



Making a success of your data-driven journey

Thriving on Data Science



What does it take to be truly data-driven?

A data-driven company values its data as a primary asset, and continually strives to turn data into operational acumen to drive better decision making.



81% of senior executives interviewed agreed that data should be at the heart of all decision-making: but only 31% of companies have significantly restructured their operations to help do this¹.

Leading organisations understand that the key to success is to drive optimal decision making by leveraging the power of their data. Advanced analytic approaches (including AI and data science) are able to transform data into vital operational acumen to empower decision makers.

However, becoming data-driven requires more than the purchase of a technical solution or the hiring of Data Scientists – it requires that data be put at the heart of an organisation’s strategy: only this will enable the fundamental culture-shift required to realise the potential of the insights that data can generate and to create successful outcomes for the organisation.

Mango believes that the process of natural selection will apply to all businesses: only the fittest – those truly data-driven businesses – will thrive.

Data is an opportunity, but don’t just dive for pearls

Data is the lifeblood of the digital age; yet this will only deliver strategic value if it is allowed to course through the arteries of an organisation.

90% of the world’s data was created in the last 2 years - that’s 2.5 quintillion bytes of data each day². But the vast majority of this is unused – MIT estimates that only 0.5% of the data we create is ever analysed.³

Making better use of this vast pool of information has become a priority and businesses are keen to apply the latest analytic trends – such as artificial intelligence (AI) and machine learning – to generate insights. However, surfacing anecdotal correlations from big data will have limited (if any) success in delivering business outcomes.

We can only make an impact by ensuring we are using the data to answer the right questions – those relating to the decisions that drive true business value; and then answering them through developing appropriate data science capabilities.

One multinational retailer invested heavily in data science – but was struggling to make an impact and add measurable value. Mango helped to educate their business and analytics teams, building a data culture where analytics initiatives could be identified and delivered. Mango also developed high value use cases with established frameworks to drive qualifiable improvements across the organisation as part of their data-driven transformation.

¹<https://www.ey.com/Publication/vwLUAssets/EY-global-becoming-an-analytics-driven-organization/%24FILE/ey-global-becoming-an-analytics-driven-organization.pdf>

²<https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-everyone-should-read/#4c93a13760ba>

³<https://www.technologyreview.com/s/514346/the-data-made-me-do-it/>

Don't just change a process - create a culture

Making the transition to a data-driven enterprise involves more than just implementing a process – transformation can only be achieved by creating the right culture.



This kind of behavioural change relies on leadership engagement and education across the business – at all stages of the journey and particularly in relation to achieving data-maturity.

Creating a truly data-driven culture requires four key supporting pillars:

- 1 An analytic strategy** that has full commitment from the executive team.
- 2 A data science capability** capable of turning data into wisdom in a repeatable and efficient manner.
- 3 A modern technology platform** to underpin your data-driven transformation.
- 4 A programme for delivery** to ensure these analytic initiatives land in the business to bring about lasting business value.

Mango's service portfolio spans all four pillars, and initial contact could relate to any one of them. While each pillar would be taken into consideration in designing a client solution, not every engagement will require all four pillars to be addressed. Mango therefore takes a flexible approach to client engagement, accommodating strategic support through to project delivery.

47%

47% cite “adapting organisational culture to integrate big data” as a key challenge.⁴

⁴Nimbus Ninety Research <https://www.ey.com/Publication/vwLUAssets/EY-global-becoming-an-analytics-driven-organization/%24FILE/ey-global-becoming-an-analytics-driven-organization.pdf/>

Using advanced analytics to drive business effectiveness

The world of advanced analytics offers incredible capabilities for fundamentally changing business processes and improving decision-making.



Whilst it can have a transformative effect, care must be taken to structure these efforts towards realisable value, and to ensure we are taking on the right challenges.

At Mango, we believe every decision can be improved by the use of advanced analytics – and that there are few industries that cannot benefit from the application of data science. Mango's customer successes have ranged from: enhancing customer lifetime value to advancing medical science; identifying risk to fraud detection; optimising store layouts to managing innovation; and from proactive maintenance on utility services to promoting health and welfare in society. What is common to all, however, is the approach we take.

Building on proven success based on hundreds of engagements, we take a pragmatic, outcome-focused approach that helps you get to grips with the decisions that drive business effectiveness. More than that, we also look for repeatable models that will sustain success into the future.

Advanced analytics takes several forms:

Diagnostic analytics – why did it happen, what were the drivers?

Predictive analytics – what might happen in the future (based on data) or under alternative circumstance.

Prescriptive analytics – what is the best course of action, based on mathematical modelling of future scenarios?

Cognitive analytics – how can we automate decision making using AI & machine learning?

