

Reporting vs BI vs Analytics

Who should read this whitepaper? Anyone who is investigating Business Intelligence or Analytics tools for the first time and is keen to understand what they represent and how they differ from standard reporting.

Estimated reading time: 8 minutes

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Introduction

Reporting is a key requirement of any business. Its function is to provide management with information that allows them to make informed business decisions.

In recent years there have been significant developments in the reporting field which allow for a richer discussion about the way that reporting can be delivered. The intention of this whitepaper is to delineate the different types of reporting tools that are available in today's market.

Reporting

Any information system will include a reporting component as part of its feature set.

Examples of common reports include:

FINANCIAL SYSTEMS	CRM	INVENTORY	HUMAN RESOURCES
<ul style="list-style-type: none">› Profit and Loss› Balance Sheet› Cashflow Statements› Aged Debtors	<ul style="list-style-type: none">› Sales Pipeline› Closed Sales› Lost Opportunities› New Opportunities	<ul style="list-style-type: none">› Stock on Hand› Stock on Backorder› Stock in Transit	<ul style="list-style-type: none">› Employee Turnover› Paid Leave Analysis

Reports such as these are bound by the parameters under which they were designed. That in-and-of-itself is not a problem but it does create a situation whereby their usefulness is limited.

What do I mean by this?

At the time that a report is initially designed, it is done so under 2 constraints:

1. By the dimensions that are available on a computer screen or page of paper (i.e. rows and columns) and;
2. By the beliefs of the report writer/consumer as to what information it is possible to deliver via a report.

Because of these constraints, reports will tend to throw up just as many questions as they do answers.

For instance, a sales report that shows overall sales are down would usually generate these subsequent queries:

- Are we down against budget? against same period last year? or both?
- Are all sales territories down or just particular territories?
- Does the sales downturn affect all product groups or just some certain product groups?
- All reps or some reps?
- Etc etc

And of course, once any subsequent queries are answered, they will throw up their own subsequent queries:

- Rep A's overall sales are up but at what margin is he selling?
- Customer B's overall spending with us is higher than it was last year but to what products can we attribute that increased spend?
- Supplier C hasn't delivered-in-full-on-time on any delivery this quarter: Is this a one-off or a historical phenomenon?

How do businesses tend to handle these subsequent queries? If the query is being asked enough, then most businesses will simply generate additional reports. There's a cost involved with this of course, as well as the time that is required to get these reports built.

If the query isn't being asked on a regular basis, then most people will tend to dump the raw data out to spreadsheets and do their own manipulation until they get the answers they're after. This is a time-consuming exercise. It can be made simpler with the use of Excel pivot tables, but mastering pivot tables tends to be something not within the purview of the casual spreadsheet user.

If there is one word that describes the limitations of reporting in this format it is "static." It does not provide a mechanism that allows the consumers of the information to immediately answer any subsequent questions that arise. And whilst ever there is a lag between wanting business information and receiving it, effective decision making is impaired.

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If Reporting answers the
“what” question, then

Business Intelligence

answers the “why”
and the “how”

Introducing Business Intelligence

To address the limitations inherent in a static reporting format; a different type of reporting application has developed over the last couple of decades – known as Business Intelligence (BI).

Business Intelligence refers to technologies, applications and practices aimed at collecting, integrating and analysing business information. The ultimate aim of BI is to produce “actionable information.”



The chief distinction between Reporting and BI is that BI presents information in a dynamic format – meaning that the consumer of the information has the ability to ask additional queries of their data as soon as those queries arise.

If reporting answers the “what” question, then BI answers the “why” and “how.”

