

The Art of Driving Behaviour with Business Intelligence

Overview

For many years I have worked with business owners and operators, listening to their needs, and attempting to deliver technology solutions to help them and their staff to intimately understand their business, and to act faster and more intelligently.

This experience has provided me with a unique insight into businesses dynamics, what makes them successful, and importantly how technology can be used to add significant competitive advantage.

While my experience has been broad, if I were forced to compartmentalize it into a specific sector within the spectrum of Information Technologies, I would place it squarely in the realm of Business Intelligence (BI), not because it meets the definition of BI, but because every aspect of my career has been about helping businesses and business people act more intelligently.

My biggest frustration in this regard has been my inability to find a toolset that allowed me to develop a solution that was capable of permeating an entire organization, placing BI and performance feedback at each staff member's fingertips, and making it simple, preferably involuntary, for them to manage and resolve issues highlighted by the intelligence presented. Fundamental to my requirements was to provide a dynamic framework for managers, allowing them to quickly and easily target critical information at the staff that have direct control over its drivers, and *know* that it will be seen.

The solution to my dilemma was to develop WebTools, a product that not only delivered state-of-the-art BI functionality, but provided a framework for building solutions where action was an explicit outcome. As a result of developing and deploying WebTools solutions in a number of beta-sites, monitoring results, and listening to customer feedback, I was able to formulate 5 rules you can use to create *action oriented BI solutions*.

Our retail solution Arena, developed using WebTools, is the culmination of these principles into a powerful retail performance solution which will allow you quite literally to *drive* your business in ways you never dreamed possible.

The 5 rules for creating action oriented BI solutions are outlined in this article.

Rule 1: A Portal that “Delivers Compulsive” Value is Fundamental!

When I use the term Portal or more correctly “Web Portal”, I am referring to significantly more functionality than what is implied by its relatively narrow definition.

To my mind for a portal to be worthwhile, it should be a window into the soul of the business, of such value that its use is fundamental to the successful achievement of every employee’s job. I describe a portal that meets this goal as having *compulsive value*. A portal that delivers compulsive value allows you to deploy information and *know* that it will be seen very quickly.

Most BI toolset providers have browser based access to their reports, and some describe this as a portal. Strictly speaking this meets the definition of a portal; however it would be difficult to describe it as providing compulsive value. Reporting solutions can, and often are, avoided.

Many organizations have portals that provide links to *soft content* such as procedures manuals or leave applications. Again this meets the definition of web portal; and again would be difficult to describe as having compulsive value.

A portal that delivers compulsive value is mandatory if an *action oriented BI solution* is important to your business. If you are wondering whether your current portal delivers compulsive value, the first question to ask is “Can my employees avoid the portal and still perform their job adequately?” If the answer is yes, then you have a problem. If the answer is no, you may still have a problem. Regardless you will find direction in the remainder of this article.

Creating compulsive value is simpler than you might think, and is achieved by following Rules 2 to 4, listed below and described in detail in the following sections. I describe these rules collectively as The 3 Steps to Compulsive Value.

Rule 2: Make the portal the work desk.

Rule 3: Embed intelligence on the work-desk.

Rule 4: Embed the solution to a problem with the Business Intelligence that monitors it.

Rule 2: Make the Portal the Work Desk

The best example I have seen of this rule is in retail where Arena and Microsoft's SharePoint Services was used to create a portal of such value, it was able to deliver an immediate and sustained improvement in revenues, create a more motivated sales staff, and provide a framework for driving employee behaviour.

The solution was achieved by embedding a browser control containing an Arena portal page in the home form of the organizations Point of Sale (POS) application, similar to the example below.



The content of this page will be described in more detail under the following sections. For the purposes of demonstrating Rule 2 however, this is a wonderful example of making the portal the work desk. The primary role of a sales person is to make sales, and this requires them to log on at the top left of the form. Always visible, the embedded portal becomes an integral part of the sales persons work day.

This technique can be replicated across the entire enterprise with custom portal pages created for each functional area.

Rule 3: Embed Intelligence on the Work Desk

With the portal always visible on the work desk, Rule 3 requires that BI be deployed on the home page with access to additional intelligence using links. When considering what to deploy on the home page, often more is less. Arena and SharePoint Services provide huge flexibility including the ability to flood the home page with numerous graphs and reports. To do so however would simply confuse the user.

Use the following general guidelines when determining what to display:-

1. Only display one page of data. Don't force the user to scroll the page to find additional content. If access to more data is required, add links as demonstrated by the Links section in the example above.
2. As a priority, include performance feedback directly relevant to the employee's primary job. If the employee gets performance-based bonuses, ensure that the bonus measures are included.