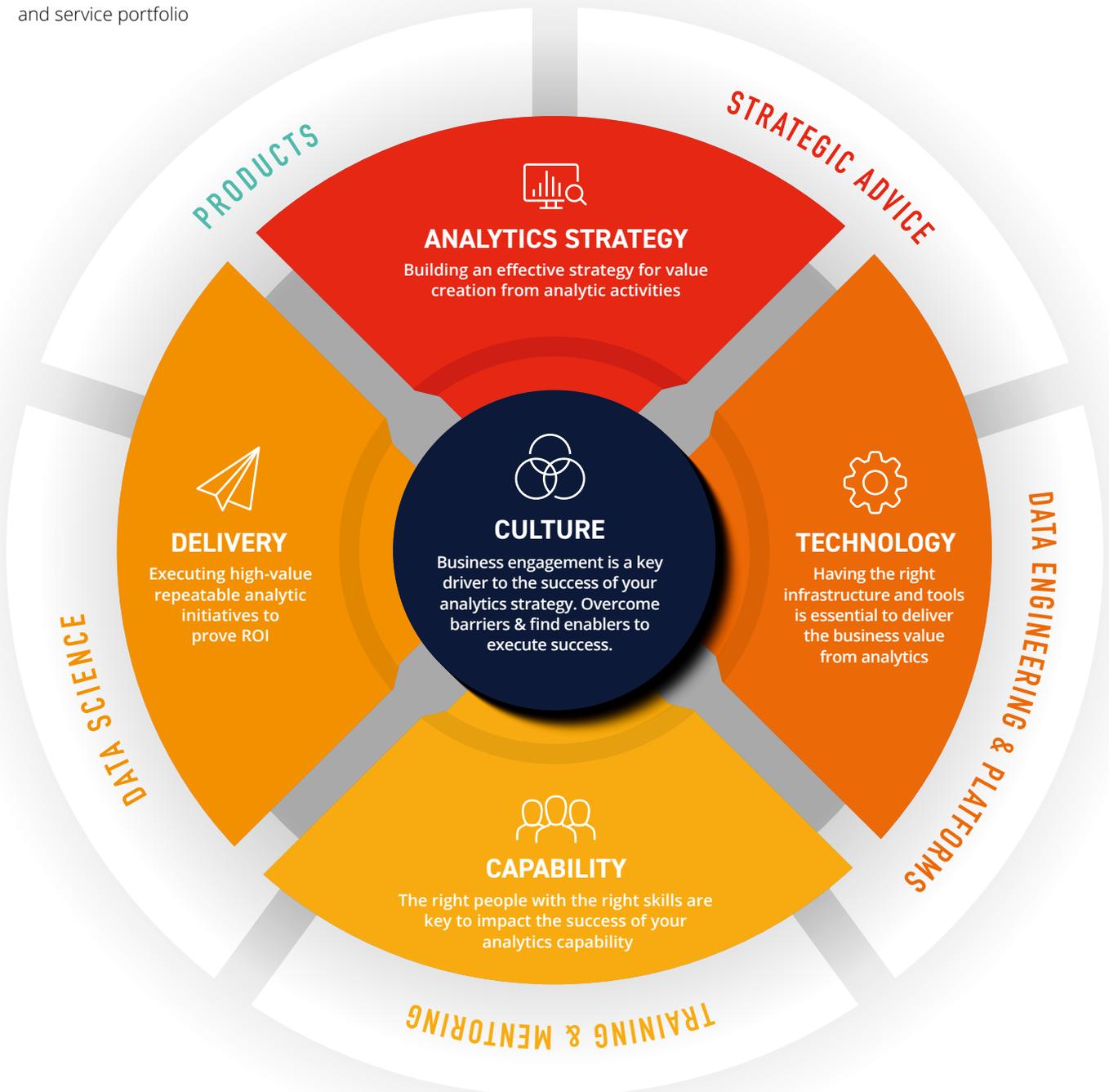
Mango's product and services aligned to your data-driven transformation

INNER WHEEL:

Data-driven pillars

OUTER WHEEL:

Supported by Mango's product and service portfolio





Strategic advice

We work with executives, offering pragmatic advice to help them achieve their data-driven goals. We demystify the complexity and unravel the misconceptions around advanced analytics in order to reveal the hidden potential it can deliver. We then support the communication of that

value across the organisation, bringing about the culture shift necessary to ensure data-driven transformation. We do this through running workshops; and by mentoring leaders, helping to guide and inspire them as they harness the power of analytics to develop a data-driven culture.



Data science

Value with advanced analytics requires a strong data science capability. Since 2006, Mango has been delivering data-driven value using our proven methodologies and frameworks, making us the perfect partner for your evolving data-driven business. We work on a project basis, delivering against a specific business challenge

or augmenting your existing team with skilled Data Scientists (and Data Engineers) to scale-up delivery, help to achieve a common language or share insights. As our Data Scientists have strong software development skills, we can deliver our data science capabilities from proof-of-concept to production.



Data engineering and platforms

The realisation of value through analytic initiatives can only be achieved with the just-in-time availability of high-quality data, and a sophisticated data architecture. The right technical infrastructure is essential to turn data into wisdom in a repeatable manner, delivering insight to decision-makers via an appropriate interface. Our Data Engineers bridge the gap between strategy and execution

with a mix of IT expertise and analytic skills. They evaluate the existing system architecture to ensure that the overall data science capability is fit-for-purpose, making and implementing recommendations where necessary. They ensure that data is available at the right time, in the right format and with sufficient quality to empower analytics.