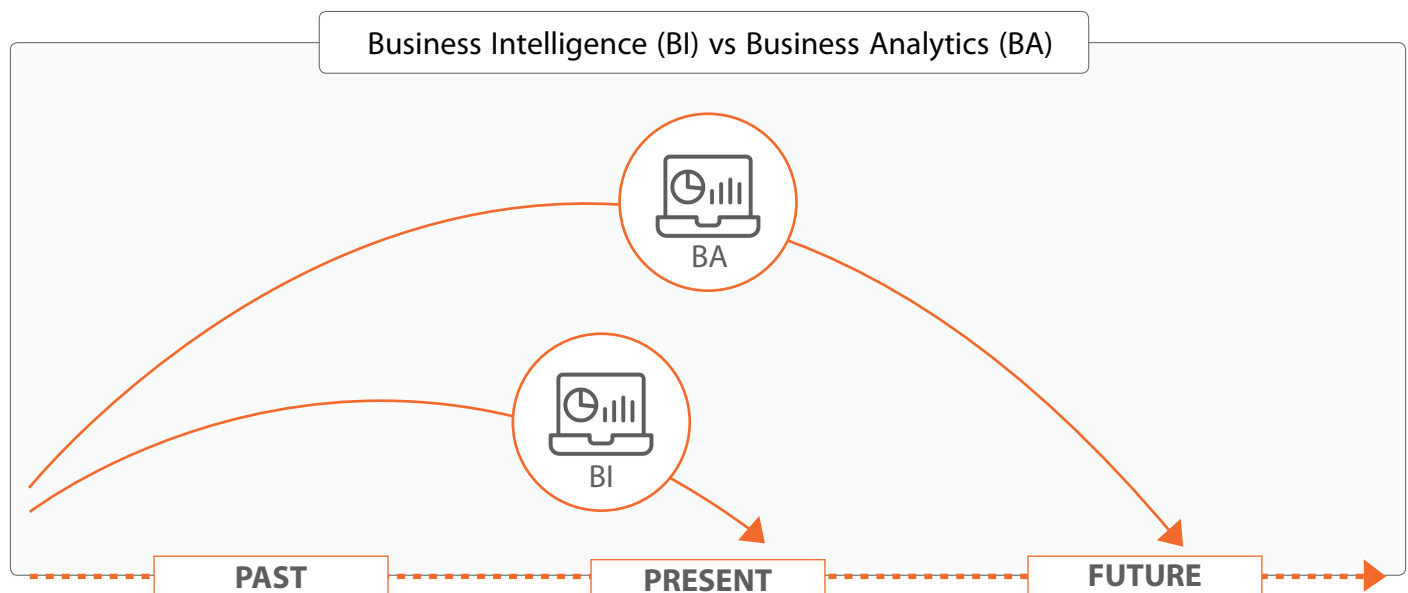
And after BI comes Business Analytics (BA)

BI and Business Analytics (BA) are often used interchangeably, but they do perform distinct functions. Whether Analytics is a subset of BI or BI a subset of Analytics is not a subject on which there appears to be any consensus; and frankly it's not important.

BI and BA both collect and analyse data, create richly visualised reports and customised dashboards; but their chief difference lies in their orientation.

A BI application is about collecting past and present data to allow business managers to make an accurate assessment of where their business is at now. They can then use this information to make informed decisions on how they might improve current processes.

A Business Analytics application is about collecting past and present data and then making predictions about the future given current trends.



Whereas a BI solution will allow you to quickly work out who your top 20 customers were last year, a BA solution will, based on historical trends, make predictions on who your top 20 customers are likely to be next year.

The idea behind analytics is to identify an organisation's weak points; or more pointedly, to solve problems before they've occurred.

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How does

Business Intelligence

actually work?

BI/Analytics Solution Typical Architecture

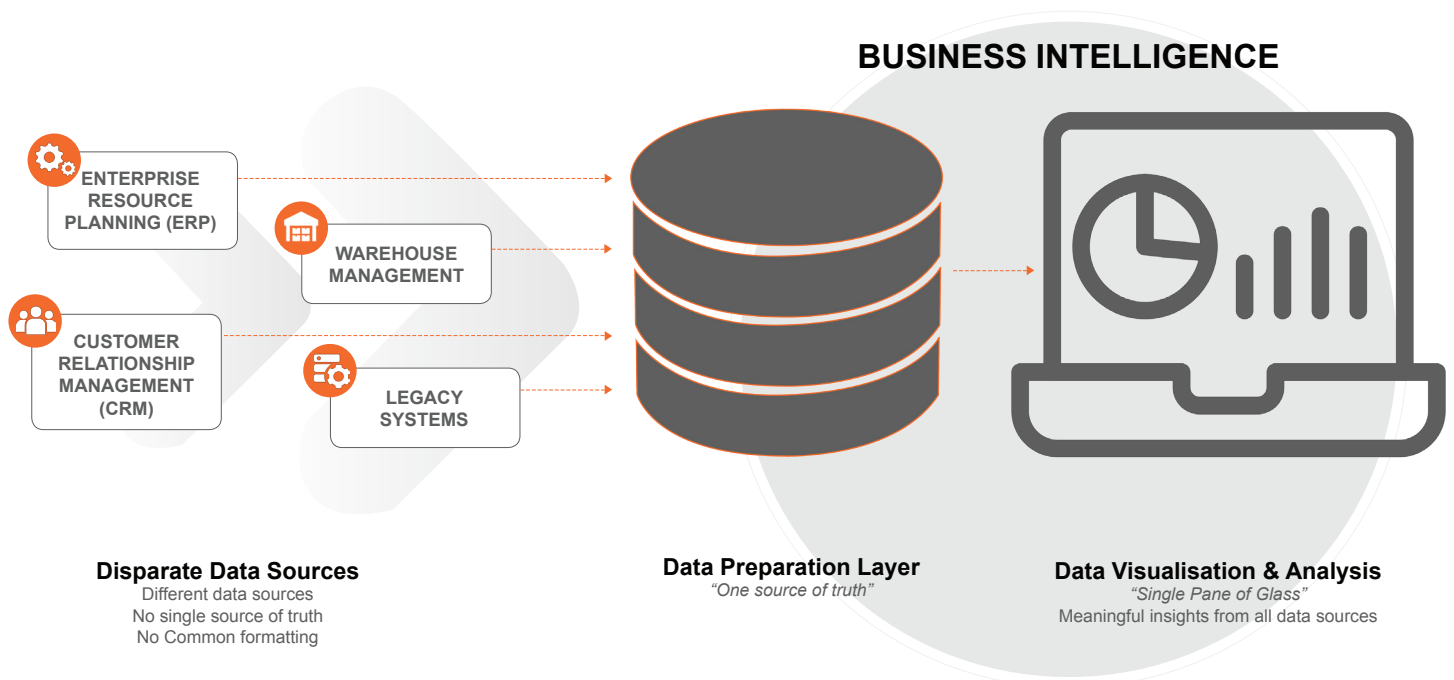
It is worth breaking down BI/Analytics into its different architectural components to gain a deeper understanding of how they differ from traditional reporting formats.