In the retail example above, employees receive a bonus if:

- i. **The store meets its target:** The top chart shows actual sales hour by hour for the store against target, allowing the employees to instantly measure their collective performance in this area.
- ii. **The employee meets his or her own personal target:** The bottom chart shows each employees performance against their personal target.
- iii. **The employee meets their double sales and accessory sales targets:** By hovering over their personal results in the second chart, hover text appears showing their double sales and accessory sales for the current day. By clicking on their chart point, their performance for the quarter is shown.

The beauty of this approach is that the intelligence shown is perfectly aligned with the employee's primary role, their goals, and their remuneration.

3. Include task-based functionality on the home page. This example includes a Task List (bottom right) containing items requiring action. If for example a retail price update is due to take effect, it appears in the task list. The user clicks the link to display the specific stock items whose retails are about to change. This is used to change price labels on the shelf. When complete the user commits the form and it disappears from the task list.

Including task based functionality on the home page has two purposes. Firstly from a purely functional perspective, it makes the employee's job easier. Historically this retailer printed out numerous copies of price changes and couriered them to each branch. The task list eliminated this work by simply monitoring the retail system and displaying price changes as they were created. Secondly from the perspective of creating compulsive value, this technique is a great way of reinforcing the portal as an integral part of the employee's job.

4. Include *soft* content on the home page. This example includes the Announcements section (top right) containing links to general information

such as news letters and vacancies. As with the inclusion of task-based functionality, soft content meets both a functional goal and reinforces compulsive value.

5. If there is any free space on the page, use it to target intelligence on emerging issues. Consider a retail example where discounts as a percentage of sales have been exceeding budget for several weeks. As a manager, you may want to draw sales people's attention to the issue by dragging a chart onto the bottom right corner of the page, which shows rolling discount as a percentage of sales for the 6 months up to this month, for the week to date, and for today. This type of flexibility supported by Arena is discussed in more detail under Rule 5.

As a general rule, keep the home page simple and consistent. The aim is for employees to use it as a job aid, without having to think how. A page whose content or structure is always changing will do little more than confuse and frustrate the average user.

Rule 4: Embed the Solution to a Problem with the Business Intelligence that Monitors It.

This is the last, and in many ways the most exciting of the 3 steps to compulsive value. This step takes a content based portal and turns it into an action oriented portal. It will give you enormous control, allowing you to drive profitable behaviours in your organization. Equally importantly, because of the natural way that BI is delivered in your portal and flows to action, your staff will love the thrill of striving for and exceeding targets.

If you make the portal the work desk and embed intelligence on it as described in the prior rules, you have inadvertently met this rule to some degree. In the retail example above, poor sales performance reflected on the charts can be resolved by making more sales; an action which is accomplished using the same interface.

However this is only the beginning. Using the bonus calculator at the top left corner of the home page, a sales person can display the bonus earned each day for the current week. Once displayed, a sales person can enter the bonus they would *like* to earn and the calculator will display the performance required achieve the goal.

Under Reports in the Links section of the home page, the Staff Sales Statistics Report displays the criteria form for a report which allows store managers to review a detailed analysis of their staff sales performance. It includes measures such as average sale, average units per sale, accessory ratios', and sales versus budget; summarized by various periods. It provides managers with a great coaching tool, which they can use to remedy poor performance. In addition staff can use it to monitor their own performance.

Functionality such as this helps an individual to answer the question, "What can I do to improve my performance?" In many cases, the natural tendency of a person to want to perform will ensure that they use tools such as these to some degree. However

implementing company procedures and training, combined with a culture of performance measurement and improvement will lead to their widespread use.

Rule 5: Make “state-of-the-art” simple, and make it fast (the 10 minute rule).

Many organizations are frustrated by technology limitations when they attempt to create an action oriented BI solution. Consider a retail example where there is an over-stocking problem on a line of apparel. Management agrees to a \$5 bonus for each unit sold to encourage sales staff to clear it before the season end.

Because the company is committed to driving behaviour using information, they ask their IT manager to give employees a report which will allow them to monitor the units sold for the current date, the week to date, and the life of the bonus. Such a report would allow the employee to quickly calculate their bonus, and would provide motivation to pursue additional sales.

Bonus Units Sold			
	Today	WTD	Life
P R Choh	5	17	39
J S Wilson	4	21	48
C A Harper	4	13	30
C M Arkwright	2	7	16
M P Draper	1	6	14
I A Moana	0	4	9

The IT manager quickly specifies the report, shown at the left.

Like most medium sized businesses, the IT department is small and lacks the expertise of a highly skilled developer. While the IT manager has some developer skills including the ability to write a SQL statement to extract the required data, he is not sufficiently

skilled to use their reporting toolset, so he passes his specification to an external developer resource.

