The Data-Driven Organization

How to Achieve It and
How to Benefit from it

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"Data driven". Sounds great, but what exactly is meant by it?

As is so common in the high-tech industry, a cool-sounding phrase has been coined to attract your attention. And like many of these phrases, "data-driven" is a fancy way to encourage you to focus on a very simple concept – basing your business decisions on the information that your organization has gathered. Sales information, financial information, inventory & production information . . . and so on.

"But of course!" you say – "no one makes decisions in a vacuum." (Well, let's hope not, anyway.) But the "data-driven" phrase means more than just making intelligent decisions based on business information. And that is because in most organizations, decisions are ***initiated*** by an individual and then ***supported*** by corresponding data.

"Data-driven" turns this process around. Intelligent decisions are initiated by ***data***, and then acted upon by individuals.

The following pages detail how an organization goes about achieving a data-driven business model and the benefits that result from it.

Step #1: It All Starts with the Data

A "data-driven" business model isn't much use without the data. Whether it's customer data stored in a sales or CRM (customer relationship management) application, financial & manufacturing data stored in an accounting/ERP system, or customer service info contained in a help desk application, you can't have your organization driven by data if you've no good place to store it.

But this where you need to be extremely careful in selecting the software solution(s) you will be using to store your business data. And the primary question that many organizations still struggle with today is whether they want to go with an "integrated" (cross-departmental) solution, or individual "best-of-breed" business applications.

To make the right choice for your organization, it's useful to take a quick look at the evolution of office automation software.

Twenty-five or so years ago, "integrated" solutions rarely existed; organizations were forced to select "best-of-breed" solutions that resulted in islands of information within a business. These solutions were useful on a departmental level but virtually useless on an organizational (or enterprise-wide) basis. Simply put, the solutions not only did not talk to each other, but they spoke entirely different languages altogether. The need to combine and analyze information on an enterprise level was incredibly time-consuming and virtually impossible. If meaningful "big-picture" data was eventually extracted from such disparate systems it was often extracted too late to be usable in any meaningful business decisions.

Fast-forward to about fifteen years ago and to the rise of "enterprise-wide" solutions. Nice concept, but bad execution. These original enterprise-wide applications were clumsy, lumbering behemoths that were designed to appeal to executive decision-makers without regard for usability, departmental needs, or company-specific customizations. Task-specific functionality was sacrificed, customizability was minimal, and ease-of-use was pretty much non-existent. Unfortunately many organizations bought into this new concept as it was made to appeal to

executives, and businesses learned the hard-way that they needed equal support of departmental focus along with enterprise-wide integration.

So now we come to the most recent years in software development and the good news is that businesses can now have it all. The technology behind "enterprise-wide" solutions has finally caught up with the promise of such solutions. The best enterprise-wide applications incorporate "best-of-breed" line of business functionality – such as comprehensive ERP management married to equally robust CRM capability – and along with it offer extensive flexibility and essential user friendliness.

But be warned – not all of today's enterprise-wide solutions deliver on this promise.

Typically, the best enterprise-wide solutions are not built from the ground up, but rather have evolved from best-of-breed departmental solutions that have been carefully married to integrate and work together. This approach means that an enterprise-wide solution has first satisfied the needs of the individual departments that will be using it on a day-to-day basis. Think of it as a "technological house" in which the individual rooms and functions must be designed before the various parts are put together to operate as a whole.

So – when considering your front-office and back-office software investment, don't settle for a solution that fits either departmental needs or enterprise-wide needs. There are solutions that do both, but you need to review and evaluate potential solutions based on their ability to satisfy both requirements. Look at solutions from both perspectives, and never – ever – let a vendor tell you that you can't have both.

So – step #1 is to identify and implement the software solution(s) that track and store data that is critical to your organization. Compared with step #2, this was the easy part.

Step #2: Recognizing Your Data's Voice

How do you know when your data is trying to tell you something?

Most companies rely on reports – reams of them. Chances are, if you poke your head into an executive's or manager's office these days, you'll see their head buried in a report. But that's not listening to your data's voice – that's *searching* for it.

And not many companies can afford to have their staff spend hours a week searching for the occasional anomaly – which is all too-often missed due to "more important things" on a employee's to-do list.