Most organisations these days will use a variety of tools or applications to help them produce the business outcomes that they're after. As previously noted, these tools will usually include a reporting component as a standard part of their feature set.

The challenge for business owners (or anyone in a managerial capacity); when using a variety of tools is how do they then get a comprehensive view of what is going on in their business, when the business is run on a number of different systems – each of which produces their own “silo-ised” report.

The first component of a BI solution is identifying the different data sources from which useable information can be extracted.

The data drawn from these different data sources is then consolidated at a data preparation layer.



There are a number of different terms that can be used to describe the data preparation layer – “data hub”, “data mart”, “data warehouse”, “data cube” etc. The name will differ from one BI provider to another and is not so important. What is important is simply the recognition that data from disparate sources can be consolidated into a single platform – and a unified view of the company’s data can then be drawn from that platform.

Data consolidation is only one function of the data preparation layer. Semantics (turning data management from a technical into a logical business process) and Governance (controlling who sees the data and how it is presented) are the other two functions typically performed at the data preparation layer.

If Data Preparation is one primary layer of a BI solution, then the other primary layer is the Data Visualisation layer. Data visualisation can be represented as graphs, widgets, gauges, dashboards etc which gives you an instant visual assessment of where various aspects of your business are at. A fully realised BI solution will also give you the ability to get behind the dashboard and interrogate the data that lies underneath in the “query-follows-query” method as previously described. The Data Visualisation Layer is the part of the BI solution that users interact with.

Self-Serve

Not only can users interact with the data but they can do so without the assistance of somebody technical.

Traditionally, organisations have been reliant on either their IT department or an external party to deliver them reports. As noted elsewhere in this document, there is both a cost and a time delay associated with getting new reports generated.

One of the super tangible benefits of a BI or Analytics solution is that it will tend to be set-up as a self-serve environment i.e. with a minimum of training a user of a BI solution can get information where and when they need it, without needing to rely on a technical resource.

So why one over the other?

If you're currently reporting on your business and those reports are giving you the information you need to make informed decisions, then the question answers itself. You have what you need; no need to look further.

If however, you find that after reading a report you're in a constant state of needing to know more, then the time is probably ripe to invest in a BI or Analytics solution.

If you have a relatively mature business model and are reasonably confident in your processes, then a BI solution will allow you to optimise around those processes and maximise your chances of success.

If you're entertaining some doubts around your current business model or processes (or have simply adopted an attitude of "I don't know what I don't know"), then an Analytics solution may give you insights into your business or industry which you may not have arrived at with a pre-determined search pattern.

Conclusion

The evolution from a traditional static reporting environment to a dynamic reporting environment presents massive growth opportunities for companies who choose to invest in a BI or Analytics solution.

Having a consolidated view of what is happening in an organisation, irrespective of the number of systems that the organisation uses; and the added ability for managers to easily access that information without needing to rely on technical resources is an absolute boon for informed decision making.

Finding ways to "sell more" or "lose less" is the raison d'être of BI and Analytics. The ROI in most cases, is almost immediate.



The future

awaits.

**Get in touch
today**

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