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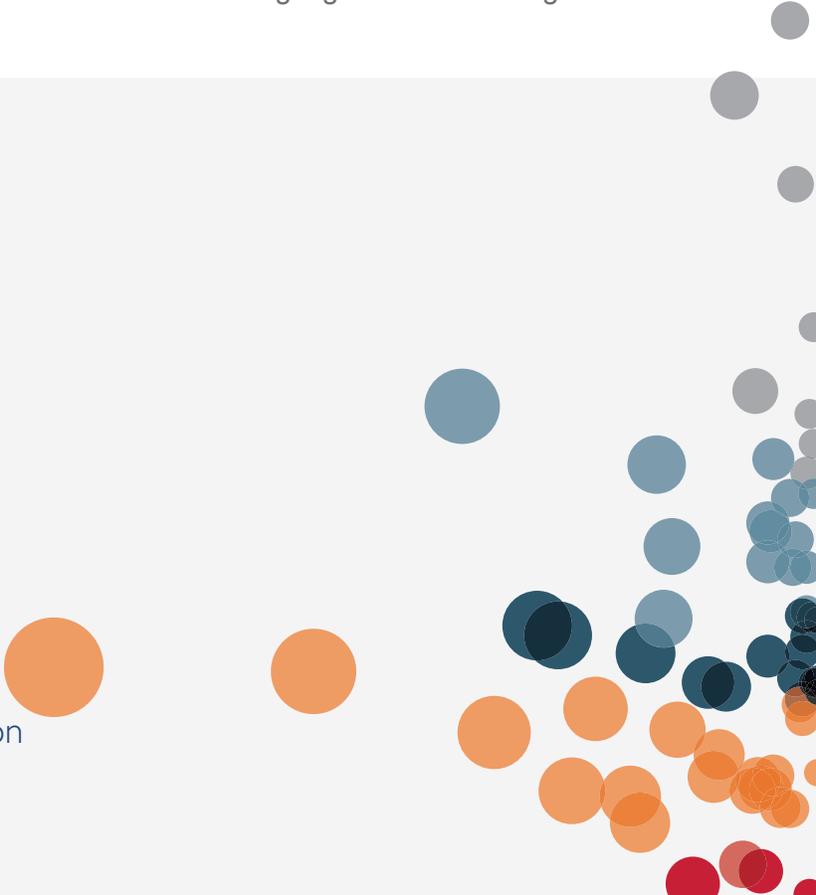
Rapid-Fire Business Intelligence

You're an innovator. Data is increasingly critical to accomplishing your most important objectives and staying ahead of the competition, but as with most organizations, your resources and leaders are short on time. You understand the details and nuances of your marketplace, but don't necessarily have the word "analyst" in your title. You put energy into using software like Microsoft Excel or some other types of business intelligence (BI) tools, and know first-hand the excessive time commitment it takes to pull in data from different sources, and share dashboards and reports to find meaningful insights.

Data-driven decisions are only helpful if you can understand and communicate insights in time to take action. Across industries and the public sector, today's employees who have grown up with the Internet and social media are unwilling to wait in a months-long queue for a new report or a change request. It's time for a new approach to business intelligence. This paper outlines a new approach to help you, your team and your organization easily see and understand data 10 to 100 times faster.

Rapid-fire business intelligence gives you the ability to answer your own questions in minutes. Whether you're working with Hadoop, data in spreadsheets and warehouses, or across disparate data sets, the entire organization is served—from executives to analysts, across departments and geographic locations, and in the office or on the go.

The following six attributes of rapid-fire business intelligence will benefit you, your team and your organization. You'll spend less time and use fewer resources to enable more self-reliance, data discovery and better collaboration—all while tackling big data and scaling at your organization's own pace.

1. Speed
 2. Self-Reliance
 3. Visual Discovery
 4. Blend Diverse Data Sets
 5. Real-time Collaboration
 6. Flexible and Secure Configuration
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Speed

Pushing through the bottleneck of IT-generated reports can seriously impair companies needing to make critical decisions at the speed of business.

But how fast is the speed of business, actually? The hallmark of rapid-fire business intelligence solutions is the ability to see and understand data analysis at the speed of thought—allowing for the asking and answering of questions as fast as business leaders and clients can think of them, even against massive and divergent data sets.

Saving time in every step of your data workflow is fundamental. From installing software, accessing and analyzing complex data sets, publishing interactive dashboards, and sharing across your organization, for your data to be impactful, the insight-to-decision process must be swift.



