Taking BI Analytics and Visualization to the Next Level

By Drew Robb

Powered By Truenorth

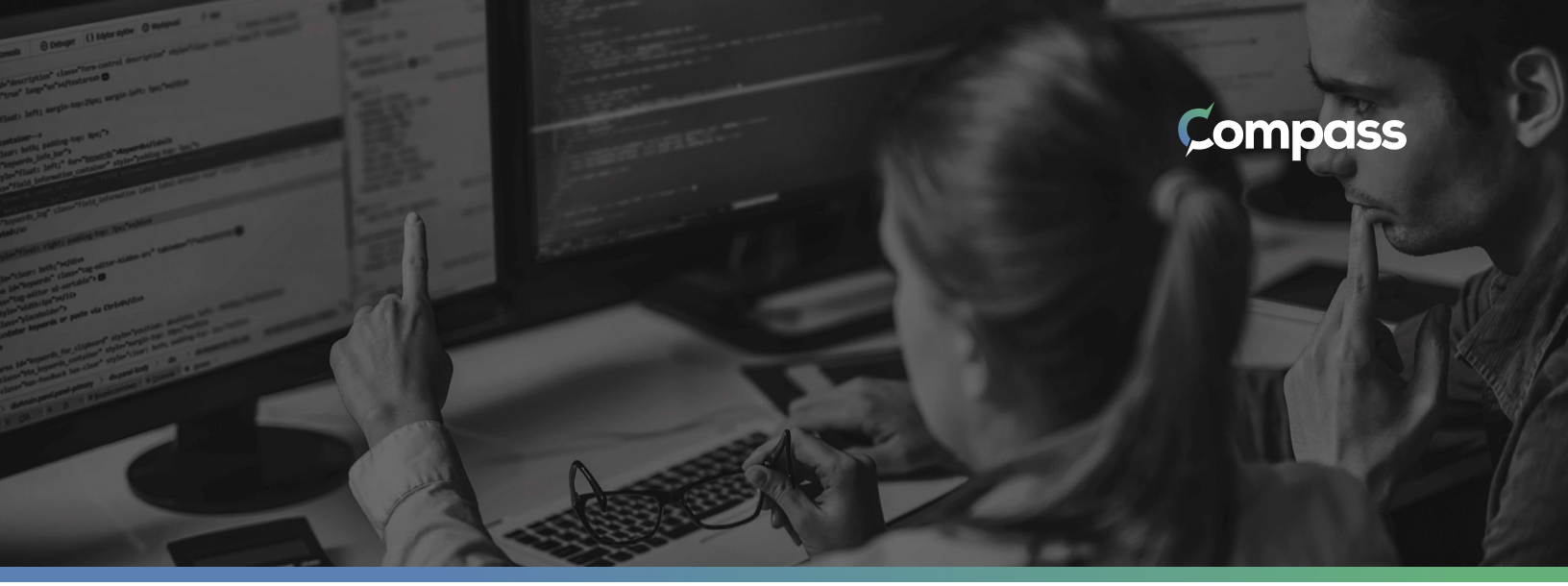


TABLE OF CONTENT

Introduction

The data within an organization is growing exponentially. But harnessing that information is no simple matter. It must be gathered from multiple systems, verified, stored, analyzed, communicated effectively and transformed into organizational insight. Done correctly, the resulting conclusions can be harnessed to gain competitive advantage.

Some hope to achieve this by using spreadsheets and attempting to manually interconnect a great many data sources. Such an approach may have been workable ten years ago. But it is no longer enough. Instead, many organizations have implemented modern Business Intelligence (BI) analytics and visualization applications. They use these systems to better understand what is going on in the enterprise.

According to Zion Market Research, the global business analytics market was worth $63.3 billion in 2018 and is expected to reach approximately $97.3 billion by 2025. With an annual growth rate of 6% to 10% predicted for the next several years, these systems continue to grow in popularity as they offer many benefits. They aggregate data, detect trends and provide summaries in a way that is easy to digest.

Yet they are far from perfect. Once set up, they feed data automatically. This might work in some settings, but it can be a liability in others.