Depending on what data you're tracking (e.g., ERP) and what you need to know, your data might want to tell you such things as:

- "Hey – you need to re-order part #100-ABC . . . "
- "Ahem – you might want to remind Acme Inc to pay for that overdue invoice . . . "
- "Excuse me – did you know that this order has a 23% discount on it . . . ?"

In order to give your data a "voice", you first need to identify what you might want it to speak with you about. For example, you might not need your data to tell you when a shipment has arrived on time, but you might want your data to tell you when a shipment arrives either *early* or *late*.

So step #2 in enabling a data-driven organization is to identify those data conditions which should drive decisions within your organization. Generally speaking, there are eight (8) types of data conditions that you should consider:

1) **Date-sensitive conditions**. Often the only kind of condition that an organization hears from their data on, this typically includes being told about arriving shipments, pending deliveries, contracts about to expire, upcoming appointments, and so on.

2) **Approaching thresholds**. Aside from time-dependent issues, thresholds are most typically numeric in nature and can include such things as clients approaching their credit limit, the quantity of items sold, the number of priority shipments, et cetera.

3) **Exceptions to normal processing**. "Exception Management" has long been a hot topic among executives, but is too often ignored, due to the time required to look through many haystacks for just the odd needle or two. Examples would be excessive discounts, unusually high price increases, and unapproved work orders.

4) **Things that have not happened – <u>but should have</u>**. Today's businesses are so focused on what data they <u>do</u> have that they often fail to consider what the <u>absence</u> of certain data might be telling them. Customers who have not ordered, purchase orders that have not been received, and services that have not been requested are all good examples.

5) **Data Integrity**. The old saying "garbage in, garbage out" certainly applies to data, and although many software applications include what's called "field validation", that often goes only so far. Checking to see if U.S.-based phone numbers have the correct number of digits, or that orders of a certain type contain required components illustrate how your data can patrol itself for quality.

6) **Trend Analysis**. A recent survey showed that the most asked-for information among company executives was trend analysis. Unfortunately, the majority of trend data does not warrant an action, but tie the concept of trend analysis with the concept of threshold monitoring (e.g., show me a customer whose purchasing has increased or decreased by 'x' percent over a certain time period) and that's where you need your data to speak to you.

7) **Data Inconsistencies.** Ever see a colleague review a report only to have them utter that wonderful phrase "Well **<u>that</u>** doesn't make sense . . . "? Much as we'd like to deny it, a lot happens in our daily business activities that doesn't make sense – such as a project that's 20% done but has used up 50% of its budget. A data-driven business points out these incongruities.

8) **Data Changes.** Data is not static; today's casual customer service inquiry may turn into tomorrow's crisis just by virtue of a status or priority field having its value changed. You don't have the bandwidth to be aware of all such changes in your applications, but your business cannot afford for you to miss the critical ones.

So – your responsibility is to identify those times when you want your data to speak with you. Call it "business conditions", call it "trigger points", or call it something else, the single most important step in achieving a data-driven business is to understand ***<u>when</u>*** your data needs to talk to you.

For many organizations this is a challenging task, as the question "what is it we want to be told about" is not easily answered due to the fact that you often *<u>don't know what you don't know</u>*. But as easy as it is to be daunted by this task, there are some tips on accomplishing it. First, review

your current business application's reports and ask yourself "what is it we're looking for when we run these reports?"

Perhaps the simplest approach is to start small. Take one of your applications – your ERP system, for example – and identify one element within in, such as the order entry process. Look at each element of data within that process and ask yourself whether you need to know when information in that field meets certain criteria. In an order's "due date" field, for example, you might want to know if the due date is blank, if it is "today", if it's within 'x' days, and if it's in the past and yet the order has not been fully shipped.

You can even expand your thinking from there and consider whether it would be worth knowing if more than 'x' orders are due to ship today, or if more than 'y' orders were due to ship today via Federal Express. You'll find that once you start to imagine "value scenarios" for just one field, similar scenarios start presenting themselves for other fields more and more easily.

Step #3: Enabling Your Data to Use Its Voice

Recognizing the voice of your data is useful only if you empower your data to *use its voice*.

