

The Power of Business Intelligence

An Introduction to BI in Retail by Rob Edmonds,

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Introduction

Business Intelligence, and its near relative Performance Management, have a vast number of applications within the retail industry. These include internal analysis of data including sales, finance and supply-chain; using external data sources to track and validate performance; defining and managing KPIs (key performance indicators) to drive business performance and even using the data generated by a store or chain as a separate source of value to third parties.

The key to effective Business Intelligence is that it delivers real, measurable value to the organisation. BI is not just about software but encompasses the analysis of a business; alignment of strategy and measures effective processes as well as a means of displaying data. In this document some of the ways BI can be used are discussed, along with a few micro case-studies showing how organisations have extracted value from their BI solutions. Typically ROIs of >100% are reported by firms implementing BI (source IDC), but this can be substantially higher. For further details see the article on our website from CEO Magazine; <http://www.altimus.com/DynamicContent/Documents/133-134%20Altimus.pdf>.

Definitions

First of all let's define what we mean by Business Intelligence and Performance Management, so we are clear what we are talking about.

Business Intelligence (BI)

BI transforms corporate data into usable, powerful information and enables business people in an organisation to make faster, better decisions. Decisions based on data which reinforce business leaders' view of the business. BI is about finding trends in information, such as sales, expenses, quality, supply chain effectiveness and so on. Data can be analysed by customer, product, store location, supplier and so on, right down to the level of the individual transaction if required. Often this is done by comparing actual to targets and forecasts and extracting value from the knowledge that is uncovered.

There are four steps to using successfully:

1. What to measure and how to measure it (KPIs, metrics etc)
2. Finding and extracting the data (known as ETL – Extract, Transform, Load)

3. Storing the data (a data warehouse or data mart)
4. Presenting the information (dashboards, analytical tools, reporting tools)

The first is the most important. It is crucial to align the BI implementation with business strategy, and ensure that the data that is collected and analysed supports the direction of the business and the decisions that need to be made. Typically in a project this will take about 1/3 of the time available.

The ETL phase will also consume about 1/3 of the project. Although it may seem simple identifying the sources of data, much work needs to be done to find the required data and to clean it appropriately.

The other two parts will split the remaining time. The presentation of information will often use specialist software such as ProClarity, MicroStrategy, Cognos or Business Objects but even Microsoft Excel can be used. The Data Warehouse is most cost-effectively designed using Microsoft SQL Server.

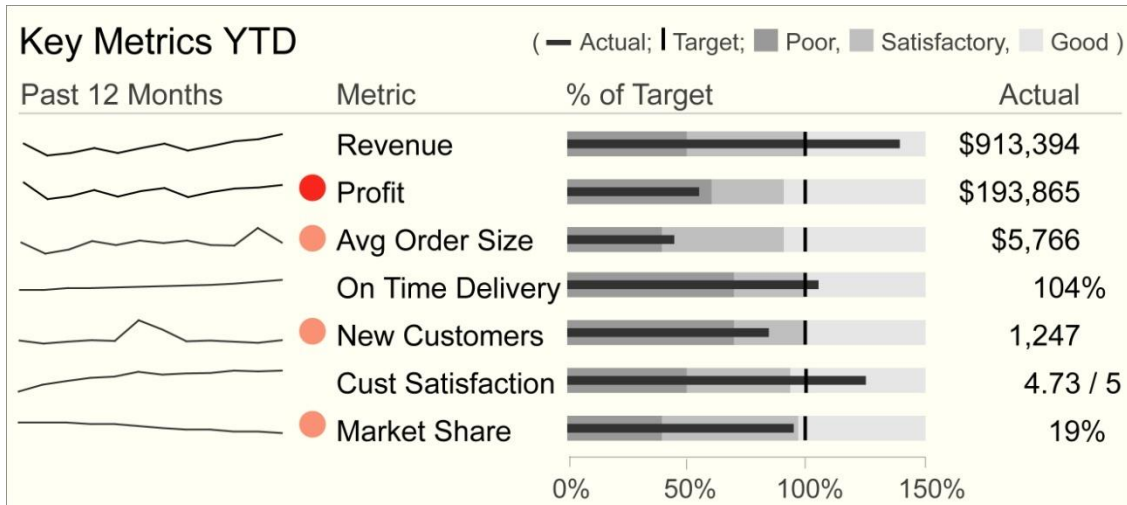
An example of a typical analytics view is shown here:



