7 Principles for Implementing
High Value Business Intelligence on a Tight Budget

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Helping your organization use its information resources better doesn't have to mean bringing in high-cost, complex BI software that requires specialists, proprietary data stores, and lengthy deployment times. Whether you're an IT leader or finance executive seeking high ROI business process improvement, you can deploy a cost-efficient Business Intelligence solution that will improve the way your organization uses information, collaborates, and makes decisions.

Dan Murray, VP & CIO, along with his team at Blastrac Manufacturing, a mid-sized worldwide manufacturer, achieved high value business intelligence on a budget. They turned a disparate collection of out-of-sync spreadsheets, databases and reports pulled from six different ERP systems into an organized, collaborative dashboard and reporting environment delivering demonstrable high ROI. While price quotes from outside consultants and Business Intelligence vendors ranged from $130,000 to $580,000 and required between 4 and 6 months for deployment, Dan and his team did it with less than $40,000 and started getting company-wide results in less than four weeks.

What were the keys to Blastrac's success at achieving high value BI on a budget and how can you replicate that success? This paper discusses the seven major principles Blastrac applied in their efforts and why they were successful.

1. Define the problem clearly – avoid scope creep
2. Identify users' specific issues and needs – solve their problems
3. Understand the underlying data issues – BI is not just software
4. Select the appropriate toolset – look for fast, easy, lightweight and low-cost application
5. Build for flexibility and responsiveness – know that users will require changes early on
6. Leverage existing staff – eliminate solutions that require new staff and/or consultants
7. Lead from the top – leverage your authority and executive buy-in

Define the problem clearly – avoid scope creep

Murray and his team started by defining the business problem clearly and succinctly.

Blastrac had been spun off a larger parent company and emerged as an independent company that had virtually no back office. What they did have was six different ERP systems and no consistent reporting. There were multiple data stores and multiple types of reports needed – everything from sales data to working capital, inventory, purchase analysis and so on.

The executive team thought that what was needed was a wide-scale integration project and roll-out of a single ERP system. But the cost to install, deploy and roll-out a new ERP system was $1.5 million and would require two years of deployment time, to say nothing of the major disruption it would cause the

company.

When Murray went back to the core problem he discovered it was quite simple to state: executives and employees did not have the right, current information which was making cross-departmental and cross-country decision making less than optimal. What Blastrac needed was the ability to share information consistently and appropriately across the organization. Executives, sales, operations and finance could all needed to be on the same page regarding company performance and requirements. It was as simple as needing information sharing, not ERP.

Of course, there were several sub-requirements needed. The solution to the problem needed to be affordable, to deploy quickly, and to represent data consistently regardless of the multiple currencies Blastrac operated in.

Needless to say, this was a big challenge. But by defining the problem clearly, Murray was able to define the requirements and scope appropriately. With requirements and scope clearly delineated, there was little risk of two classic problems with business intelligence projects: solving the wrong problem and scope creep.

Identify users' issues and needs – solve their problems

Blastrac's old methodology was to extract data massively from the six different ERP systems and load that data into several Excel spreadsheets, conduct some "lookup" functions to add data dimensionality for filtering, creating pre-defined pivot-tables or cross-tabs that were intended to serve all users, and send these out via email.

Unfortunately, while these massive spreadsheets helped somewhat they also caused users major issues. Users could not easily understand the data. The information was not accurate – data pulls varied and users were not spreadsheet experts. In particular, the sales force could not work with the format.

So the first thing Murray did was break down the problem by user type. He started with sales reporting and had 15 to 20 conversations with key sales managers about what was wrong with the existing set of reports. One sales manager said there was not nearly enough detail and one said there was far too much detail. Clearly, some people want highly granular views into the data while others want to stick to the top-line summary results. Unfortunately, such a diverse set of requirements is very difficult to address with spreadsheets. But Murray at least knew the range of user issues and needs he was dealing with.

He also audited the process of creation. The user set were not just the recipients of the reports. Rather, they needed to include the set of users responsible for creating the reports and they had their own challenges.