Training and mentoring

Leading organisations who see value in advanced analytics are looking to build their own data science capability. Mango has a wealth of experience in helping organisations build teams: we can support companies by assessing existing internal skills, designing learning pathways and by training and mentoring their evolving data science team. We train thousands of Data Scientists every year, empowering them to drive more

informed decision-making. Our courses are offered on a public or private basis – from beginner to advanced level. Our course leaders are all actively involved in client projects, meaning we teach the application of technologies such as R, Python, Shiny and Spark – not just the theory. We can customise elements of our courses to ensure your teams receive the right training for their role.



Products

As a business we constantly innovate in line with our customers' needs and have created products that facilitate the implementation of data science methodologies across an organisation. These include platforms for assessing skills and training requirements, streamlining business analytics that

promote collaboration and standardising data storage and statistical models. We also have our own validated version of the R language, designed for use in heavily regulated environments and compliant with guidelines such as the FDA's 21 CFR part 11.

Transforming data into operational acumen

A data-driven transformation requires a programme of work that aligns the business, analytic and technical functions around a unified vision.

Mango's approach to create a data-driven organisation has four steps:



1 Discover

Inspire and educate the business and enable the discovery of high-value analytic initiatives, and ensure business alignment to the data-driven vision.

2 Deliver

Deliver analytic initiatives from proof of concept through to production to realise identified value in a transparent and repeatable manner.

3 Build

Build a lasting data science capability with the skills, platform and frameworks necessary to succeed and ensure the organisation is self-sufficient.

4 Repeat

Establish best-in-class governance and frameworks to enable an ongoing data-driven transformation, enabling leadership to track progress against goals.

This process ensures a data-driven transformation is seen as a structured programme of work, generating sustainable value from a data science investment with proof-points along the way. It also ensures that all areas of the organisations are aligned to a central vision, with clear communication around the direction of travel.

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“Mango have been a fantastic pragmatic partner for Hiscox who have supported our journey to becoming increasingly data driven. They have been helping us get that cultural change in how we use data, supporting our technical infrastructure and defining how we use and prioritise projects to ensure tangible value from our investment team.”

Steven Wilkins,
Head of Data Labs, Hiscox

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Delivering value from analytics

The success or failure of individual initiatives can have significant impact on the pace of change – and on belief in the transformation itself.



Therefore, the process of becoming data-driven must be underpinned with a series of analytic initiatives which deliver specific business value and act as examples of how an analytic workflow can positively impact the business. We are highly experienced in the delivery of analytic-driven programmes, using frameworks that ensure the value can be both realised and clearly understood by the business.



Answer the right question

A lot of time and investment can be spent brilliantly answering the wrong question. We have proven approaches to inspire and educate the business, enabling the surfacing and prioritisation of the right use cases in a collaborative manner.

Prove the value

Mango's process provides a proven approach to demonstrating value early, facilitating discussions on the way in which the insight will drive change in the business to realise the benefit identified.

From insight to impact

At Mango, we never rest until data-driven decisions are properly implemented. Our process enables us to prove the value to the business and to transition the solution to production. We can also support change across the business through building product charters, defining roadmaps or advising on analytics governance.

Why Mango Solutions



We have been working at the forefront of data science and advanced analytics for almost two decades - with organisations that seek to become truly data-driven. Employing many of the UK's leading Data Scientists and Data Engineers we provide the essential soft and technical skills that business leaders need to embed data science into strategic decision-making.

Mango's optimal mix of consultancy, data science, training and technology has enabled some of the world's leading companies to use advanced analytics to generate operational acumen – the ability to use data to enhance business judgement and decision-making to drive bigger gains, lower costs and to optimise performance.

We take a pragmatic, outcome-focused and value-driven approach that ensures our clients thrive on data science.

At the heart of a vibrant, challenging and innovative community

Our commitment to developing analytics capabilities is also evidenced by the very active role we have played in the vibrant and innovative data science community since our inception. Hosting leading events such as EARL, the Enterprise Applications of the R Language Conference, we contribute to this group through the sharing of intellectual capital and facilitating networking opportunities across the community; and, in turn, gain from it in the form of tools and methodologies that can become the basis of business solutions provided to customers. The insights, innovations and relationships gained through our engagement with the community are central to our being at the forefront of data science: this engagement across companies and industries ensures that our clients are assured of access to innovative new approaches to using analytics.

It takes an ecosystem to ensure success

While we are proud of the depth and breadth of our capabilities, we work with a range of specialist partners to enhance our offering.



A value-driven approach that ensures our clients thrive on data science

The insights, innovations and relationships gained through our engagement with the community are central to our being at the forefront of data science



Mango Solutions have been empowering organisations to make informed decisions using data science and advanced analytics since 2002.

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