Speed at Every Stage of the Data Workflow. Compared to traditional business intelligence, rapid-fire analytics is 10 to 100 times faster at every step in the data workflow, from installing software and accessing data to analyzing complex information, publishing interactive dashboards, and sharing across your organization.

The solution must easily combine many data sets from different parts of the business on the fly. It must provide in-memory capabilities to speed up slow data as well as be able to connect live to fast data infrastructures. And of course, it starts with installation and deployment: the business intelligence solution should take only hours or days to implement, not weeks or months.

If you answer yes to any of the following questions, your BI system is not moving as fast as it could be:

- Does your business intelligence solution require weeks or months to deploy or change?
- Does creating or modifying reports or dashboards require requests to the IT department that result in a queue or IT department backlog?
- Does your BI solution require days or weeks of training before new users can build and publish their first dashboard or report?

“I can sit with my laptop in a meeting and answer questions on 20 million rows of data basically on the fly, flip my laptop around and show everyone the answers. And because things are quick, you can’t go too far wrong. So if you try something and it doesn’t work, that’s only five seconds wasted; you just start again... Things that were taking me days are now taking minutes.”

—Peter Gilks, Barclays



► [Watch more of Peter’s story](#)

- Is your BI solution reliant on elaborate scheduling or workarounds for slow system performance?
- Does your BI solution force you to replicate data even though you’ve invested heavily in an enterprise data warehouse or fast database?
- Does your BI solution force you to do specialized pre-integration work to access your data?
- Are you constrained in your ability to blend data from multiple sources including raw or unstructured data stored outside of relational databases?

Barclays, a global financial services provider, adopted new rapid-fire business intelligence to leverage mixed data for deep customer insights.

Barclays’ senior Insight Analyst Peter Gilks explains how old school BI tools slowed their business data systems down; “Analysis used to require lots of SQL programming and moving data into Excel then into charts. It involved a lot of pre-thought about measures to program. You’d come up with your charts later, and then there was a lengthy iterative process.”

Now, the Barclays team utilizes new technology to create data dashboards with zero programming needed, and shares them with their senior executives and frontline stakeholders to get everyone on the same page. When they spot major customer trends, their teams can immediately start to plan for them.

2. Self-Reliance

Traditional business intelligence is a chore for IT: from installation, deployment, and programming, to report writing, change requests, support, and maintenance. This doesn’t even include the costly professional services that are required.

The solution of self-reliance, or self-service, provides a way for business people to ask and answer their own questions, and generate their own reports about their specific stake in the business. It requires fewer resources from IT to install or maintain. IT sets up the data architecture, security, and access controls, and business people serve themselves with data dashboards in any size or format.

Even more troublesome, when business units require new functionality, traditional BI often “breaks.” This causes organizations to upgrade late or not at all, reducing the ability to adopt advances in technology. And when you do upgrade, it’s a massive project involving many resources and risks.

“We’re dealing with patients’ lives, and it’s really, really important that we know what’s happening at the moment that it’s happening, or a little bit before. 30 days doesn’t do you a lot of good. We needed and really wanted a self-service model.”

—Charles Boicey,
UC Irvine Medical Center



► Watch Charles talk about giving the power to the people.

In the meantime, business people still need to make both critical and everyday decisions, and if they cannot independently and directly ask the questions of their data when needed, there’s a fundamental problem.

Self-reliant BI systems look like this:

- Allows anyone to easily build dashboards and reports from disparate data sources and make modifications on the fly.
- Provides built-in best practices to support effective analysis and save time.
- Opens desktop data such as text files and Microsoft Excel, without having to reformat that data.
- Connects to all major databases with a few clicks.
- Enables easy sharing through web and mobile dashboards, SharePoint, or visuals exported to PowerPoint or email.
- Empowers informed skeptics who find actionable insight from the combination of the business experience and analytics.
- Provides interactive functionality on the web such as drill-down and filtering.
- Provides role- and group-based security for secure publishing.
- Allows users to connect to the existing data architecture.
- Enforces the security and controls set up by IT.

The University of California’s Irvine Medical Center is ranked among the top 50 American hospitals by U.S. News & World Report, and is the only university hospital in Orange County. Their informatics solutions architect, Charles Boicey, found that too much time is wasted waiting for the IT department to generate timely reports with medical data old BI tools.

