Overcoming Dashboard Deficiencies: Using Automation to Gain Clear, Actionable Insights
The unprecedented rise of Big Data has revolutionized the Business Intelligence industry almost overnight. According to IBM, “90% of the data in the world today has been created in the last two years alone.”¹ And this surge does not appear to be slowing. The International Data Corporation says that by 2020, the digital universe will encompass 44 trillion gigabytes, a tenfold increase from 2013.²

In response, analysts and data scientists are creating highly complex and congested dashboards to help analyze and interpret the massive amounts of data they typically have on hand. As a result, even the most experienced data scientists can struggle to adequately communicate the insights gained from the bevy of charts and graphs lying in front of them.

Overcoming Dashboard Deficiencies will help you better understand how advances in automation are bridging this insight gap to ensure that data experts are effectively identifying and communicating critical findings...every time.

The Challenge

Is it possible for organizations leveraging Business Intelligence tools to develop dashboards that are more efficient at identifying critical insights and adequately communicating the steps needed to act on them?

Before we provide you with the answer, it’s important to understand the challenges users routinely encounter with their analytics dashboards:

**Dashboards Present Data, Not Recommendations**

No matter how much data an organization can collect and process, at the end of the day it is only as useful as the business decisions that result from it. Modern analytics dashboards and visualizations can help organize and arrange complex sets of data for interpretation. Historically, however, they are unable to generate actionable recommendations. Extracting actual insights out of the various charts and graphs of a dashboard is still a very manual and subjective practice.

**Data Expertise Does Not Equal User Design Expertise**

Data Scientists perform one of the most important roles within an organization. They specialize in extracting meaningful insight from extraordinarily large sets of data. To do this, they create intricate, custom dashboards that help them analyze and interpret complex data. Since modern-day business decisions require multi-variable and multidimensional analysis, the resulting dashboards contain too many charts, tables, and graphs competing for attention.
While a dashboard may make complete sense to its creator, it could just as likely leave the manager or executive who ultimately relies on this data confused or overwhelmed. Ultimately, the analyst or data scientist is forced to manually summarize the findings in a clear and concise manner—a task that they may not be as comfortable with or adept at. Not to mention, this requires one of the most precious commodities within analysts’ day-to-day—one: time.

**There’s Room for Misinterpretation**

It’s common for many data experts to inspect the same dashboards multiple times each day. As the layers of data are compounded, the clutter and noise of competing sources can obscure insights rather than illuminate them. With so much competing data, it’s understandable when similar data points blend together in the user’s mind. And the more frequently the data is reviewed, the more likely it is for users to miss small but significant changes that develop gradually.

It is also common for organizations to rely on the same dashboard across teams or levels within the organization. This practice can make extracting relevant insights challenging for multiple users needing to understand different elements within the same data set.

Additionally, with so many variables in play, interpretation can quickly become inconsistent. Some users may dismiss elements whose meaning is deemed valuable to others—even though that missed insight may be of crucial business importance. The lack of uniformity has quickly become a business liability and a resource drain.

Fortunately, a new form of technology is changing that.

**The Technology: Natural Language Generation**

Organizations looking to scale the capabilities of valuable data scientists and analysts while automatically generating actionable insights can now incorporate the power of natural language generation (NLG).

**What is NLG?**

NLG software is a rules-driven subset of Artificial Intelligence that turns structured data into human-sounding narratives. For example, NLG can use the data that powers a dashboard’s charts and graphs to generate analysis in narrative form that is easily understood by all.

This powerful technology is ushering in an era of expanded automation, allowing analysts and data scientists to produce the internal and external communications needed to inform business decisions at scale.
Natural Language Generation Starts with Data
NLG requires structured data. This is the type of data that lives neatly in the rows of a spreadsheet or within a flattened JSON format, which applies to much of the data business intelligence professionals leverage every day. Sales performance indicators, trending statistics, and system diagnostics are all good examples of structured data.

Natural Language Generation Ends with Prose
Every report or narrative created with NLG is designed to sound as though it were written by a human. The style of each group of NLG-created articles can vary widely depending on the use case, and is determined by the person designing the narrative template. NLG allows an analyst to weave data from multiple dashboard charts and graphs into a single dynamic narrative structure, resulting in unique report summaries that are written in the style and tone that are appropriate for the intended reader.