- If false or misleading data is fed into the system, it automatically appears in reports and in visualization feeds.
- If there is a sudden problem, it may be unwise to release it without any kind of filter. Perhaps the organization can fix the problem in a short time. Why then, let that data fall into public hands where it can be abused by the press, by rivals or could cause discontent among the public or customers?

What is needed is a way to corral BI analytics and visualization engines, help management control what information is broadcast, ensure they are operating off accurate data, and provide the means to take actions to correct problems rather than releasing everything automatically. Communicating analysis findings in a timely but controlled manner has become a major challenge.

What BI Apps Can Do

BI is a way to apply statistical methodology to organizational data. This has proven to be a useful method of scrutinizing past performance and helping executives make **better business decisions**. Analytics technology has been incorporated into BI applications to better isolate patterns and relationships that may be buried within mountains of data. Outputs from these applications are used by executives, managers, financial analysts, security personnel, public relations specialists, marketing experts and others to achieve a broader and more real time view of the organization. Additionally, BI helps the business to monitor key performance indicators (KPIs), predict future trends, detect sales opportunities and spot potential challenges.

One issue with BI applications, however, is complexity. They often require highly trained analysts and data scientists to import, cleanse and process data and draw insight from it. In the past, it was not uncommon for the business to make a data request and wait for days to hear conclusions from the experts.

As BI evolved, it gradually became accessible to power users. Over time, line of business heads and managers gained access to analytics data. And then came an explosion in unstructured data. Valuable information was no longer enclosed only within rigorously structured databases. The rise in social media, eCommerce and the cloud led to an exponential rise in organizational data, particularly unstructured data. It was soon realized that this data could offer real insight into customer behavior, provide intelligence on how markets were evolving and detect areas of potential competitive advantage.

To be able to process this mountain of unstructured information effectively, BI analytics began to utilize Artificial Intelligence (AI) and machine learning techniques. They used pre-programmed rules and self-learning methods to keep pace with the explosion in unstructured data, sift through it all rapidly and derive conclusions about the past, present and future. This development helped spread BI analytics to a much wider sphere of users.

The steady democratization of data necessitated ease of use and simplification. Line of business heads, shop floor supervisors and sales managers typically lacked training in data science, statistical evaluation or analytics. They needed automation to take things one step forward – to instant visualization of pre-programmed metrics and KPIs. Dashboards, for example, are a common vehicle used to provide trends, highlight important statistics and draw conclusions. This made it far easier for a broader subset of people to gain insight from these apps. Suddenly, managers could begin their day by viewing a screen summarizing their zone of responsibility. They could instantly see if things were trending up, down or flat. They could review alerts of potentially problematic situations. They could inform management about what was going on without having to spend all day on the phone collecting verbal reports from employees.

Governments and public facing organizations, too, began to harness these BI analytics and visualization applications. They offered a simple and effective way to communicate data to the population at large. During a power outage, for example, BI could be harnessed to automatically send updates about the number of homes without power, or the number of users where power had been restored. These applications could also be used to summarize figures and reports from multiple sources to communicate exactly how disaster recovery efforts were progressing.

What BI/Visualization Apps Can't Do

There is no doubt that the arrival of BI analytics has advanced the mission of business and government. But the automated nature of these applications has generated some fallout. So much automation has been added that data appears in real time or near-real time. And that can have undesirable consequences such as an unnecessarily alarmed populace, sensitive information getting into the wrong hands, PR disasters based on misinterpretation of a few data points or false reports, and officials tied up in damage control when their time and effort are urgently needed dealing with an ongoing problem such as a natural disaster or the failure of services.

Here are some of the shortcomings of BI analytics and visualization applications:

- Data appears automatically with no ability to curate and control what is displayed
- Limited ability to separate out who gets access to what data
- Once data is entered, there is no cleansing or verification process
- Many tools remain only accessible to BI specialists, data scientists and power users
- Many tools are difficult to deploy, hard to manage and challenging to use
- Management doesn't have the power to delay publishing of a statistic to provide time to remedy a problem and avoid unnecessary alarm
- Management can't prevent the publication of an exaggerated estimate or a blatant false report which is then immediately viewable by the general public and the press
- The BI application bypasses management control of data as rules are pre-programmed
- Many BI analytics and visualization applications lack scalability to a regional or national level
- Cost of ownership can rise sharply when the organization attempts to provide the data to a wider group of internal and external stakeholders