The folks at Irvine Medical Center’s IT department really didn’t want to be the report writers, nor should they be. “From an IT perspective, if we can put analytics where it belongs, in the hands of the folks that use the data and know the data, we can orchestrate the best quality healthcare for our patients,” Boicey explained.

Bringing the data directly to the key players in organizations allows for issues to be resolved as they come up, no bottleneck required.

Creating a self-reliant, agile data culture also frees time for other company resources to do their jobs to the best of their ability, and thus allows for faster, more accurate decision-making in every department.

“...visually seeing data and identifying the patterns of a graphic has really helped them to understand the story, to understand what’s going on, and to understand what the action they have to take in order to make a difference and create a business impact.”

—David Baudrez, Cisco



► Watch David talk about visual discovery.

3.

Visual Discovery

You’re thinking about the questions you need to ask your data — not about how to use the software. Visualizations unlock the value of raw data. Much like crude oil is processed into electricity, inevitably switching a light bulb on or igniting a spark to set a vehicle in motion, visualization will transform data from its raw state into forward-thinking insight and real-time action. A visual approach to analytics will allow you to instantly spot anomalies, outliers and trends without sorting through pages of spreadsheets.

According to Forrester Research: “Enterprises find advanced data visualization platforms to be essential tools that enable them to monitor business, find patterns, and take action to avoid threats and snatch opportunities.” A story unfolds as you navigate from one visual summary into another.

Global IT leader, Cisco, creates and consumes mass amounts of data and found that visual discovery improved departments across the company to increase productivity and make data-driven decisions.

“When we talk to the marketing team, the engineering team or the channel operation team, they are interested by data but, for their context. At first, it was pretty difficult for them to have an analytic view on all those data points, because all those data existed in a silo. But visually seeing data and identifying the patterns of a graphic has really helped them to understand the story, to understand what’s going on, and to understand what the action they have to take in order to make a difference and create a business impact,” said David Baudrez, Head of Business Insight at Cisco.

Consider these important elements when choosing your visual discovery solution:

Easy-to-use user interfaces

Is the software easy to understand and have an intuitive user interface? Can anyone answer a broad range of inquiries with simple drag and drop actions? Can they use touch screen interfaces on iPads and Android tablets to speed their enquiries without keyboard or mouse?

Interactive for discovery and collaboration

Does the software offer interactivity within dashboards to enable users to perform basic analytics tasks such as filtering views, adjusting parameters, quick calculations and drilling down to examine underlying data? Can you share visualizations that allow for others to drill through to the underlying detail in just a few clicks? Is drill-down / drill-through an automatic occurrence requiring no special scripting or advance set-up?

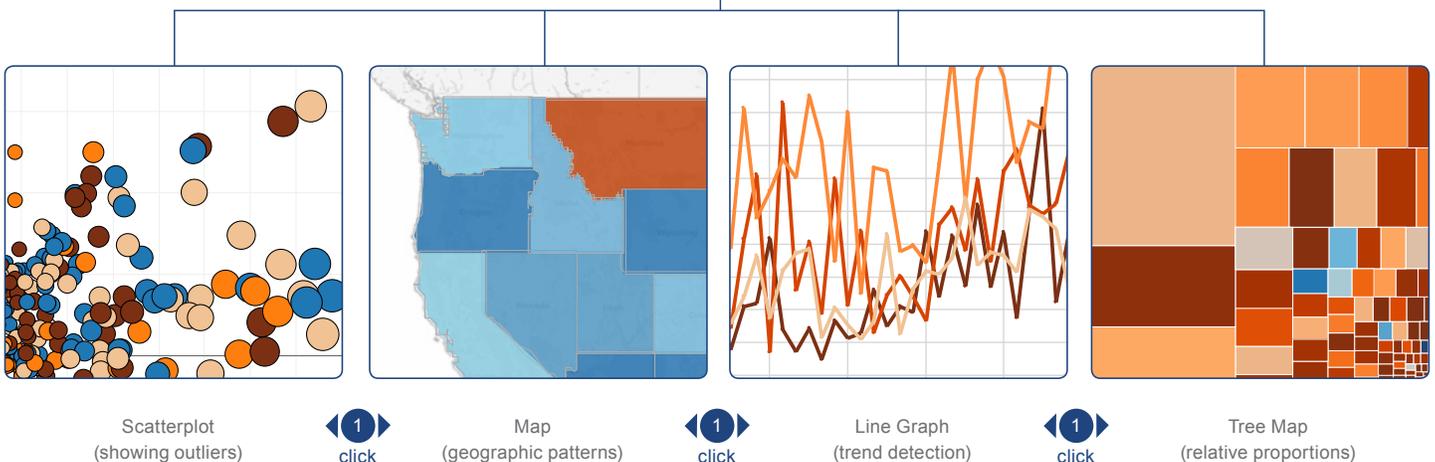
Pull data from all sources for full picture

