

Exploratory Business Intelligence:

Improving business execution and the effectiveness of a BI program

Summary

Real-time business data visualization offers business users a powerful exploratory tool for determining current BI requirements and monitoring KPIs. By visually analyzing specific KPIs in real-time, business users not only have a snapshot of actual business execution, they can explore what effect potential changes can have on business performance.

This white paper details the benefits of real-time visual exploration to enhance business execution and the success of your BI program:

- Understand how data visualization allows business users to experiment with and identify what data and analysis is valuable to BI success
- Learn how to deliver better BI requirements to IT
- Understand business user requirement building challenges
- Learn how the creation of data warehouses, data marts, and operational data stores can benefit greatly from exploration
- Understand traditional BI challenges with operational data

Exploratory Business Intelligence

Business visualization offers business users a powerful and BI intuitive tool. Business visualization is different from scientific visualization, which compacts a large amount of information into complex graphs. Scientific visualization requires the highly trained eyes of specialists. Business visualization utilizes straightforward visual elements such as gauges and bar charts to relate information.

Visualization is not only an exploratory tool for business users. It is an integrated part of a comprehensive BI architecture. Once useful questions are identified, users should be able to continue to the next step and use reports, dashboards, and scorecards to make them a seamless part of the business process.

Real-time Business data visualization offers business users a powerful exploratory tool for determining current BI requirements and monitoring KPIs. By visually analyzing specific KPIs in real-time, business users not only have a snapshot of actual business execution, they can explore what effect potential changes can have on business performance.

Exploration in an operational BI context requires on demand mash-up of operational data, BI data stores, and external unstructured data. In contrast to traditional BI, the scope of users' information needs, not the specific type of analysis, determines what data sources are to be made available. Here, the ability to combine, transform, and filter data is crucial, and because of its exploratory nature, it needs to happen in the real-time, with minimal IT resources.

Visualization is also a key collaborative point between business users and IT. On the back end, the design of data warehouses, data marts, and operational data stores can benefit greatly from exploration. Visualization allows business users to experiment with the data, identify what data and analysis is valuable, and pass on better requirements to IT so they can build a high performance data warehouse for in-depth analysis.

Traditional BI Process Challenges

The experience of BI implementation has provided the BI community with significant insight into the challenges of traditional BI. The seeking of "a single version of the truth" has established the data warehouse as the enterprise wide, unified data repository standard. The realization that pure data warehouse architectures are too rigid spawned the need for data marts and operational data stores. They serve as quicker, more flexible data repositories that focus on individual business processes or departments.

Going one step further, Enterprise Information Integration (EII) tools provide a virtual data warehouse. While these technologies offer a more flexible environment for diverse BI needs, the same business process is used to implement them:

1. IT tries to understand business user requirements by interviewing them either across the enterprise (data warehouse) or on the department/process level (data marts). The

process is supposed to produce a comprehensive requirement plan for the defined scope.

2. IT implements the data mart or warehouse and BI objects.
3. End users get to test drive after the actual implementation. Iterative improvement starts from step 1.

Traditional BI implementation results are extremely mixed. Industry reports have found failure rates up to 60% for traditional BI projects. What makes a BI project failure more damaging is that the failure is only realized after the implementation. IT didn't necessarily fail to implement the project correctly, but it does not provide the data needed. This is not surprising because most business users can only guess at what data, analysis and reports will be useful.

Operational BI serves business processes and operational departments that are more dynamic than traditional BI targets. Because these measures and parameters are less established, less accurate requirement definitions are provided; therefore, useful analysis and reports can quickly become obsolete. For example, a marketing manager is tracking the results of a new marketing channel. He or she needs to quickly determine its effectiveness and whether or not it reaches the right audience and demographics. It might turn out to be a weak channel and discontinued. It makes matters worse to continue to invest IT resources, when the program will ultimately fail.

Operational data is also less standardized; therefore missing data and bad data quality pose greater challenges to the traditional BI process. What if the user requirements assume that certain data elements exist? This will only be discovered after IT has begun to implement the program.

Exploratory BI Process Advantages

The BI process must be flexible to deal with these amplified challenges. Business users need tools to explore, experiment, and visualize before they really know how a more elaborate BI program will help them. This new type of exploratory tool is ad hoc, but not in the traditional sense as it is for identifying what questions to ask. With this tool, the BI process can be streamlined for many projects such as:

1. Business users explore and visualize existing data sources that can be non-BI specific, such as operational data and external data.
2. In the exploration process, wrong questions will be tested and discarded while useful questions are saved as reports, dashboards, and other repeatable BI objects. BI needs that require an IT investment, are clarified and formalized.
3. IT focuses on the identified BI needs with clearly defined requirements. After implementation, the new elements become a part of the BI environment.

These capabilities add flexibility to the traditional BI process. It also greatly reduces costs and uncertainty and makes the collaboration between business users and IT meaningful from the beginning. To quote one industry expert: "We are navigating through a data jungle. Let's first find the right paths before bringing the bulldozers in to build the highways".

InetSoft's Style Intelligence™ Visualization and Exploration Software

InetSoft's Style Intelligence software is an extreme benefit to a total BI solution. Its agile nature and intuitive visual environment make it an ideal analysis tool. With Style Intelligence, business users can discover the relationships between business metrics without having to rely on IT. Some sample applications of visualization are:

- Visualized, what-if analysis
- Self service, interactive dashboards
- Parameter driven, multi-dimensional analysis

Style Intelligence provides an enhanced BI approach that builds upon mature BI experience and best practices. It helps bring users and IT closer together, reducing costs and increasing productivity.

Innovative InetSoft operational BI tools provide the real-time data access, for reporting, analytics, dashboards, monitoring, alerts and visualization functionalities with the added flexibility, scalability and platform independence that only J2EE can provide. Contact InetSoft to learn how its 100% Java web-based solutions successfully enhance business performance in companies worldwide.

For more information on InetSoft's Style Intelligence software, please visit www.inetsoft.com.