The consequences of these shortcoming are many. Let's take the example of a regional government entity or utility attempting to bring order to an area following a hurricane. Power lines are down throughout the area. A BI app is supposed to highlight the current progress of ongoing recovery efforts. As more customers are hooked back up to the grid, the percentage of users with electricity is automatically posted online. Stats for each separate area, community or parish are also published. But automatically posting raw data poses some problems. Estimates of users with power restored can occasionally be inaccurate. If inflated, this gives false hope to some and can recoil on the organization via accusations of lies, propaganda and coverups. If underestimated, despondency can set in. The press can have a field day showcasing the ineffectiveness of ongoing efforts. In both cases, a failure to verify and curate data can make the organization look bad.

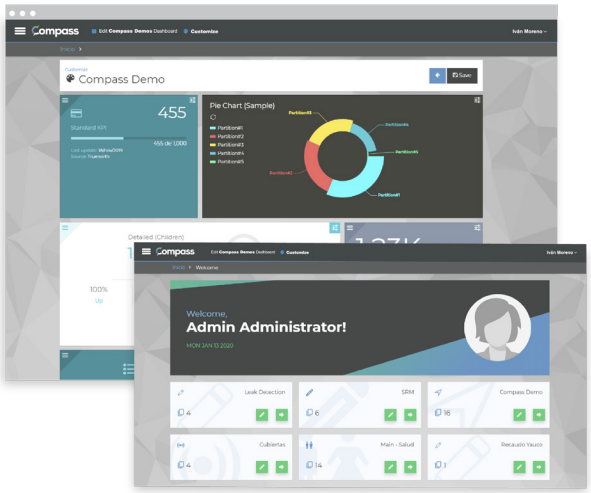
Another example: sensitive data indiscriminately posted on the visualization feed can cause a rumpus. Perhaps recovery efforts in one zone are progressing well while they are proving to be almost impossible in another. Management may wish to focus on the rise in the number of people who now have power and issue a general statement that they are working on improving results in all areas. A bald statement that X municipality has made no improvement over the past week can lead to irate call, protests, accusations of neglect or favoritism to one area over another. Such reactions are counter-productive. A great many people are hard at work dealing with a very challenging situation. Time absorbed responding to the flak is time taken away from recovery actions.

False reports must also be guarded against. A political opponent or corporate rival may enter a false statement about overall progress. Its aim is to stir up unrest and general discontent. Automatic posting of such reports can lead to a public relations nightmare. Central management must possess the ability to verify reports, eliminate false data and must exert enough data ownership to ensure that they only post a true picture. In other cases, someone might wish to look good by exaggerating progress – never a good idea. If the BI application can cleanse such data, or cross check it against other report, it quickly earns the reputation as a source of truth.

Compass: Unleash the Power of your Data

In the modern world, data generation and data gathering are now occurring almost instantly. A powerful tool is needed to ease the decision-making process. Whether it's an Application Programming Interface (API), a spreadsheet, or a database, the application must be able to connect to cloud and on-premises data sources and manage, visualize, customize and communicate data from all departments.

Compass by Truenorth is a meta visualization tool that solves the challenges inherent in many visualization and business analytics engines. It augments their core functions while providing multi-platform application transparency, and automatic controlled publication of data. It is a toolbox that provides everything you need to create, display, and manage all types of the company's KPIs or metrics.



This makes it possible to:

- Communicate results effectively, whether internally or to stakeholders.
- Take full ownership of data.
- Facilitate data consistency and standardization throughout the organization.

For more information about how Compass by Truenorth has helped organizations like yours to take BI Analytics and visualization to the next level, please contact us at **products@truenorth.pr**

Drew Robb is the author of dozens of articles on BI and analytics for publications such as Data Center Management, Computerworld and EnterpriseAppsToday.com. He is the author of Server Disk Management in a Windows Environment.

www.truenorth.pr

truenorthcorporation

truenorthpr

truenorth-corporation

Truenorth Corporation
1510 Roosevelt Ave, PH B
Guaynabo, PR 00966
(787) 706-3033