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Big Data: From Virtual to Reality

Ivo explains how to find actionable insight and unlock opportunities in big data

insights

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Over recent years the amount of data collected and stored by businesses has grown exponentially. Whether it be sales data, loyalty card data, financial data or online booking data there is certainly no shortage of information out there. This raises the question of what to do with it all? Theoretically, the huge amount of data now available should allow companies to generate fresh analysis, revealing compelling new truths about their business. For example, within retail we can now investigate sales trends by item, by store, by customer transaction. However, bringing these results together instantly creates millions or billions of data points to understand and interpret. Ultimately, whatever vast quantity of data may be available, if it is to be useful then it will always need to be understood and actioned by the human beings running the company and this can prove challenging!

For many companies, the gap between data and insight is quickly expanding (see Fig 1). On the one hand, more and more data is being captured. On the other hand, with so much information washing around, the need to identify clear and concise actions has never been greater.
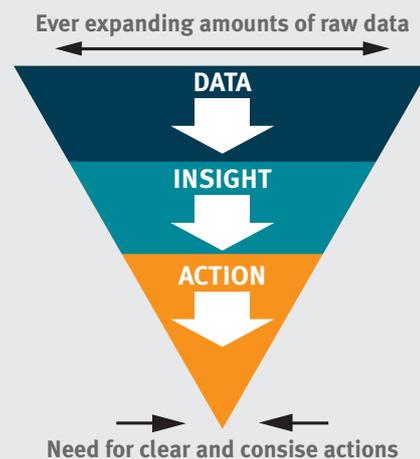
Guy Cuthbert, Managing Director at Atheon Analytics agrees...

"Whether they realise it or not, modern businesses are rarely lacking in good quality data. Today the challenge for most companies is how best to harvest useful insights from this data and then make the necessary changes. To achieve this you need a rare blend of technical know-how and commercial pragmatism."

This journey, from raw data to actionable insight, is one that we are well used to and are often asked to help our clients navigate. Here are some thoughts on our approach and common issues we face along the way...

> **❝**Somewhere lying dormant within your business will be a key piece of information.**❞**

Fig 1 Data analysis from raw data to action

Ever expanding amounts of raw data

DATA

INSIGHT

ACTION

Need for clear and consise actions

Source: Ivo Business Solutions

The data is there – lying dormant within the business

The answer is (almost) always right there in front of you... Well, if not right in front of you then tucked away safely in a database somewhere in your business. The rush to get ahead or stay ahead in a world of 'big data' has led companies to collect and store a vast array of different types of information, often without a clear idea of what it will ultimately be used for. Somewhere lying dormant within your business will be a key piece of information that when combined with a couple of other pieces could unlock huge value, indicate a profitable new strategy or signpost a route to competitive advantage.

We are often asked by clients to find that piece of information – and then help decide what on earth to do with it!

Digging out the necessary data from a data warehouse or similar repository is a crucial, sometimes painful, first step. But once this is done, the fun really begins.

Once data has been liberated the problem is one of scale and how best to see the wood for the trees

The temptation when confronted with millions of rows of data is to find quick ways to lighten the load. This can lead to all manner of averaging and/or sampling. This is dangerous and in our experience unnecessary. Visualising data makes it possible to manipulate, interrogate and interpret huge amounts of information without the need to take shortcuts. Finding patterns and telling the story becomes far easier than before.

Ivo work closely with Atheon Analytics to visualise huge data extracts from clients, helping to reveal trends and patterns which would otherwise be impossible to identify. As Guy Cuthbert explains…

"We think visual analytics offers a number of advantages versus traditional statistical methods. It can be performed by a wider group of analysts, with less experience and expertise, than alternatives. Insights discovered can be simply communicated

> ❝We use visual analytics as our primary discovery technique, helping to explore large data sets, identifying potentially significant patterns and communicating these to colleagues and customers.❞

to other people; the visual representation of those insights is usually understood more quickly, and completely, than traditional alternatives. Also, it can easily highlight anomalies in underlying data, helping to distinguish between valid outlying data points and erroneous data quality issues."

The challenge of making real change – from insight to action

Once a new insight is discovered and a consensus builds around its validity, the question then becomes how best to use this new information? What changes within the business does the insight suggest? How can we make this real?