Natural Language Generates Actionable Insights
Natural language is both an alternative and an enhancement to a dashboard’s charts and graphs. In some formats, like an email summary for managers, it’s valuable to lead with narrative and use visualizations as a supplement. In other scenarios, a narrative that ties together the data powering multiple visualizations is helpful for a clear understanding of how each area of business is actively working as a cohesive unit. Natural language explains data with clear, unambiguous text, making insights easier to grasp and act upon.

Introducing Wordsmith
Powered by Automated Insights, Wordsmith is the world’s first publicly available self-service natural language generation engine. Wordsmith enables some of the world’s largest companies to automatically generate reporting that is tailored for each level of the management chain, from executive to individual contributor.
Using Wordsmith, analysts can use the data that powers their dashboards to create highly targeted, dynamic, and compelling reports that are leveraged to drive critical business outcomes. You control the language, structure, and tone of Wordsmith’s content by configuring sophisticated, rules-based templates. After your one-time setup is complete, you can create narrative templates that can generate dynamic summaries and reports that sound like a human analyst crafted each one by hand. Wordsmith empowers data experts to generate content with a speed, ease, and level of clarity that’s never before been possible.

**Any Type Of Data**
Wordsmith accepts any type of data - XML, CSV, TSV, YAML, JSON, or data from public repositories and third-parties.

**Natural Language Generation**
Leverage Wordsmith’s powerful NLG yourself or have our team of experts build and manage custom projects for you.

**Publish Narratives Anywhere**
Publish content in real-time using our API or one of our integrations - JSON, XML, Twitter, email, web, mobile and voice assistant devices.

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**Scale the Capabilities of Your Experts**
With the ability to create tailored insights in real-time, Wordsmith’s patented technology can be leveraged to reduce the time your data scientists and analysts spend on mundane reporting tasks. Wordsmith turns your dashboards and analytics into unique summaries and reports in a fraction of the time it would take to construct them by hand.

Since it is your team that drives Wordsmith, not only do the written narratives provide easy to understand insights, but this information can also be elevated to the level of your best data scientist. By drastically reducing the time spent repeatedly generating the same type of report, your data experts can focus their skills on higher ROI-producing tasks.

**Go Beyond Simply Explaining Your Charts**
Using Wordsmith, every dashboard user is empowered with written explanations of the key insights alongside the data visualizations, or directly in their dashboard. As the data expert drills down into the various charts and graphs, the narratives update in real-time to explain what they need to know about the relevant metrics.

Based on the business priorities defined, Wordsmith is able to incorporate the critical parts of each visual element into a single narrative, summarize the cumulative effect of data points as they change, and generate recommendations deduced from the data as a whole. Because Wordsmith examines the data behind the dashboard, the generated reports can highlight insights that would easily be overlooked by a run-of-the-mill chart explainer.
Tailor Your Communication to Any Audience

Most companies’ key decision makers are too busy to sift through charts, graphs, and dashboards for hours to derive insight. Instead, they rely on data experts to provide clear, concise analysis in a timely manner.

Wordsmith helps cut through dashboard clutter by producing reports tailored specifically to communicate the most salient insights in relevant, understandable language that uses and emphasizes certain phrasing depending on the intended audience. This flexibility allows your data experts to produce reports to the preferences and styles of any intended audience in a fraction of the time it would take to generate by hand.

Voice-Assisted Analytics

Wordsmith integrates seamlessly with your dashboards and any of your preferred voice-assistant devices. Receive up-to-date analysis of your changing data in spoken form via the Amazon Echo, Google Home, or any other voice-assistant device.
At Automated Insights, we operate on the cutting edge of innovation. Organizations that have adopted NLG technology are already separating themselves from their competitors. By better utilizing their most valuable employees and generating higher level content and insight, these companies are better positioning themselves now and for the future.

Request a Demo
Schedule your personal demo today and see how NLG solutions can grow your business.

About Automated Insights
Automated Insights (Ai) is the creator of Wordsmith, the world’s first self-service natural language generation platform for the enterprise. Automated Insights empowers organizations to generate human-sounding narratives from data, making it easy to produce real-time, written analytics, personalized reports, and stories at scale. The Wordsmith platform is utilized by companies and partners, including the Associated Press, Cisco, MicroStrategy, NVIDIA, Tableau, TIBCO, and Qlik, in over 50 data-driven industries, such as business intelligence, financial services, ecommerce, sports and entertainment, and media. For more information, visit automatedinsights.com.

Resources
1. What is big data? Bringing big data to the Enterprise

2. EMC Digital Universe with Research & Analysis by IDC