

Five steps to becoming a data-driven organisation



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About the author

Tobias Kloepper, PhD founded his first business while studying for his MSc in Mathematics and Computer Science. Putting this grounding to good use, he then completed a PhD in Biological Informatics. His enviable scientific alumni include the MRC Laboratory of Molecular Biology (Cambridge), the University of Oxford and the Max Planck Society. In 2014, realising his strong commercial interests, he shifted focus from academia to industry and started to work on multiple high impact digital transformation projects in London. He founded Whitehat Analytics, a data science consultancy in 2015. His ability to combine analytical thinking with technology and see the bigger picture has led him to the role of strategic consultant. Today, Tobias helps businesses reinvent themselves using empirical data-driven strategies supported by artificial intelligence (AI).

Your blueprint for digital success

Every action your customer takes leaves a digital footprint. This data is the lifeblood of every business. Harnessed properly, data can inform a company's future direction, shape communications with the right target audience, guide the hiring strategy and, ultimately, make a significant impact on the bottom line.

More than a decade after the potential of big data became understood, however, only a handful of businesses have taken steps towards becoming data-driven organisations. A company's culture is one of the main barriers to success.

The key to success lies in changing a company's cultural mindset. Embracing digital transformation will demand a significant shift in culture throughout the business.

Creating a pathway for cultural change – and setting your business on track to become a successful data-driven organisation – is a highly structured process. The three critical success factors of data and analytical tools (supported by the right digital infrastructure), the right talent and the right cultural mindset must all be in place (see Figure 1).

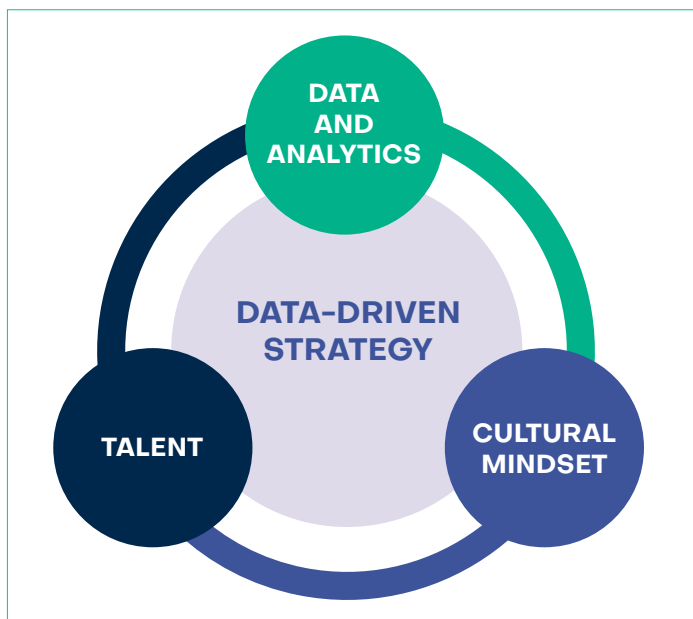


Figure 1: Critical success factors for a data-driven strategy

1. STEP 1: DEFINE YOUR BUSINESS

1.1 Why does data matter?

Firstly, it helps to understand why becoming a data-driven, or insight-driven business matters.

As business analytics driven by tools like artificial intelligence (AI) and machine learning (ML) are becoming mainstream, identifying business process improvements, understanding and improving customer experience and guiding company strategy all score highly among business leaders as key benefits of data analytics (see Figure 2).

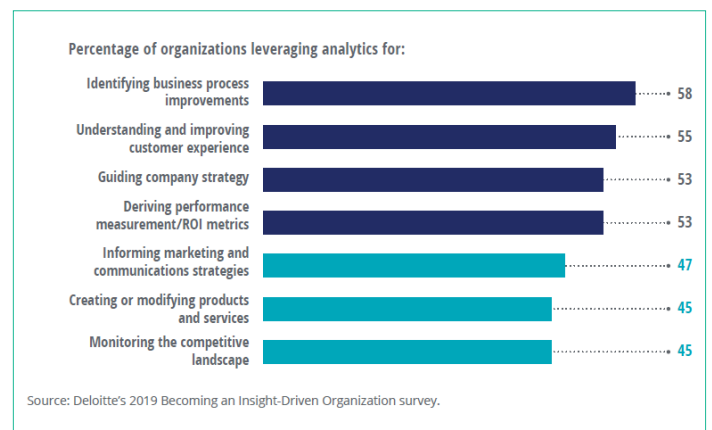


Figure 2: Top ranking use cases for analytics ^[1]