Understanding what the insight means and identifying a suitable approach to convert it into action is a crucial step. The most successful examples we have been involved in have been those where the ultimate output has been simple and straightforward. Taking vast amounts of complex data analysis and converting it into a simple set of actions is a skill. It often involves lots of communication and an assessment of the time, complexity and dependencies involved in delivering the recommended change.

The specific vehicle used to communicate and implement changes can often completely forgo any technical jargon or complexity and replace it with something far easier to understand – for example – a series of workshops, a presentation or a list of do's and don'ts.

How to successfully move from raw data to insight and action?

1. Design your data request

The more carefully this task is completed, the faster you will be able to move through your analysis and find insight. Working in collaboration with data analytics experts to ensure the specification, format and content of the data is appropriate.

2. Visualise the data

The sheer quantity of data now available within most businesses makes traditional techniques of analysis more difficult. We visualise and animate data to quickly find patterns, spot trends and make connections that otherwise would be impossible. Working with information in this way can also help to spot anomalies and errors that may be present in the raw data set.

As Simon Runc, Senior Visual Data Analyst at Atheon Analytics explains: "We use visual analytics as our primary discovery technique, helping to explore large data sets, identifying potentially significant patterns and communicating these to colleagues and customers."

3. Experience and commercial acumen

The real value in our approach is to combine data visualisation and analytics with commercial acumen and experience. This is where the magic happens. Creating the right set of hypotheses, asking the right questions and designing the most insightful visualisations to reveal

what is really going on. It is this combination of technology, cutting-edge data analytics and commercial pragmatism that helps us to interpret the patterns we discover and find valuable opportunities.

4. Talk to the people on the ground

Once patterns have been identified and connections made, it is important to test any assumptions with those people who work in the business every day. All too often, data analytics projects and initiatives are confined to the darkest depths of the IT function and only shared with a small team of technical experts. In our experience, the best way to interpret the data and make sense of our findings is to share our work widely with teams from around the business.

5. Translate into a simple set of actions

Finding insight is never enough. The real value lies in converting the insight into tangible changes a company can make. Whilst the journey may have been complex and may have involved highly technical analysis, the ultimate output should be something easy to explain and easy to interpret. We have often seen potentially valuable insights fall by the wayside because they were not effectively communicated. The sign of a well communicated piece of analysis is if everyone in the business can understand what it means and how it should be implemented.

Try to build a data-analytics legacy

Once the process has been followed once, and links established between the raw data within a business and the operational colleagues who need to use it, we would always recommend building more permanent connections to keep the information flowing. This acts to embed the insight and encourages the use of data for decision making. It is at this point that elements of the process could potentially be automated, that interactive dashboards highlighting key information could be designed, that training and coaching of teams could be delivered. To revert back to previous ways of working without actionable insight would be an opportunity missed and a lot of preparatory work wasted.

Guy Cuthbert at Atheon Analytics reflects on projects working with Ivo and how best to leave a successful legacy…

"When we manage to establish connections between underlying data sources and a group of useful visualisations, designed in consultation with end users, we are often asked to make them

> ❝The real value in our approach is to combine data visualisation and analytics with commercial acumen and experience. This is where the magic happens.❞

available on a regular basis. For example, a weekly set of performance dashboards. The best examples tend to include three crucial elements. Firstly, they are presented visually, typically in well-understood graphical forms such as charts, graphs and maps. Secondly, they are presented in an interactive manner, encouraging the viewer to filter, expand, reduce and generally explore patterns in the data. Finally, they enable the combination of multiple unrelated, or partially-related data sets – the combination offering more context, more detail and a better understanding of the problem at hand."

In summary, once you start the journey it is important to see it through

This approach can be applied to businesses large and small, across any sector. The journey from data to insight and from insight to action is one all companies should embark upon. In isolation each step is worthless, it is only when the entire journey is complete, when technical meets practical, that real value is delivered.

Ivo and Atheon Analytics work in partnership to deliver data-driven operational improvements for clients. If you would like to join us on the journey and unlock value within your business, please get in touch.

About Ivo Business Solutions

Ivo works with business leaders with major change to achieve, bringing the commercial, pragmatic, data-driven insight that provides answers to difficult questions.

We identify significant, new sources of margin improvement and revenue growth for our clients. We do this by taking a whole business view of opportunity and risk, with the commercial drive and passion of a business owner, curiosity and deep analytical skills.

If you're responsible for a big revenue or margin challenge this year, we'd like to meet you.

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