
Oracle Balanced Scorecard in Anger

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A key part of the Business Systems project at Solid Energy was the implementation of Oracle Balanced Scorecard. In anger? I don't mean that we got really angry with it, although of course we had our moments. Rather, Solid Energy uses Balanced Scorecard reporting as a key management tool, and was already running a BSC reporting system. No toy, no prototype, no flavour of the month. We had deadlines to meet and reports to get to a Board that expected to get them.

The general idea of Balanced Scorecard reporting is to report on the areas of performance that truly make an organisation successful, not just the financial measures which tend to be "lagging indicators" – by the time they show a problem, it is too late. The key indicators of performance – KPIs – are grouped into areas which match the organisation's strategy such as "Satisfying Customers". Typically an organisation will define 46 such groups.

What did we do?

Solid Energy had been using Balanced Scorecard as a key management tool for some time. We implemented Oracle Balanced Scorecard (BSC) supported by a raft of data sources, and make key performance indicators available to Solid Energy managers through Oracle Portal¹. This replaced a BSC reporting system which used Excel and a few Access databases to capture and report BSC information. We also added some extra reporting, such as daily sales and production data.

I say we, meaning Solid Energy. Deloitte took the client-side role for this project, providing Brett Gamble as management reporting team leader and several consultants towards the end for data validation and end-user training. As Project Director, I was involved with the requirements and selection processes, and got involved hands-on as we came to crunch time. Bernard O'Brien and Alison Wong from Oracle provided the consulting horsepower.

This project was undertaken along with an upgrade to Oracle Financials and Order Management, and the implementation of Purchasing, Inventory, Enterprise Asset Maintenance² and Projects to provide a complete business system. The project kicked off in May/June 2002. October and November reports were run in parallel with the existing system. December and January reports went to the February Board meeting.

Why did we do it?

During the selection process, some misguided vendors suggested that BSC should be Phase 2, once our business systems were in. Wrong answer! BSC is a core component of our business systems. In fact, management reporting generally was elevated to a day-one-must-have status. Really, what value would we get out of transaction processing systems? An integrated transaction processing system should provide data for a management reporting system. We were conscious that with earlier implementations we had done the transaction processing to death, but created little useful management information.

The existing BSC reporting system was shaky. The advantage of Excel is flexibility, which is great during the early stages of a BSC implementation. But we were having many problems with the integrity of data. Managers had to re-enter their own figures from many sources and make adjustments and errors in the process. The figures would summarise up badly. It was difficult to get back to the original detailed data. We faced a major mission each month to produce the reports. The reports were reaching the Board, but were really not worth the effort for line managers.

¹ See paper 4 – Management Reporting around Oracle Portal technology

² See paper 16 – Oracle Enterprise Asset Management

In contrast, an integrated BSC gave us the ability to pool data from a variety of sources – Oracle General Ledger, Oracle Receivables, Production databases, and manual data entry – into a common data repository. That repository would be both secure and accessible. A diagram of the framework is illustrated in Figure 1.

For line managers, the BSC should provide access to information which they didn't have before, and without them having to type it in first. For the senior management team, they have wide access to Balanced Scorecard information without having to wait.

For example, one senior manager has a graph of his daily sales figures for his division against budget on his Portal homepage. Another manager needs to know one mine's daily production. Instead of waiting for an end-of-month report or verbal updates, it appears each morning.

Managers also enter their comments – “assessments” – against each BSC indicator every month. For example, poor performance might be explained by a period of bad weather. Managers can easily review historical performance and assessments.