Preparation time was taking several people nearly one day a week, which resulted in 20 or more hours every week to produce the sub-optimal reports. There were also a lot of variation and inconsistency across the reports. Murray and his team needed to find a faster and easier way for both the information consumer users

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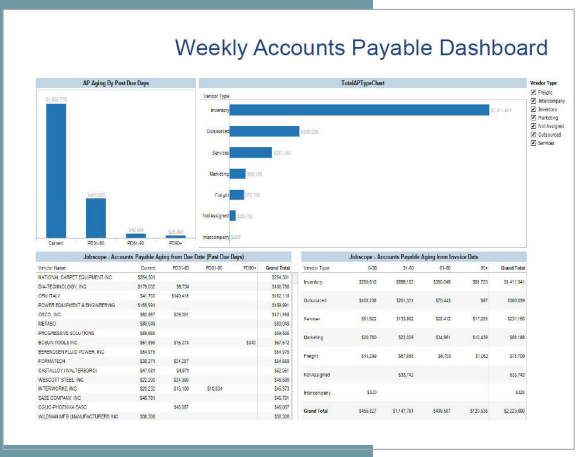
Understand the underlying data issues – BI is not just software

Another key for Blastrac was that they deeply understood the existing data and structures. With that kind of understanding, they could identify where the major issues lay in defining a solution.

Originally, Murray thought that traditional Business Intelligence software and data warehousing would be required. But when he discovered that five different vendors provided quotes ranging from $130,000 on the low end to $580,000 on the high end and they all required four to six months, he realized that wasn't possible. Blastrac simply did not want to spend that kind of money or time.

So, Murray relied on his own team to define the data logic. Murray reviewed carefully the data needed from a business-user perspective and then defined the data relationships among those data. He designed a data structure of Dimension tables (where data elements for filtering, lookup and sorting typically are defined and don't change significantly from week to week) and Fact tables (where measures and calculations are defined; these data changed significantly from week to week) and their data relationships via a star schema (which defined how the Dimension tables and Fact tables interact).



Dashboards provide a better and faster way to see and understand patterns and trends.

What resulted was a series of "dimensionally conformed spreadsheets" or tables that all data could conform to. These very granular inter-relating tables provided the high amount of details that would serve as the basis of the reporting solution. By taking the time to define the data structures and define how the data connect, Murray and team don't have to worry about shifting variables and data structures. They rarely have to change it and they are able to update it in just a few hours.

As the project progressed from its first incarnation, the actual form of the spreadsheets changed. Initially, they relied on Excel, eventually converted to Access, and now have grown to SQL Server. The key is that the structures Murray defined never had to change. Murray could scale without a major rewrite of their data warehouse or without high-end, expensive outside consultants.

Throughout, the process was as direct as running standard queries from the ERP systems, auditing the dimension tables, adding new facts, and creating a consistent data structure for all data. Because they had reviewed the data as well as the end questions users wanted answered, they designed data structures that solved users' core needs.

Select the appropriate toolset – look for fast, easy, lightweight and low-cost application

Murray had defined a series of dimensionally conformed spreadsheets that

replicated the logic of a large data warehousing project. But the real key now was finding the toolset to sit on top of the data. Information creators needed not only to connect and link the data tables so they could rapidly build the right views, but they also needed to share the results easily so that information consumers could get exactly the information they wanted.

Murray brought in two data visualization tools from Tableau Software: Tableau Desktop and Tableau Reader. Tableau Desktop acted as a front-end to their data structures, enabling information creators to rapidly and easily create interactive workbooks. These workbooks then automatically update each week and are shared with information consumers via email. Information consumers access the weekly workbooks using Tableau Reader. Tableau Reader is a free product and enabled everyone across the company to directly interact with the reports allowing users to filter, sort, extract, and print data and information as needed.

Blastrac was able to quickly generate nearly 15 reports that met all of their business requirements, and was able to quickly connect to data. Every report is automatically updated each week as they are produced.

The direct benefits to end-users were obvious. Users were now able to access the level of detail they wanted, within a single design, enabling summary views in infinite detail.

The big bonus for Blastrac was that they were able to implement a single solution that relied on a simple, easy-to-use interface. Rather than having to learn how to use a pivot table, or deciphering reports generated by others, users can just click to filter the dimensions and level of detail they wanted to see.

As for information creators, once the workbook is created, it can be reused and automatically updated every week. To update over 15 different workbooks serving Sales, Accounts Payable, Finance and other departments now requires only one hour per week to complete all the work, saving days a week over their previous process. In addition, if something extraordinary happens in the business (such as an exceptionally large sale), information creators can rapidly see the anomaly and annotate the data, preventing volumes of reactive questioning.

