. Using SAS Contextual Analysis, it's possible to build classification models that can automatically categorize a set of input documents.

SAS Contextual Analysis enables users to identify key textual topics in document collections, automatically generate Boolean linguistic rules, and refine the model and use it to categorize documents. There's little in the way of support for converting other data streams into text – for example, voice/audio-to-text translation – and there isn't yet integration with SharePoint either. But the reason for looking at both products in a single report – SAS Contextual Analysis and SAS Visual Analytics – is that they are integrated, which means that using Visual Analytics enables users to refine text models more interactively from the graphical front end.

This quarter, SAS will launch Contextual Analysis 13.2, with several useful enhancements. Perhaps most notable among them are improved text handling capabilities: the ability to combine text models with event stream processing and document-level sentiment analysis. SAS also says it's improving concept and fact extraction. There will be another update on the way in early 2015, with even more improvements to the way it can cope with context and sentiment around text, according to the firm.

Finally we note that SAS has text analytics capabilities not just in Visual Analytics and Contextual Analysis, but in many of its other products, too: SAS Warranty Analysis, SAS Predictive Asset Maintenance, SAS MDM and SAS Data Quality. This is a good or a bad thing, depending on your point of view. For complex use cases, or existing SAS customers, pulling together the right elements from SAS's portfolio to solve a text-specific problem might make sense. However, for non-SAS customers, and many use cases that are very specific (such as the categorization and search of a relatively homogenous dataset), SAS's portfolio approach could turn out to be complicated and costly.

We also note that SAS recommends its own Visual Analytics be used as the front end on top of Contextual Analysis to get the best results. But under the covers of just Visual Analytics are different modules and views for a data builder, administrator, explorer and designer, as well as for mobile business intelligence.

## **Customers**

The Hong Kong Government's 1823 Efficiency Unit used SAS Text Mining, SAS Visual Analytics and SAS Enterprise Miner to centralize siloed call centers into a single country-wide Complaint Intelligence System, in an attempt to encourage cross-departmental communication and planning.

Lillebaelt Hospital uses SAS Text Mining and SAS Enterprise Content Categorization to automate medical journal reviews to the entire collection (vs. 20 per month, currently) and identify triggers associated with pending adverse events. The new database improved research and diagnosis, and reduced errors.

The Belgian Special Tax Inspectorate uses a combination of SAS Social Network Analysis, SAS Predictive Analytics and SAS Text Analytics to combat the loss of value-added tax (VAT) by criminals. It estimates that it has reduced losses from VAT fraud by 98%.

## Competition

Oracle, IBM and SAP are the big guns in text analytics aside from SAS. Like SAS, they have also made acquisitions to bolster capabilities to analyze text. Oracle acquired Endeca in October 2011, and peddles Oracle Endeca Information Discovery, a self-service data discovery offering for semi-structured analysis, as its flagship offering in this area. IBM also has a number of offerings for this arena, including SPSS Text Analytics for Surveys and IBM BigInsights Text Analytics, which is an information-extraction system that is part of its BigInsights Hadoop-based analytics platform. SAP provides the ability to analyze text in its vaunted HANA in-memory computing platform, as well as within its BusinessObjects BI platform.

Text analytics pure plays, which are also competitive to SAS on this front, include Palantir Technologies and Digital Reasoning. Attensity, NetBase Solutions and Clarabridge also provide rival offerings, although they tend to focus much more on the social aspects of text analysis, particularly with regard to the voice of the customer.

## SWOT Analysis

### Strengths

Few companies have the heritage or depth of technology that SAS has when it comes to business intelligence and analytics, and it's setting out its stall to ensure that it keeps up with the latest opportunities in textual analysis.

### Opportunities

Existing customers of Visual Analytics or Contextual Analysis will be able to do far more with text-based data than they could previously, and there are increasingly more occasions when human-generated text data could prove valuable if it could be more easily analyzed.

### Weaknesses

Its portfolio is overly complicated (and therefore expensive) for simpler use cases, which usually require users (or systems integrators) to pull several products together. Contextual Analysis does not yet have audio-to-text translation or integration with SharePoint, which is fairly ubiquitous.

### Threats

Since we believe many text analysis use cases – such as customer message analysis or social sentiment analysis – are driven not by the IT department, but by sales and marketing, SAS may be at risk of having an over-engineered and complicated portfolio for this particular area of the broader business intelligence space.

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