Data blending, also known as data mash-up, is the ability to combine data from multiple data sources on a single view. Can the software blend data on a common field? Can you see and understand related data in multiple data sources that you want to analyze together in a single view? This ability will generate the most accurate picture possible from your data.

Geographic intelligence

Geographic analysis is critical. Is mapping easy to use and complete, requiring no specialty map files, plug-ins, fees or third party tools?

Category	Profit (bin)	Region	Row ID	Ship Date	Ship Mode	State	Gross profit ratio	Discount	Nu...	Product ...	Profit	Order quantity
Bookcases	\$0.00	Central	22867.00	11/18/2011	Delivery Truck	Texas	8.1%	5.0%	1	60.0%	\$185.27	28.000
Appliances	\$0.00	Central	23651.00	2/26/2012	Regular Air	Texas	69.0%	10.0%	1	56.0%	\$338.62	13.000
Labels	\$0.00	Central	18606.00	5/30/2012	Regular Air	Illinois	22.4%	1.0%	1	36.0%	\$1.32	2.000
Tables	(\$2,000.00)	Central	25083.00	6/1/2012	Delivery Truck	Nebraska	-219.7%	0.0%	1	76.0%	(\$53.78)	1.000
Storage & Organization	(\$2,000.00)	Central	25082.00	6/2/2012	Express Air	Nebraska	-115.9%	6.0%	1	80.0%	(\$929.68)	13.000
Binders and Binder Accessories	(\$2,000.00)	Central	20292.00	6/12/2012	Regular Air	Texas	-37.1%	8.0%	1	37.0%	(\$24.21)	16.000
Pens & Art Supplies	\$0.00	Central	20293.00	6/12/2012	Regular Air	Texas	42.0%	3.0%	1	56.0%	\$23.84	20.000



A well-crafted visualization makes the light bulb go off. A spreadsheet requires you to analyze data in rows and columns, choose a subset of your data to present, organize that data into a table, and then create a chart from that table. Rapid-fire business intelligence skips those steps and creates a visual representation of your data right away, giving you visual options and immediate feedback as you analyze.

4.

Blend Diverse Data Sets

There is nothing about data today that is getting smaller; its absolute size is growing, it lives in a greater variety of data stores, and more people need to use it. The diverse data solution enables people to combine massive amounts data easily from different systems and from all parts of the business. It must work with data of any size, from hundreds of terabytes to petabytes and more. It must work with unstructured or raw data. And of course, it must work with the spreadsheets and text files that exist in every business.

Traditional business intelligence made the assumption that all-important data can be moved into consolidated enterprise architectures. But that's not the reality for most organizations, which have different databases in different places, which are short on time and staff, and whose needs change constantly.

Rapid-fire business intelligence lets you blend different relational, semi-structured and raw data sources in real time, without expensive up-front integration costs. That means that users don't need to know the details of how data is stored to ask and answer questions.

Consider the following performance factors when evaluating the ability to manage and benefit from large diverse data:

Allows users to augment data

Does the software allow users bring in data from outside the company on-the-fly, like demographics and market research, to augment their corporate data?

Provides fast analytics, whether in-memory or via live connection

Does the software provide fast query performance, either via its own fast in-memory software or by directly connecting to fast data stores?

Reduces demands on IT

Does the software let users work with the existing data infrastructure so that IT is freed from creating ever-more cubes and "universes" and standalone marts? Does it support data security by allowing users to work with data where it's supposed to be, rather than copying it into unmanaged and unsecure spreadsheets?

Scales to big data on commodity hardware

Does the software connect to the myriad of new database formats for raw, unstructured and semi-structured big data?

Is architecture agnostic

Does your BI software work well with both centralized and decentralized data architectures? Does the software support the increase in mobile devices and applications? Does your BI software integrate seamlessly for all data types and means of access?



► Watch Santiago talk about how Hanes makes sense of data.