After all, there are countless organizations today that know at least *some* of what they want to look for within their data. (They have identified at least a few of the preceding 8 business conditions.) But all of these organizations stop short of being data-driven for the simple reason that they do not empower their data to come to them; they are stuck in the age-old habit of going to their data to look for what they need to know.

So the third – and final – step in enabling a data-driven business model is to allow your data to come to you.

This process requires its own technology, referred to most typically under one of two headings – Business Activity Monitoring (BAM), or Operational Business Intelligence (OBI). Both refer to the same thing; a technology that enables your data to automatically be monitored to look for conditions that are important to your organization and then trigger one or more automated responses. In this way your data is the initiator of intelligent actions across your organization.

Now . . . if this technology sounds a bit like a combination of business intelligence, alerts, reports, and workflow, you'd be right – that's exactly what it is. Business Activity Monitoring (which we'll refer to from here on as "BAM") is a unique combination of those four different but related technologies.

Business Intelligence comes into play as a BAM solution is very sophisticated in terms of the types of conditions it monitors within an underlying business application. Like BI solutions, a BAM technology is application-independent; it is not typically built within an underlying business application (such as an ERP system) but rather sits alongside it so that the BAM technology can integrate with multiple business applications (ERP, CRM, and HR), both individually and jointly.

(This model makes a BAM solution ideal for complementing an organization's "best-of-breed" approach in obtaining their various business software solutions.)

But unlike a BI solution, BAM technology operates in an automated manner. It does not require a user to manually interact with an analytical tool, but rather the BAM solution automatically scans multiple data sets for the information that an organization is interested in.

Once the BI part of a BAM solution identifies conditions that an organization is interested in, the **Alerts** component of BAM takes over. Typically, alerts are delivered via a wide variety of devices, including email, fax, pager/PDA, cellular phone, screen pop, dashboard, and so on. Unlike alerts "modules" which exist as a small part of many front-office and back-office software applications, the Alerts component within a BAM solution is highly scalable and robust, since it will typically integrate with multiple – if not all – the business applications that an organization has in use.

Reporting – which may be thought of as an extension of the Alerts capability – is also a key part of an overall BAM solution. To be truly data-driven, one must be presented with the most relevant data in the most appropriate format to support the most intelligent business decisions. In some cases, that relevant data may be no more than a short text message sent to a recipient's cell phone; in other cases, the

relevant data may be a detailed analytical report or even a relevant form or document, such as a copy of a customer's invoice or statement, or a historical listing of sales activity for a particular account manager.

Finally there is the **Workflow** component of BAM. This is perhaps the most sophisticated part of a BAM solution, as it enables a data-driven environment in which the data itself not only initiates an awareness within an organization's staff, but goes even further to actually act on that data.

One example of this would be where a BAM solution detects that an item in inventory is approaching its re-order level and then creates a purchase order for that item and delivers that PO to the appropriate vendor.

Another example would be where a BAM solution detects that a customer has not purchased from you within a certain number of days, and the BAM solution schedules a follow-up phone call for the appropriate salesperson to make to that client.

This is the ultimate in data-driven environments, where the data itself initiates not just an awareness of its condition, but also triggers the most intelligent response action.

The Benefits of Being Data-Driven:

There are three primary benefits to making your organization data-driven:

- **Expanded Awareness**. As the amount of data within an organization's systems has grown, so too has the need to glean better information from those systems. Problems that organizations assumed were just part of "the cost of doing business" are now identified, acted on, and in many cases, prevented. Business indicators that were previously only hinted at by virtue of an anomaly here or a trend there, are conclusively determined.

  Most importantly, business decisions are based on proven metrics.

- **Faster Response**. The all-too-common business refrains of "if only we had known" or "if only we had known *sooner* . . ." become a thing of the past. As soon as evidence in the form of empirical data is present to trigger a decision or action, it is identified, transmitted, and acted upon.

  Organizations no longer wait for reports to be run (how long after the data has been present?) nor do they wait for managers to review those reports looking for

indicators, exceptions, or anomalies.

- **Better Use of Resources**. Employees – particularly managers and executives – have better value to offer an organization than wading through piles of analysis looking for indicators that should trigger a response on their part. The value of these people is in determining and executing the appropriate response, so let the indicators come to them, and let them do what they were hired for – make the most intelligent business decisions.