Management Reporting Framework

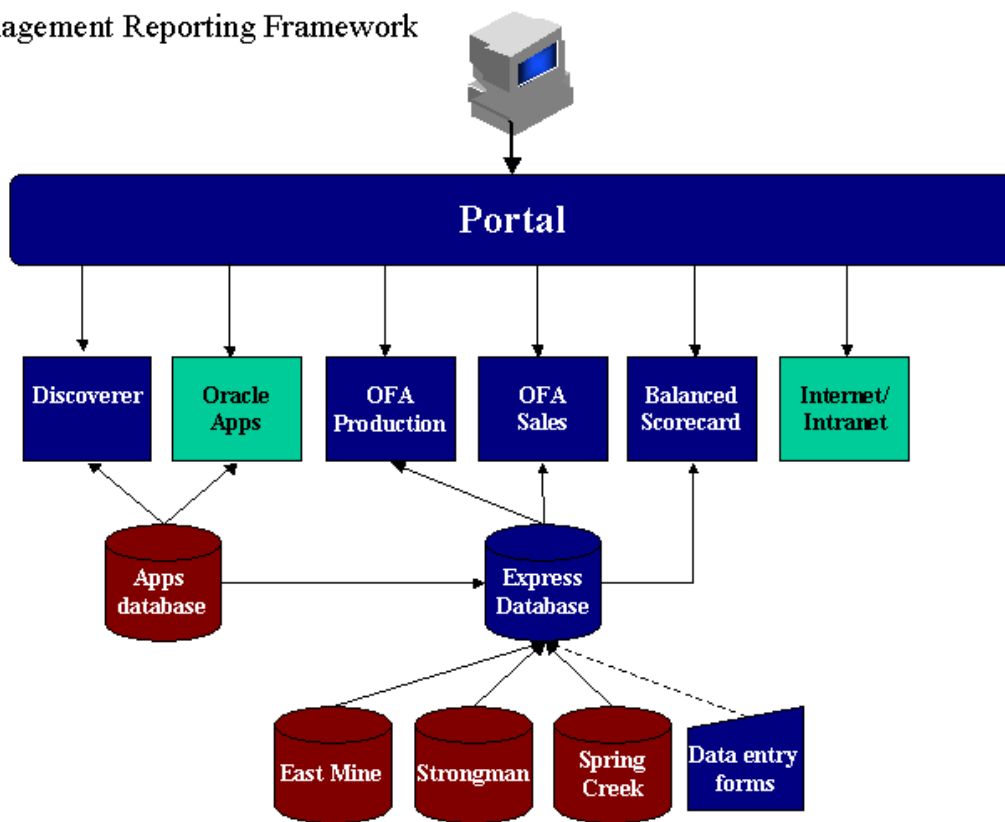


Figure 1: Solid Energy Management Reporting Framework

The Technology Bit

We chose Oracle Balanced Scorecard because of its integration with Oracle Applications - which is mainly with user security and Portal access. It also gave us a single vendor solution for both software and consulting.

From a technical perspective, we used Oracle Express as the core data repository, along with Oracle Financial Analyser (OFA). With OFA we could build simple data entry forms fairly easily and deploy them securely through Oracle Portal. We could also use complex, rollup formulae in OFA to calculate KPI values from raw data – Balanced Scorecard has limited calculation features. You must have a data repository separate from BSC, for reasons explained below.

You input data to BSC using a series of input tables, similar to Open Interface tables in Applications. Each table contains several measures which share the same periodicity and other characteristics. Oracle wrote Express scripts to extract the data from OFA to the BSC input tables – 25 in our implementation.

A large set of data comes from Oracle General Ledger, using the standard OFA extract programs. Sales data is based on a complex view on our AR tables. Data from the mine production Access databases is extracted using a custom Access program, FTPed to the server overnight, and imported to OFA using an Express script.

We also used OFA for sales reporting and customer sales forecasts, because it was the best tool for the job.

The scorecards are available seamlessly through Oracle Portal. BSC is secured so managers can only see their areas of business. Managers can also place BSC graphs and lists on their Portal homepage, which is especially valuable for daily KPIs.

What problems did we strike?

We struck a missing link when it came to printing BSC reports for the Board. The Board were used to receiving a printed report for each Division which might show fifty KPIs. We need to produce a printed version of selected indicators which includes the graph, relevant data, and that period's assessment. That has to be on one page, and preferably allow us to place 23 indicators on one page. With BSC, even with some technical investigation by Oracle, it simply cannot be done in an acceptable manner.

To resolve this gap Deloitte built an Excel template which extracted the data and assessment directly from the Oracle BSC database³. We discounted Discoverer due to difficulties handling the narrative. We discounted Oracle Reports because we would have needed a programmer for every change.

