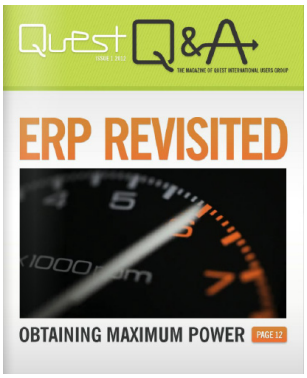
TEAM CAIN
Experience Counts



As seen in Q&A Magazine Issue 1 2012

BI FOR THE COMMON MAN

Business Intelligence can be a life saver, a career builder, and a thoroughly interesting project and goal. It is where business is going, and for good reason. There are lots of tools out there that can be used, and we certainly encourage you to take a good look at them and decide what is right for your organization.

A BI Overview By Michael Guerin & Ingrid Brammer

WHAT IS BI

According to the CIO Forum, business intelligence is "an umbrella term that refers to a variety of software applications used to analyze an organization's raw data. BI as a discipline is made up of several related activities, including data mining, online analytical processing, querying and reporting. Companies use BI to improve decision making, cut costs and identify new business opportunities. BI is more than just corporate reporting and more than a set of tools to coax data out of enterprise systems. CIOs use BI to identify inefficient business processes that are ripe for re-engineering. Loosely defined, business intelligence systems take vast quantities of data and put it into visually useful forms (such as graphs and charts) for sophisticated analysis of business trends."

In other words, many hands are on the same beast, often looking for different types of results. For some BI users, it is about better information on spreadsheets. For others, it's data marts that are populated periodically (every 10 minutes, hourly, daily). Still others are looking for alerts about things that need immediate attention.

The core of it is that if it does not drive organizational improvement, well, what's the point? Whatever the tool or the approach, if you are not able to use it to smartly sift through the volumes of data any given organization generates on a regular basis, then it might be business, but it likely is not intelligent.

At its core, BI is about asking the right questions to get the answers that will improve your business.

The Evolution of Business Software

Packaged software came into being in the 1980s and came to prominence in the 1990s. Packaged software such as JD Edwards, SAP, Oracle E-Business Suite, PeopleSoft and others (some now departed) started to offer integrated, flexible, feature rich suites for organizations to use to manage and control their business. Much of this started with the financials, distribution, and payroll side... and later had manufacturing added on.

Later in the 1990s, the concept of ERP extended to include Customer Resource Management (CRM), more robust supply chain management, e-commerce extensions, sales force automation and field service automation. Most major players had their own offerings in this space, as did other niche players. Many of the providers in these areas have since been acquired by the larger players (Oracle, SAP, Microsoft). The major ERP players themselves consolidated as well – as customers of the PeopleSoft and JD Edwards solutions within Oracle know quite well.

In the 2000s, ERP started to extend in earnest into management and strategic solutions – and this is where Business Intelligence started to come into greater focus. Under various terms or buzz words (BI, Analytics, Profitability management) and with a number of flavours… it started to be the next area of focus for organizations that had the underpinning's of core ERP in place.

Business Intelligence itself has evolved similar to how ERP has. In the 1980s and 1990s it was largely around reports and targeted inquiry screens that allowed decision makers to figure out what had happened and where things might be going. One of the issues with this was that ERP had (rightly so) evolved into de-normalized data – that is, data in files where the links to other files provided the "full picture". A sales transaction had the sales data on it, but the classifications for the customer, the sales person, the inventory items – codes were on the files but not the full picture that would allow analyzing and certainly not the ability to play with the details.

In the 1990s and certainly into the 2000s tools evolved to the point where the data could be aggregated and analyzed – real Business Intelligence. In recent years, it has evolved again to be more pervasive (witness the built in analytics that are part of Fusion and available within applications from Oracle), geared towards alerts and predictive actions, and more broadly available.

For some BI users, it is about better information on spreadsheets. For others, it's data marts that are populated periodically (every 10 minutes, hourly, daily).

Key Factors in a Successful BI Implementation
A BI implementation is like any other - there are key starting points and things that need to be in place before, during and after the implementation transpires. Key factors in a successful implementation include:

Management Buy-In and Support
This is key. It is unlikely that a BI project (or any project for that matter) would get approved without this, but there is a difference between a project being approved and a project being supported. Executive support includes the message from on high that the project is important and will not get sidetracked by other items.