Hanesbrands, Inc., the recognized global consumer apparel, T-shirt and underwear company, utilizes data from billions of rows of data in many large databases. The need for data blending and the insights it delivers continues to spread like wildfire across the enterprise.

At Hanesbrands, everybody has access to rapid-fire BI tools. Santiago Restrepo, Director of Business Intelligence and Analytics, explains,

“we have a good way to track the usage, make sure that the data is secured and people have the right access. They’re able to analyze a lot of information. We have point-of-sale data by SKU, by store, by week or by day for all of our trade partners.”

By utilizing new rapid-fire best practices, Hanesbrands is making sense of all that data, and making more and more fact-based decisions.

Rapid-fire business intelligence supports true ad-hoc query of large, complex data sets, This means that you and your colleagues don’t have to determine in advance which measures to aggregate or query.

“... business users demand easy to use, flexible products that put analytic power into their own hands, against IT’s desire to maintain standards and create a supportable BI environment with predictable performance and quality data.”

—Gartner 2012 Magic Quadrant for BI Platforms

5.

Real-Time Collaboration

This solution enables colleagues and authorized partners to access the data and communicate, with group- and role-based data security; ideally supporting single sign-on so colleagues don’t have to remember separate passwords.

If your reports don’t answer your questions, and you leave your meeting with more questions than you went in with, you would normally go create more reports, and then call another meeting. Which generates more questions and more reports.

Why not interact with data live during a meeting? With rapid-fire business intelligence you can filter, sort, and discuss data on the fly and embed a live dashboard in your SharePoint site or in Salesforce. You can save your view of data and allow colleagues to subscribe to your interactive dashboards so they see the very latest data just by refreshing their web browser. That’s real collaboration.

Large enterprises spread across multiple lines of business and geographies seek to move past data silos and improve collaboration.

In order to scale from departments to business units and across the largest enterprises, consider the following:

Natively mobile

You make decisions in meetings, at customer sites and on the go. Your business intelligence should be natively mobile to support analytics anywhere and everywhere for all of your stakeholders.

Combination of flexibility and compliance

As noted by the Gartner 2012 Magic Quadrant for BI Platforms: “... business users demand easy to use, flexible products that put analytic power into their own hands, against IT’s desire to maintain standards and create a supportable BI environment with predictable performance and quality data.” It’s not a question of choosing between flexibility or compliance — you need both. You need to centralize data sources and apply metadata, yet still be able to extend it by adding your own calculations, hierarchies, and aliases. Organizations that master rapid-fire business intelligence let IT set up the data architecture, security, and access controls, while giving business people the ability to serve themselves reports and dashboards.

Shared and extensible metadata

Rapid-fire business intelligence provides your organization with a centralized data source and metadata layer — yet still enables you and your colleagues to add your own calculations; create new groups, sets, and parameters; organize data into hierarchies; and modify aliases. It's metadata that just works: there's no initial setup and it adapts with your data.

Centralized data

The data server provides a centralized location to manage all of your organization's published data sources. You can delete, change permissions, add tags, and manage schedules in one convenient location. It's easy to schedule extract refreshes and manage them in the data server. Administrators can centrally define a schedule for extracts on the server for both incremental and full refreshes to save time and effort.



Publish Once. Share on the web. Interact and edit from your tablet. Rapid-fire business intelligence dashboards are optimized to deliver touch experiences when accessed from mobile devices and tablets. This touch awareness experience is integrated automatically, and no additional or special authoring or design is needed.

6.

Flexible & Secure Configurations

You can start small but scale big. Whether today's need is one business analyst with one data source, or 10,000 field representatives on tablets accessing many reports while on the road, this solution needs supports all stages of an organization's analytics evolution.

Today's economy mandates that organizations spend wisely on software licenses as they're needed; but because traditional BI is so complicated to install and maintain, very few BI vendors offer customers small user bundles. Worse, modules for more functionality often mean additional license fees. But organizations typically want to pilot analytics projects with a handful of users and scale up over time.

Traditional BI forced too much, too soon. It required organizations to buy large minimum-configuration licenses to meet potential needs — not actual needs. Much of the software went unused.

Meanwhile, a new crop of boutique Software-as-a-Service (SaaS) BI vendors enable static dashboards for departmental needs, but struggle to offer the flexibility, scalability, and deep analytics required by multiple departments and lines of business.

