Visual Analytics with Quantrix Modeler

The Capabilities of Model-driven Business Intelligence
Model-driven Business Intelligence
Visual analytics software receives a lot of well-deserved attention these days because it has advanced to the point where it allows business users to make sense out of the vast data sets that are generated by business applications and data warehouses. Visual analytics and its business intelligence (BI) brethren have traditionally been the domain of corporate IT departments, who have had the technical acumen, manpower and financial resources to implement complex enterprise BI solutions with six figure price tags.

There are now several reasonably priced visual BI tools that allow professionals in finance, operations, planning, and other non-technical departments to analyze data with relative ease. The current generation of software enables users to drag-and-drop data from spreadsheets, ERP, CRM, and various databases and data warehouses to create visuals that enhance understanding and decision-making. For most people, it is more intuitive to view a chart and see a trend or other point of interest than it is to see columns and rows of numbers. While the benefits of visual analytics tools are great, there are some limitations that haven’t received nearly as much attention.

Quantrix differentiates from standard analytics software by providing model-driven, in addition to data-driven, business intelligence. Quantrix enhances the analytical and decision-making capabilities of business professionals by enabling them to:

- Perform analysis on multi-dimensional business and financial models created from "raw" data
- Expand the data model derived from historic data where it is appropriate for future planning (e.g., new time periods, new products, new metrics)
- Create more flexible, multivariate and realistic “What if” planning scenarios and perform visual analysis of these scenarios
- Build creative and customized interactive presentations and dashboards
- Close the analytics loop by “pushing” the planning model data back into business applications and data warehouses

Building Multi-dimensional Business and Financial Models from “Raw” Data
The data used by visual analytics software are by and large generated from past activity – which offers insight into what happened a year ago, a month ago, or even yesterday. The problem is that history usually doesn’t tell you how you should be planning for the future. To put in another way, you don’t drive by only looking in the rearview mirror. Quantrix also allows you to build models from this historic data. Users organize data in “dimensions”, which could include things like Months, Regions, Currencies, Business Units, Products, etc. After dimensions are defined, the related data can then be populated into the model. You now have a simple yet complete model built on raw, historic data. At this point, you could create the chart or visual of your choosing with a click of a button. However, with Quantrix, this is just the beginning of the analytics story. You can add more business value to the data and the model by incorporating domain knowledge, business logic, and external data and information. This enables you to create models which address complex questions or illuminate future scenarios. With financial
models, you could add new products, changing growth rates, or add dollars alongside units of sale. You could also identify past successes and incorporate that experience or knowledge into your planning model. For example, take a situation in which next quarter’s forecast has a downward trend. You look at a previous quarter’s performance and see that you executed a marketing promotion which delivered strong results. Based on this analysis, you decide to run a similar promotion to improve next quarter’s forecast.

![Model-driven Analytics Value Chain](image)

Screenshot: Quantrix visual analytics capabilities help business professionals focus on and improve future performance.

Creating “What if” Scenario Analyses for Forward-focused Business Intelligence
A key feature of Quantrix Modeler is the ability to extend your models with scenarios and perform “what if” analysis for future business planning. If your company is sensitive to external variables (and whose isn’t?) then this kind of forward-focused business intelligence provides real benefits. Once again, most software packages are limited to analyzing historic datasets. Also, the ability to perform “what if” analysis is fairly limited. Quantrix, in contrast, allows you to add new data, dimensions, assumptions, and scenarios to your model and then perform visual analysis. You can create not only more complex and dynamic “what if” scenarios that include the full range of realistic possibilities but also view the potential bottom line results of the choices you might make. Furthermore, most tools are constrained to analyzing a narrow segment of the business. With Quantrix, you can develop an integrated set of models and scenarios to
get the “big picture” perspective. This level of capability is only possible with a combination of modeling and analytics.

Take, for example, a critical finance activity like cash flows management. One can perform visual analysis against past and current cash positions but CFOs and other finance professionals are much more concerned about future cash flows. With Quantrix, you can create a multivariate cash flow model and build an interactive “Presentation Canvas” that allows you to model “what ifs” such as “what if Day Sales Outstanding increase from 25 to 35?” or “what if my Cost of Sales increase by 3% next quarter or next year?” Being able to see whether you will stay profitable or have enough working capital to fund operations is critical knowledge.

Screenshot: Create multivariate “what if” analyses on key business activities such as managing Cash Flows and Working Capital.

Creating Interactive Presentations and Dashboards
Visual analytics tools allow users to create dashboards and reports that inform colleagues, clients, and other decision-makers. These applications enable users to “slice and dice” data into different perspectives. However, most of these dashboards are designed as templates, which limit creativity in presenting analyses. Also, the visuals have only basic interaction capability so that “consumers” of the analysis aren’t able to enter new values or make changes to variables such as assumptions, scenarios, etc. With the Quantrix Presentation Canvas, you, as the business user, have the flexibility to build a dashboard.
that fits the type of analysis as well as the needs of other end users. You can also configure roles and permissions that define how users interact with the dashboard.

**Screenshot: Quantrix allows you to create dashboards and presentations that meet the needs of end users. Add widgets, sliders, charts, grids, images, etc. Rigid, template-based dashboards are a thing of the past.**

**Close the Analytics Loop by “Pushing” the Model Data Back into Business Applications**

For most analytics tools, the analysis and reporting is the “end of the line.” With Quantrix, you can take the knowledge you developed through your analysis and “push” it back into your business applications. So, for example, you may have performed a forecasting exercise with a series of scenarios and “what if” analyses. You’ve decided on the most likely scenario and now want to use that forecast for production, inventory, or human resource planning. Using Quantrix’s DataPush™ feature, you can push the forecast data into other enterprise applications or data warehouses.
Screenshot: With Quantrix, the analysis and reporting isn’t the end of the line. “Push” data back into ERP, data warehouses, and other business applications.

Model-driven Visual Analytics with Quantrix
Visual analytics are an exciting and growing segment of business intelligence. Tools continue to offer the business professional new, user-friendly ways of extracting meaning out of data. Visual analytics with Quantrix go a significant step further in adding greater value and insight into analytical activities and forward-focused business planning. Quantrix allows professionals to create multidimensional models out of historic data as well as the “what if” scenarios that allow companies to perform the dynamic planning they need to succeed in evolving business conditions and uncertainty. And finally, it closes the analytics loop by enabling you to incorporate key planning data and analytics back into your primary enterprise data sources. It’s time to drive your business by looking forward – so take Quantrix Modeler for a spin!