Management Directive in Terms of Common Measurements
In most organizations, the data to be reviewed and analyzed can be all over the map, and can often differ across organizational units. What constitutes something to be measured and how to measure it can vary wildly in an organization as well. Management needs to set the tone by indicating what is important to them first and foremost. This sets the stage for what the middle managers, lower staff and those building the system know they must account for. Having line of business managers determine what they think is important but which does not support what the executive team wants to see improvement in well, this is a classic way to blow up the project.

A Common View of the Data
Most organizations have an implicit or explicit hierarchy of their data sales by division, product line, geography, sales territory, and line of business. In many organizations, the definitions within these groups may differ from unit to unit. A proper top level view of the data and the ability to compare implies that there is a consistent use of what is used to build the views. In JD Edwards terms, are your category codes – most often used to build up the data for views – consistent? If not, how will you address it?

Crawl, Then Walk, Then Run, Then Buy the Sports Car
A quick way to kill a BI project is to try to serve too much too soon. You will get buried in discussions, meetings, reviews, building data, and going cross eyed. Think in terms of priorities (what is critical, what is important, what is nice to have) and timing (now, in six or 12 months, in two or three years). Build for what you need and where you are going. This should become your BI roadmap.

Involve the Right People
As with an ERP implementation, the right people are most likely the ones you can least afford to pull out from their day to day lives. They are also the ones more critical to the success of the project.

Know What the Actions Will Be
When you start using the BI solution, and are planning for it, you need to have plans to act on it or it is all for naught. Plan for the time needed to review the intelligence and act on it.

Pre-built Will Only Take You So Far
Every organization is different. In particular, with a standard ERP system, there are pre-built marts and warehouses available that can take you a fair part of the way. Reality, however, says that your needs will no match up 100 percent with what is supplied.

Plan to Evolve
If you are going to do BI, master it. You should plan on being self-sufficient (have the skills in house as much as possible), realizing that you don't know what you don't know (requirements will change), and that the capabilities of the BI solution should be a foundation of your management plans going forward.

THE COMPONENTS OF BI

Generally, a BI solution comprises three main components:

- The data itself
- The transformed data (data marts/data warehouses)
- The presentation layer

Core data is likely from the main ERP engine, although most organizations do have some core data in other systems, such as a second ERP engine, spreadsheets or standalone databases.

The transformed data is the heart of a BI solution. The information from the various data sources is extracted from them, transformed into a format that will support the views of data required, and loaded into the series of marts that will be used to drive the analysis and presentation of the information. The process behind this is the ETL (Extract, Transform and Load), and is where the largest amount of energy is expended during a BI implementation.

The presentation layer drives the analysis and decision process, and should be the starting point for a BI project - the ETL process and the layout of the data warehouse should be set to support the analysis that will be done with the data.

WHY SHOULD ORGANIZATIONS CARE ABOUT BI

For years, organizations have been drowning in data - millions of records on sales, margins, inventory movements, purchases, receivables, manufacturing processes, customer details and more. The data may be historical - it shows where you have been - but the real importance lies in what it says about where you're going.

Business intelligence should be viewed as a way to identify any needed corrective actions, and to monitor and adjust the course of the business for overall improvement. To use a couple of catch phrases:

- What gets watched, gets done.
- You cannot effectively manage that which you do not measure

The data may be historical - it shows where you have been - but the real importance lies in what it says about where you're going.

ASK THE RIGHT QUESTIONS, GET THE RIGHT ANSWERS

How BI is used depends on the level in the organization where it is employed. Generally, these are considered to be tactical, strategic and operational.

Tactical

Tactical BI is most often related to looking a bit longer in the future and corrective action that has a longer time span. The type of questions that are asked and answered by BI at this level would include:

- *How are each of the sales people doing - how is the best doing compared to the worst and how can we enact programs to improve the worst?*
- *Which product lines/SKUs are having drops in sales revenue and margin? Why? What can we do about it?*
- *How are we doing on order fulfillment? Are we trending to more back orders and less same day shipments? Why is that? What can we do to improve? How are we doing compared to our targets here?*
- *What is the trend in our average days sales outstanding (DSO)? Is it getting worse? Why is that? Did our change in organization structure and outsourcing the AR affect things?*
- *What is our sales trend for sales to customers more than a year old?*
- *What is our sales visit to closed business ratio?*
- *What percentage of work orders jobs are being done within the original estimated time?*
- *How are we doing on our targets for employee training?*

Strategic

Strategic BI is often similar to a tactical view of the business, but at a higher level and over a longer time span. The type of questions that are asked and answered by BI at this level would include:

- *Which lines of business are dropping business – do we need to shoot them?*
- *How is Division A doing compared to Division B? Why are there differences?*
- *How are we doing on our five-year sustainability plan?*

Tools and Terminology

Like most other areas of technology, BI has its own TLAs (Three Letter Acronyms) and buzzwords. Here is a look at the most common or prevalent ones:

Data Mart/Data Warehouse: a data mart is typically a purpose built subset of the full data in a BI implementation. This would include, classically, a data mart for each of sales, procurement, financials, manufacturing and more. The data warehouse is the collection of data marts, and also includes the processes and set up to manage, extract, transform, load and control access to the data.