This challenge is changing many of the traditional concepts of governance. Data is at the heart of any business operation, but it is only useful when it is being used. The problem all organizations face is balancing data access with appropriate security, as well as a way to differentiate certified reports and data while still providing business users a sandbox for new development. Simply locking down business data and reports to a few means that organizations won't get the benefit of broad adoption of analytics.

Data Governance is not just about security, it is about making sure data is accurate, available and audited.

Accurate

Any analysis and visualization is meaningless unless users can be sure, and prove that they have the latest versions of data, and that the data is drawn from approved sources.

Available

This is a complex subject in that, while the analyst may have access to all the data available; there are often viewers of the analysis who can be given access to top level views but not the underlying data.

Audited

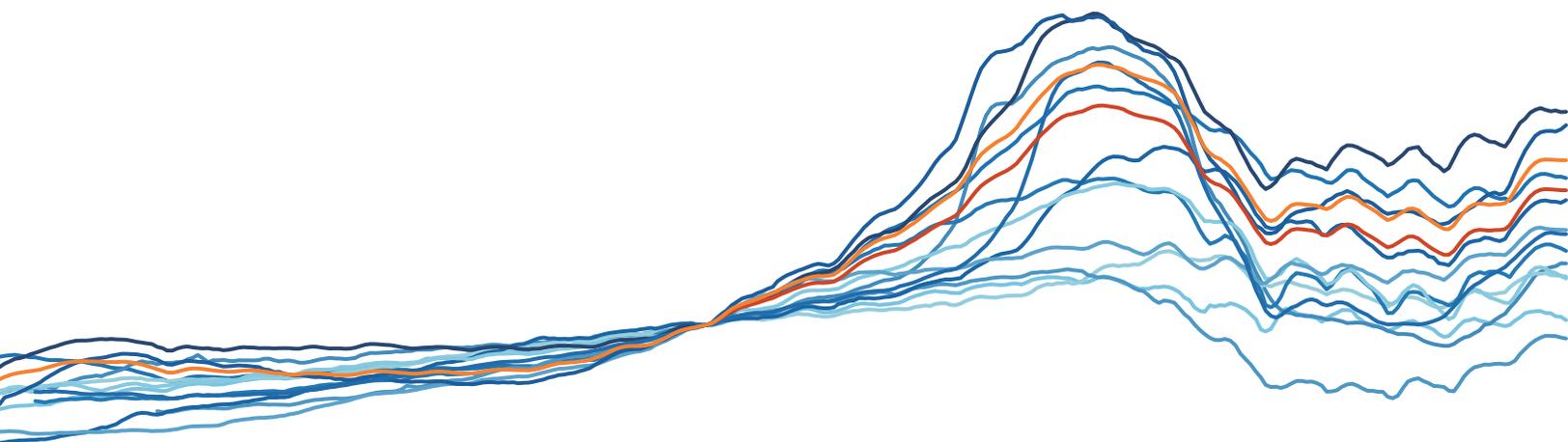
Most organizational data has some level of confidentiality and it is important, and often a legal requirement that a complete trail is available of who has had access to data and at what level.

The Bottom Line

There is a sea change occurring in what enterprises and public-sector organizations expect from business intelligence. The old business intelligence models are slow and resource-intensive. When families bring a sick child to Irvine Medical Center, they want help fast, and the right data software can increase speed to action. The importance of speed is not limited to a hospital — competitive businesses are unable to wait for months to make money or save costs. At a pace that has outmatched competitors, M Financial Group has launched over 20 M-priced proprietary products for North America's most recognized and respected insurance brands: "Using Tableau, I am able to quickly drill down into large sets of data and find relationships that would have taken 10X as long with traditional query tools," noted Brandon Nichols, director of technology strategy for underwriting and new business process.

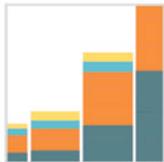
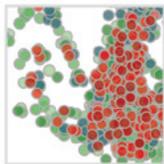
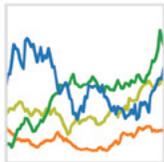
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—Brandon Nichols,
M Financial Group



About Tableau

Tableau Software helps people see and understand data. Providing rapid-fire business intelligence with a consistent experience from the PC to the iPad, Tableau solutions generate fast, visual, and self-service data dashboards with no programming skills required. See the impact Tableau can have on your organization by downloading a free trial at www.tableausoftware.com/trial.



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