



OPTIMISING

THE VALUE OF YOUR DATA

At Forecast, we like to say that data is like time travel for business.

Used properly, data allows business leaders to look ahead and predict the future. Drawing on data about what happened in the past a business has the potential to predict what's going to happen next week, next month, or next year, and better understand why those events are occurring.

As businesses realise the potential of data they will find dozens of use cases and, whilst predicting and optimising sales is the obvious place to start, data can also play a central role in optimising the efficiency of businesses more broadly.

It can predict the demand for staff to help with rostering and ensure there's no overstaffing; help order just the right amount of perishable ingredients for a food manufacturer to cut back on waste; or ensure that an energy-intensive business uses electricity at a time when spot market power prices are at their lowest.

These sort of initiatives can have a huge impact on the bottom line.

Data has always been part of business, but what's changed in recent years is that data has become a lot more accessible thanks to the cloud. The vast amounts of data and the insights it can provide are no longer confined to major corporates and data-driven decision making within reach for business of all sizes.

In the following pages, we provide an explanation of how businesses can use data to make faster and smarter decisions. And to showcase this we have also provided examples of work Forecast has done to optimise our clients' sales and operations.

10 TIPS

Here are 10 tips that serve as thought starters for business leaders to get them thinking about their own organisations' problems and opportunities and how data might help them make the best possible decisions.

01. CREATE AN INVENTORY OF YOUR DATA

All businesses are collecting and storing data, through their finance systems, CRM, operating systems, sales systems, and so on. It is important to define where your data is generated and stored, what external data is available, and where any gaps or improvements lie.

02. EMBRACE MODERN DATA TOOLS

The rapid rise of cloud storage and computing in the last five to ten years means most IT solutions of the past are now too slow, expensive, and basic for businesses to remain competitive. Cloud computing provides access to large amounts of computational power and can scale up and down according to the business' needs at the time.

03. DEVELOP A DATA MINDSET

Utilising data to help understand your business and industry, and to assist making decisions for Business improvement takes a shift in mindset, and new skills within the business from the top down. Businesses leaders should try to see data analytics and decision making as a capability. They don't need to be data scientists but should be aware of the sorts of problems data can solve and where to start.

04. ORGANISE & CONNECT YOUR DATA

All businesses have data but in some cases it may be unknown (I didn't even realise we had that information), inaccessible (it's hard to use our systems, or I don't have access), disconnected (there's no way of combining data to find drivers and insights), or inconsistent (our data is a mess). Businesses need to methodically work through and extract the data from the different sources and draw it together into a data lake.

(See pg 6 for more about data lakes).

05. PROVIDE THE RIGHT DATA TO THE RIGHT PEOPLE

For people to make informed decisions it's critical to provide accurate and insightful information in an easily digestible form. Easy-to-understand dashboards highlighting the key data and variables that let decision makers see how different levers will affect outcomes are much more effective than spreadsheets.

06. ENSURE YOUR DATA IS SECURE & WELL MANAGED

Cyber security has quickly become a core concern across all organisations. Ensure your sensitive information is appropriately controlled. This is particularly important with personal information with GDPR and other global privacy regulations dictating how data is collected, stored, and shared.

07. USE YOUR DATA TO REPORT ON PERFORMANCE

The first stage on the data value curve is to ensure business leaders have accurate data on the key operational and financial aspects of their business to explain what has been happening. They need to identify and isolate the business' unique drivers to develop a comprehensive picture of business performance.

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08. IDENTIFY INSIGHTS & EXPLAIN PERFORMANCE

Businesses then need to interrogate why something is happening – what are the key drivers, are there clear (or unclear) insights to help explain performance? We can draw on internal and external sources of data, including factors as diverse as macroeconomic indicators, the weather and public holidays.

09. USE THE PAST TO ATTEMPT TO PREDICT WHAT WILL HAPPEN NEXT

Typically if we can explain why something has happened then we should be able to predict what happens next. Once we have identified the drivers, we can build a data model to accurately predict what will happen next month, next year or even next decade.

10. LET THE DATA SUGGEST THE BEST COURSE OF ACTION

If we can explain why something happened and predict what will happen next by adjusting the drivers of performance then we can achieve a better outcome. This is the ultimate power of data – providing business leaders with a decision support tool that will help them optimise their operations and sales.

HOW DATA CAN HELP BUSINESS LEADERS MAKE BETTER DECISIONS

Business leaders are still making many important decisions in an ad hoc way – gut feel, what has or hasn't worked in the past, or what competitors are doing.



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HOW DATA CAN HELP BUSINESS LEADERS MAKE BETTER DECISIONS
(CONTINUED)



HOW WE DEPLOYED THE THINKING

We recently deployed this process for a subscription based business to help them determine how much they should raise their subscription prices.

The huge amount of data collected by companies and the tools to analyse it are enabling a better way to make major decisions, allowing business leaders to gauge the likely outcome of their plans before they put them into action.

Machine learning and artificial intelligence are informing decision making and validating decisions by providing leaders with visibility about how the different options will play out.

There are four stages to building a predictive decision-making tool:

- 01** Describe what happened in the past by collecting and sharing historical data.
- 02** Analyse why it happened by looking at patterns and common features for different outcomes.
- 03** Use the data and the analysis to predict what happens next, and test and refine the tool on historical data.
- 04** Stage four is where the real value comes in. This is where we suggest what a decision maker should do to get a given result. If you can predict what's going to happen because you know various characteristics and consequences, then if you pull some levers you should be able to change the result.