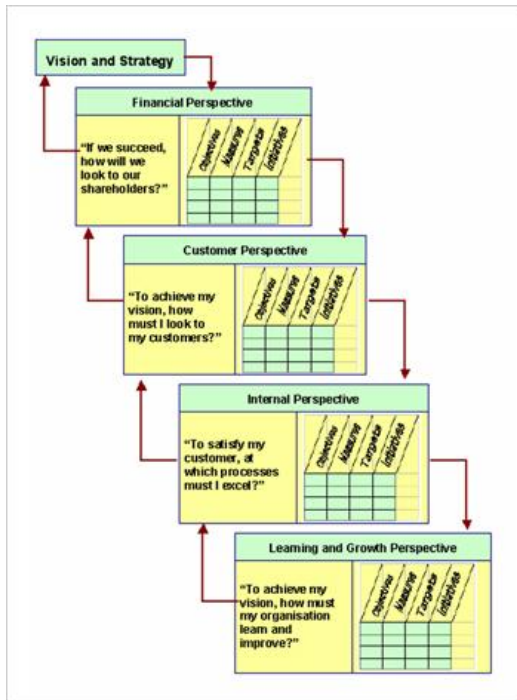
Performance Management

Performance Management operates at a higher level than Business Intelligence. This concentrates on tracking high-level KPIs and metrics. A performance management framework normally consists of a handful of KPIs tracked on a dashboard, probably daily, with different KPIs appropriate at different levels and functions within an organisation. Additionally a further set of metrics will be collected and analysed normally monthly, often organised into a scorecard. For further details see the Altimus web site: <http://www.altimus.com/design-kpis-overview>.

A dashboard is an intuitive way of viewing a subset of data. See for example the graphic below :



A scorecard allows more metrics to be reviewed, often at a monthly or quarterly review:



Retail Applications

A large number of BI and Performance Management applications are typical across industries, particularly sales, finances, dashboards and scorecards, although of course the precise details of what to measure will vary by company.

There are however a number of specific uses of BI within the retail industry. These include:

- **Basket Analysis.** Discover what items are bought with what other items most frequently. This allows decisions to be made about POS displays, margin maximisation and promotions.

- Product Placement. Examine how different groupings of products effects sales volume and margin.
- Stock Turns. Investigate which products are fast-moving and which are slow. Look for linkages with store layout.
- Supply Chain Velocity. Analyse the way suppliers meet their replenishment targets, correlate with stock-outs and missed revenue opportunities.
- Sales / Margin Analysis, by store etc. Breakdown sales by geography, by store, by aisle. A way to perform detailed analysis by almost any variable you chose.
- Demographic correlation. Useful for planning store openings and identifying line opportunities. Compare the demographics around existing stores with planned new stores. Will new stores cannibalise sales from existing stores and is the demographic pattern appropriate.
- Promotions Tracking. How well do special offers, vouchers and placements affect sales.
- Exception Triggers. Used to alert executives when sales campaigns go off track. A proactive way of using information
- Channel Management. For multi-channel retailers what is the effect of catalogue, web and direct channels to market. Are they complementing or destroying each other.

The applications listed above are relevant to the retailer, the distributor and can be shared with the manufacturer to widen the scope and effectiveness of the information.

Some retailers have loyalty cards, where purchases can be tracked to individuals, if this is available additional analysis can be performed to facilitate targeted marketing activity. However if it is not available then techniques can be used to obtain some of the benefit.

An additional technique known as data mining can be used. Data mining allows special software to look for connections in the data. For example it can be used for finding patterns of goods that are bought together, or bought at specific times of day or days of week. For more information on data mining see our website at <http://www.altimus.com/implement-data-mining-overview>.

Some Examples

Catalogue Retailer

A catalogue retailer used Business Intelligence to analyse the success of its marketing mailings. The BI tool allowed the retailer to more carefully target their mailings. This reduced marketing cost and increased the responses from the marketing activity.

Point of Display

By using Business Intelligence this convenience store chain were able to more effectively place items at the point of sale. They adjusted the display to place higher margin items at the places which attracted better eye-contact and thus higher frequency of sales.

Store Arrangement

This high street retailer used data mining to analyse the sales pattern and timings of particular high value goods. This enabled them to rearrange the grouping of products to bring higher margin items typically bought with the larger ticket items together, thereby increasing overall sales value and margins.

High Street Retailer

This retailer used BI to track the movement of goods through the supply chain. They were able to discover which parts of the supply chain were least efficient and address processes and procedures to improve the velocity of goods through the chain.

Selling Information

A convenience store chain were able to collect the sales information and sell it on to a data-broker who repackaged the information and sold it on, along with analysis tools to the manufacturers of the goods sold in the stores.

Demographics

This convenience store operator was looking to open a new store in a new neighbourhood. By correlating the demographics of the new neighbourhood with that of existing stores. They were thus able to predict which lines would sell well, and achieved a high level of sales and margin on opening.

Conclusions

Business Intelligence and Performance Management offer high levels of ROI, in particular in retail where the application of the technologies is well developed with a number of fast-track implementation processes available.

The key to a successful use of the technology is to ensure that the BI/PM tools and techniques are aligned with the strategic goals of the business and enables the correct decisions to be made faster and with more confidence.