Build for flexibility and responsiveness – know that users will require changes early on

Murray recognized that no matter what the initial workbooks and reports looked like, users would still have additional requests for other reports and views. Because they built their data structures to be comprehensive and because they brought in a fast, flexible reporting toolset he was able to quickly accommodate users' requests for modified and enhanced reports with just a few hours response time.

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Blastrac now just relies on five people creating Tableau reports with over 50 global consumers. Blastrac only needed to create one workbook for each business area instead of endlessly customizing. Each user can filter and revise as needed. Instead of working hours every week to accommodate custom requests, they do it once in minutes.

Tableau Desktop enabled information creators to build the view once and simply update them weekly with new data. And it gave information users the power to question, filter and enhance the reports to their personal needs.

Leverage existing staff – eliminate solutions that can't be deployed without new staff and/or consultants

Originally, BI vendors told Murray that it would be months and require significant professional services before he would have a solution that shared consistent information in easy to understand formats. But Murray got his first results within three days and a full-scale solution within four weeks. And he did it by relying on existing staff and minimum vendor support.

A major issue Blastrac faced was cleaning and structuring data appropriately. Because the Blastrac team knew the business purposes of the data, they were able to implement the data warehouse rapidly and in a way that served the information needs of end users.

The core team-members included Global Financial Reporting Manager Elaine Hillyer, US Controller Brian Downey and Cost Accountant Gaylon Garretson. All worked to improve the quality and accuracy of the data going into Blastrac's North American transaction system.

IT Director Europe Marcel Bosboom then managed to take the base schema developed in the US and adapt it to five different transaction systems in Europe. Bosboom's SQL scripting skills allowed the rapid deployment of the new system for Blastrac's European businesses in less than 5 days in spite of significant language and currency translation challenges.

Finally, when Blastrac was ready to deploy its MS SQL enterprise class database, Stillwater, OK-based Interworks Inc. rapidly turned around the underlying schema and ETL logic. As for the software deployment, Tableau was a rapid installation process and required virtually no IT support.

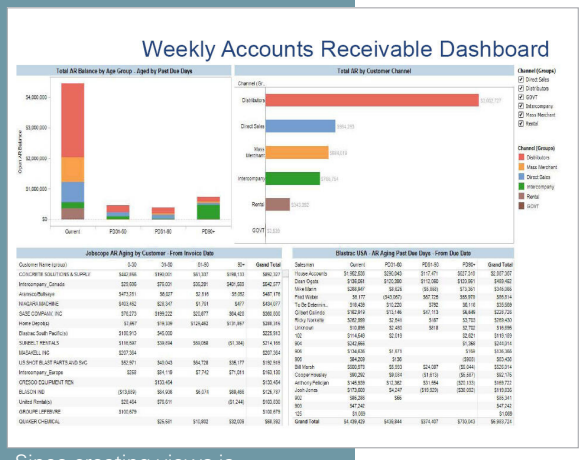
Lead from the top – leverage your authority and executive buy-in

Murray understands Blastrac's business intimately – and not just from an IT perspective. So his ability to rapidly understand end user needs rests on a foundation of deep business understanding and relationships. In addition, Blastrac's executive team recognized that the problem they were solving was important. And they valued the solution – especially since it came in on a low budget and in rapid time.

From Murray's perspective, he invested his team's time to build the data structures and to deploy Tableau. Those together didn't take months – it was literally weeks. He avoided spending $500K to have experts come in and build a new database infrastructure.

From senior management's perspective and from end users' perspective, Murray and his team are heroes. Murray's authority and credibility as well as executive buy-in were core to his achieving these impressive results.

So what's next for Murray and team? They are upgrading to Tableau Server, a web-based solution that will allow people to view their reports and workbooks via the web.



Since creating views is rapid and seamless, information creators can accommodate special requests easily.

Background Note

The above principles and information were extracted and summarized based on a web seminar featuring Dan Murray, VP & CIO of Blastrac Manufacturing. DM Review hosted the seminar with Tableau Software as the sponsor. For more information about Dan's web seminar presentation, including detailed views into his data structure, process and reports, please go to *http://www.tableausoftware.com/livews/high-value-bi*

Information about Blastrac is available at *http://www.blastrac.com*. Information about Blastrac's IT consulting firm Interworks, Inc is available at *http://www.interworksinc.com*

You can download a free trial today at http://www.tableausoftware.com/budgetbi. Tableau downloads and installs in minutes. You'll quickly discover a BI tool that can scale, react in real-time, and requires very little IT support.