A major issue for subscription based businesses is that when they increase prices they need to understand the implications regarding their subscribers and identify buyer behaviours, so as to design targeted offers that minimise users departing the service.

The starting point was to collect historical data about past price rises and resulting 'churn' – customers who cancelled their service. Then we went back through five years of data and looked at the characteristics of customers who cancelled their subscription, things like calling customer support to complain

about the cost or quality of service or making late payments.

Next, we built a predictive model using the first three years of historic data and tested the model on the following two years of data. After we refined the model, we could predict with high accuracy which customers were likely to give up their service.

We now had the data to help make better pricing decisions. Rather than pushing through a standard price rise we were able to propose targeted offers to reduce customer churn and improve overall business returns..

As a result, our client gained a significant increase in revenue with very little churn, showcasing the value of data modelling for any business.

UNDERSTAND THE
DATA YOU HAVE

WHY BUSINESSES NEED A DATA LAKE

Most businesses have a wealth of data about their customers, their staff, operations, sales, assets, finances and so on.

But accessing that data and bringing it together in a way it can be used to provide insights and support highly accurate, evidence-based decision making is a huge challenge.

Within any one company different types of data are located in any number of different systems which don't talk to each other and which are difficult to pull together.

For example – customer data will be in the customer relationship management

system; the HR department will have employee and training data; sales data will be with marketing or sales; and operational and financial data will be elsewhere.

ACCESSING THE DATA

The solution is to develop a data architecture for the company – a strategy for how the data will be managed, stored and accessed.

The starting point is to establish an inventory of the different data systems. Next is to methodically

work through the data from the different sources and draw it together into a data warehouse or data lake, a repository of multiple forms and streams of information, including not just numerical data, but also text, video and images. The data also needs to be formatted so it is usable.

Those people who need access to the data will have dashboards where they can drill down into the data and explore and test to extract valuable insights.



MANAGEMENT BUY-IN

One of the chief difficulties of having data spread so far and wide across an organisation is that the different 'data owners' can be reluctant to give up their data, particularly as it can be time consuming to extract.

The problem is exacerbated by technical difficulties, with each data source being siloed away in its own system with its own technical expertise requirements.

It is also surprising how many sophisticated companies are still using systems that are decades

old and only a handful of people know how to use.

For this reason, we suggest that these projects need the sponsorship of company leaders with the authority to drive cooperation.

We also recommend that companies build their data lake in phases, starting with the data that will provide the most valuable insights. If companies try to do it all at once the project runs the risk of being over time & over budget like so many IT projects.

Creating a data lake is an important step in tapping into the huge dividends from organising, analysing and commercialising company data.

As an example we recently undertook a project for a retirement village operator/ developer where we created a dashboard to let staff see the characteristics of their residents across their multiple locations.

The analytic tool allows the operator to predict the residents who will move on in the next 12 - 36 months, such as by shifting to a high-care facility, along with financial information about the business and details about the properties themselves, such as which units are up for sale.

This has proved an invaluable planning tool.



All of us have spent countless hours standing in check-in queues and security lines at airports wondering why they can't do something to speed up the lines.

It's a problem we've been working to solve with an airport client, that wants to move more passengers more quickly through its terminals.

By harnessing the power of data and analytics, we can identify how passengers are making their way from the kerb at the airport drop off point, through the terminal and onto their plane – and how to optimise that journey.

The starting point of the project was to build a digital twin of the airport – a digital representation of its physical workings – to

simulate the movement of passengers through the terminals.

Digital twins were originally used by engineers to develop and test motors before they built a physical prototype. But the proliferation and availability of data and cloud computing has made the approach possible in a wide range of industries.

Our airport model describes the way the airport currently operates and identifies the pinch points such as check-in and security.

The real power become evident when we change some of the settings – the number of check-in desks for instance – to see how that affects the speed in which passengers move through the terminal.

HOW TO GET PASSENGERS TO SPEND TIME IN RETAIL...



AIRPORT CASE STUDY (CONTINUED)

Digital twins allow us to run a huge number of simulations very quickly. Our airport model can run a new simulation of 1.5 million passengers moving through the terminal over a 12 month period. The model helps the airport operator answer key questions, such as how they can get passengers to spend more time in the retail and food and beverage areas to the benefit of the airport's tenants, as well as how they can ensure more on-time departures.

Security checks are a major bottleneck, with each passenger taking somewhere between 10 and 30 seconds to move through the check, depending on how organised they are.

One solution would be to roster on a lot more staff and keep all security lines open at all times and the queue would be kept down to an absolute minimum.

But of course, that wouldn't be cost effective for the airport if they ended up with large numbers of security staff

standing idle at quiet times.

The alternative is to use predictive analytics to determine the times where passenger volumes are highest and the sort of events that can exacerbate the problem, and then roster additional staff on. The result is queuing time is kept to an acceptable level at the same time costs are kept in hand without compromising security.

JUSTIFYING CAPITAL EXPENDITURE

We can also predict how events such as flight delays will affect passenger movements and what demand on airport facilities will be like at different times of day and under different circumstances. We can advise food and beverage retailers when they should put on extra staff to cope with increased demand and let the operators of our big electric advertising boards know when, say, 200 business customers will be walking past so they can tailor their advertisements.

There's a long-term planning aspect too. The model can help optimise the use of the aircraft bays, but also predict when the airport will eventually run out of space and need to expand. At that point, the digital model can help justify multi-million dollar capital projects and their timing.

The project is an example of how data and analytics are helping businesses optimise the use of existing resources.



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