ETL: Extract, transform and load – or the process by which the data from the original sources are manipulated and aggregated to support the business intelligence views. Data is often cleansed by this process as well.

Dimensions: ways in which the data is to be viewed. Dimensions then would include sales by customer, by timeline, by product group, and by division. Dimensions often contain information that might not be available from the source data – possibly external data (like weather, if it could impact the sales volumes).

Fact Tables: the tables and organization of data. A fact table would be for example the sales data.

Metadata: this is literally the data about the data. It is the information about where the data comes from and how it is retrieved, linked and stored.

Star Schema: a method of linking and joining the fact tables and dimensions in an optimal way.

Data warehouses are most often used to a) get the data off the transactional system (for performance purposes) and b) to capture the data in a manner that supports the different ways in which it needs to be viewed and analyzed.

- *We launched two new lines of business six months ago – how are we doing compared to targets?*
- *How close to capacity are we at in our warehouse or manufacturing line? Do we need to look at a larger facility or gain productivity improvements?*
- *Which geographies are gaining and which are losing? Do we need to expand operations in Germany, and cut down or sell off in Mexico?*

Operational

Operational BI tends to be used to monitor what is going on in an organization on an hourly or daily basis. The type of questions that are asked and answered by BI at this level would include:

- *Who is behind on paying their bills and who I need to contact (AR clerk/manager)?*
- *What shipments need to get out today (shipping manager)?*
- *What is our cash balance, what can I pay today, do I need to transfer funds around (cash manager)?*

- *What inbound shipments are behind, which might affect our ability to ship to customers, and where are they at (expediter)?*
- *What pieces of equipment are behind in their maintenance/have over due service work to be done?*

JUSTIFYING A BI IMPLEMENTATION

BI implementations can be costly, so the issue often becomes, "how do we justify the investment?" As with any other project, there needs to be clarity on the expected benefits.

The most common areas for improvement include:

- Sales increase
- Margin increase
- Cost decrease or "hold" (warehouse, staff, inventory, service work for example)
- Efficiencies in assets - people, equipment, facilities, working capital

The return, while a bit nebulous initially, can be dramatic. Again, thinking about the questions to be asked and answered (for a sample $200 million in revenue organization, with a 30 percent gross margin, $30 million in inventory):

- A 1 percent increase in sales would add $2 million a year in revenue, and $600K in margin... each and every year.
- An increase in margin from 30 to 31 percent would add $600K to the bottom line.
- Reducing the need to add staff in the next year from 15 to 11 (due to efficiencies) could save $200K (assuming an average total cost of $50K per employee).
- Reducing bank debt by $1 million a year (from the above savings) could save $50K year in interest.
- Reducing inventory investment by 5 percent would cut $1.5 million out of the investment - saving cash, warehouse space and inventory write-offs.

The smart organization has plans in place to track them (and they can, since they now have a way to track and measure the progress!)

It all comes down to the areas where improvements can be obtained. The smart organization has plans in place to track them (and they can, since they now have a way to track and measure the progress!). The financial benefits of the improvements can be directed as needed with the organization.

The following article was featured in Quest International User Group's Q&A Magazine, Issue 1 2012.

Visit http://www.questdirect.org/ to view the entire issue.

Business intelligence can be a scary project for many organizations. We can help your company get started on your important BI journey. Our JD Edwards knowledge, coupled with our BI knowledge and experience will help you reduce the time to benefit on this exciting and important initiative. TeamCain offers a number of Business Intelligence options for companies, depending on your unique situation. Talk to one of our BI experts today, we can help guide you in the right direction.

TeamCain
PO Box 1956
Peterborough, Ontario,
Canada, K9J 7X7
www.teamcain.com

1.800.861.7628 ext. 246

michael_guerin@teamcain.com
ingrid_brammer@teamcain.com

TEAM CAIN
Experience Counts

Quest International Users Group
GOLD PARTNER