We deliberately opted to use a lower-tech approach for the graph. The preparer of the report visits each KPI and saves the graph as a picture to the LAN, and the Excel spreadsheet links in this picture. We wanted to avoid a situation where the BSC graph and the report graph did not agree, or even look the same. We also thought it was prudent for the reviewer to check the indicator as part of the process. Perversely, this low-tech link to the graph has given us the most glitches.

We are looking forward to an unspecified future version that will hopefully provide “board reporting”, so we can replace this solution.

The interfaces, as always, looked better on the whiteboard than in practice. Even a simple FTP script has been a source of continued frustration. The OFA scripts and formulae remain a black box for us. Human intervention is required too often as several OFA and BSC processes are not available as concurrent programs, although we wrote a concurrent program to run the BSC Input Table Loader each night. BSC was reasonably clean of bugs, although we did manage to find some, mostly with the presentation of graphs. BSC performance is excellent – the graphs display more or less instantly – but OFA performance is nothing exciting.

Possibly our biggest technical frustration is with the BSC Optimizer. BSC works out which tables to set up based on the indicators you want, their periodicity, and the underlying data. There are two highly visible impacts. The first is that the input tables can be renamed and altered, so we have to alter the upload scripts. The second is that all existing source data is deleted and must be reloaded (assessments are not affected). We can do this easily enough from our OFA data repository but as history builds up this will become increasingly time-consuming. Apparently insignificant changes can trigger the Optimizer and once triggered there is no going back. For this reason we have learnt to batch all our changes together, and make sure we make changes first on our test environment – a good discipline anyway for a production system.

Data was a major challenge. We have 215 KPIs grouped into several scorecards, and each KPI has between one and eight measures, and each measure can have actual, budget and forecast. Those measures can be based on a series of OFA formulae. Some of the data comes from source systems, others must be manually entered. We had to have one person for about three months whose sole task was to manage the acquisition and reconciliation

³ See paper 10 – Excel and Oracle Objects for OLE

of data. Even then, there were errors, gaps and delays. We found many holes in the data collection process in the old system that took time to resolve.

Once we had the system up and running, we trained the staff who would use the system for management purposes or data entry. The response was encouraging, but even so we had to work hard to get them to start using the system and adhering to deadlines for data entry and assessments.

We had several managers who, having seen the system in early presentations, were very keen to add KPIs to the Scorecard. We were already sailing close to the wind on scope, and adding more KPIs would have threatened our ability to deliver the baseline scope on time. Fortunately we had already built in a review phase into our plan, and could add these requests to the review pile. But we still deal with staff who dream up a new KPI and immediately expect that it should be in BSC.

In retrospect, we could have saved ourselves a lot of trouble if we had redesigned the company's balanced scorecard at the outset. By replicating the output of the existing system, we included many of the troublesome aspects. The upside is that we have proven the new system works, and thereby made sure the old system is discontinued.

Where are we now?

The system works and is being used by managers. The user interface through Portal is consistent, fast and visually attractive, and provides managers with tools to perform some comparisons and drill-down. We have now reported on the February month with few difficulties and we find that each month is getting smoother.

Overall, our product recommendations for Oracle are:

- eliminate the dynamic table structure so that minor changes do not result in major table reorganisations and purging of data
- provide a paper-based reporting tool – paper still has its place
- provide data entry direct to the Balanced Scorecard database
- enhance BSC calculation features so that KPIs don't have to be calculated offline
- make all programs available as Concurrent programs
- update Oracle Financial Analyzer and integrate its security schema with Oracle Applications much more closely

Our general recommendations for anyone considering an implementation are:

- lead the team with a focus on business needs, not the tool
- design your KPIs carefully, paying attention to the availability, timeliness and quality of the data sources
- provide ample resources for data acquisition and validation
- make interface paths as short as possible, and favour data entry over flaky interfaces
- the software we chose and the architecture we adopted are specific to our situation and requirements – do the analysis for yourself
- set a realistic, useful scope and keep to it

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