The external developers are busy and it takes two weeks for the report to be developed, tested and deployed on the branch intranet page. With only 1 week remaining in the promotion, the motivational effect of the report is negligible.

Sadly this is a fairly typical example in small to medium sized businesses (say up to \$300m turnover). In fact this retailer is probably quite well off given that they are at least capable of deploying a report in this scenario. Many businesses don't have a reporting framework that would allow even this.

The key problem faced by the majority of organizations is that it takes a highly skilled developer to create a flexible and rapidly responsive BI portal, and it is rare for a small to medium sized business to carry a person of that skill. Yet it is critical for a business wanting to create an action oriented BI solution to rapidly deliver intelligence when it is required.

Rule 5 requires that you *make “state-of-the-art” simple, and make it fast*. I refer to this as the 10 minute rule. The 10 minute rule holds that, assuming the data is easily accessible, a moderately skilled developer should be able to create and deploy a simple report on any page in your intranet in under 10 minutes.

If you cannot achieve this degree of flexibility and speed given your skill constraints, your ability to create an action oriented BI solution will be compromised. Your selection of a Business Intelligence toolset is critical in this regard, and often more than one solution is required to achieve a comprehensive BI solution.

Some toolsets are ideal for creating traditional “paper like” reports. By that I mean reports that contain data tables, often with subtotals, totals and groupings. Invariably they contain headers and footers which are repeated on each page, and while they can be viewed in an intranet, they are often printed. This type of report is great for operational reporting.

Other toolsets are great for power users, providing pivot-table like solutions allowing a user to create interactive reports by dragging and dropping fields and values onto a “work desk” with the report automatically calculating summary values or charts. While these tools demonstrate extremely well, power users make up only a small percentage of users in an organization (often less than 5%) and these tools provide only a small part of a comprehensive solution.

The majority of Business Intelligence toolsets provide one or both of these two solutions. Invariably however they do not meet the demands required by an action-oriented toolset for a number of reasons: -

1. They often require a skilled developer.
2. Often there is an overhead in terms of the time and effort required to create any content, violating the 10 minute rule. This is particularly important where a report is required to meet a specific short-lived information requirement as in the example above.
3. There is often a screen overhead with each report. A report in an action oriented BI solution should be able to be as small as a single value or single chart, without any screen overhead from padding, headers or footers. This allows you to embed content on a portal page without consuming vital space.
4. While they may provide a reporting portal, they may not support rapid deployment into a generic portal that contains other content such as the Task List, Announcements, and Links shown above. Consequently they violate rules 2 to 4 making it difficult, if not impossible to create compulsive value in your portal.
5. They may not support dynamic criteria. Dynamic criteria allow a report to show different information depending on the user viewing it. In the retail example above, while each store views the same page, the charts and reports only show data relevant to the store viewing it.
6. They are not component based, or their component architecture is inflexible. A Key Performance Indicator (KPI) report may contain numerous small charts and reports. The reporting toolset should allow a single component from the KPI report (a chart or table for example) to be independently and rapidly deployed onto another portal page.

If your current reporting toolset does not give the degree of flexibility implied by this article and the points above in particular, it should not be abandoned. A better approach is to select an additional solution such as Arena and, when faced with a reporting requirement, choose the appropriate technology to meet the need. My experience is that there is no, one toolset that is capable of meeting the broad range of Business Intelligence and reporting requirements in a modern business.

Conclusion

For a Business Intelligence framework to provide true value for an organization, it should not only prepare and present information, but make it simple, if not involuntary for the user to take action in response the intelligence presented. This is referred to as an *action oriented Business Intelligence solution*.

Fundament to achieving this is creating a portal in each functional area that delivers such value, it is crucial to the successful achievement of each job. A portal which achieves this delivers *compulsive value*.

Making the portal the work desk, adding Business Intelligence, and embedding the solution to a problem with the Business Intelligence that monitors it are three rules for creating *compulsive value*.

When attempting to create a portal that delivers *compulsive value* however, the majority of organizations are frustrated by technology and skill constraints. Often more than one Business Intelligence toolset is required to meet the broad range of needs in a modern organization. If your current toolset does not provide the flexibility required given your skill constraints, employing an additional toolset such as Arena will help, allowing you choose from a range of options to meet a specific Business Intelligence requirement.

About the Author

Damien Anselmi is the Managing Director of Anselmi Consulting Limited, and chief architect of Arena and WebTools. Arena is a retail performance solution built on the WebTools platform, that allows organizations with limited developer resources to rapidly create and deploy “state-of-the-art” Business Intelligence portals and reporting solutions.

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