1.2 Understanding your culture

A company's culture can be a passive, deep rooted element that can stifle change. To understand how to become a data-driven business, you must first understand your culture.

Setting a framework allows you to firstly define your culture and your business personality – and set out clear steps for change. To be effective, cultural change must combine both top-down and bottom-up buy in. Leaders must validate the shift by investing in and visibly using data in their strategy, and frontline staff need to be given the freedom to see the benefits to their own role and how they can shape their own future in the business.

At its worst, a company culture can paralyse individuals from performing at their best – and so prevent a business from achieving its full potential. This environment can create a fear of making the wrong decision.

The objectivity of a data-driven approach means that it can lead insights that drive success without any restricting factors or pre-conceptions. The objective viewpoint provided by data can induce confidence in decision making, ensuring it is led by a robust, replicable process rather than personal opinion or convenience.

2. STEP 2: BRING IN THE RIGHT TALENT FOR CULTURAL CHANGE

2.1 Talent strategy to drive transformation

Getting your talent strategy right is fundamental to transforming your business. Digital transformation depends on having the right people within the business to drive change.

Trying to create a data-driven culture by focusing solely on the technical team is rarely successful. Working with external consultants will establish a model for cultural change. Identifying skills gaps, upskilling existing teams and bringing in the right new talent will all support the goal.

Key to success is building a cross-functional, blended skillset.

2.2 Data-driven talent acquisition

Data modelling creates an efficient and successful talent acquisition and, critically, talent retention strategy, delivering a highly functional team able to drive digital transformation.

Like any other component within a successful data-driven business, an efficient hiring strategy starts as an empirical process. The ability to identify the right talent is a critical starting point, as well as understand the different roles that exist, to fulfil both both short and long-term goals. These include:

- Data scientists
- Data engineers
- Data architects
- DevOps engineers
- Business analysts
- Product management
- Compliance engineers.

A successful model (Figure 3) blends the objectivity of data-driven decisions with the more intuitive skill of determining cultural fit. The model moves the decision making process from objective to subjective throughout the hiring lifecycle.

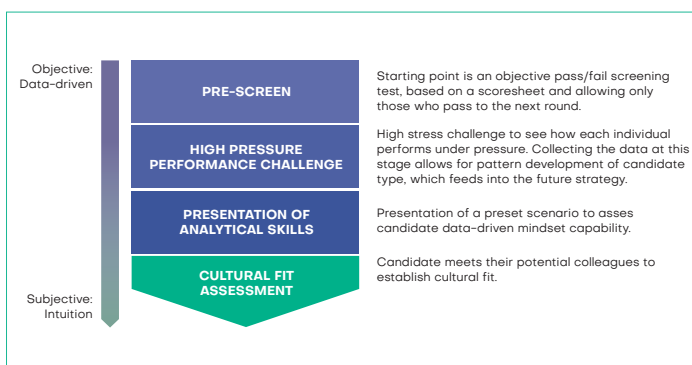


Figure 3: Data-driven hiring model

2.3 Talent retention through predictive modelling

People churn can be a huge issue within large organisations in sectors such as retail, finance, insurance, banking, hospitality, healthcare and government, where there are high numbers of people in customer-facing roles.

Combining data from multiple sources and creating models that display predictive patterns at hiring stage can help offset this issue. Intelligent systems based on the principles of machine learning, that learn, adapt and predict outcomes offer huge potential. Identifying common trend patterns enables intelligent KPI setting based on real life scenarios and data-based outcome prediction. This delivers hiring process efficiencies through confident decision making.

3. STEP 3: EMBEDDING A CULTURE THAT ACTS ON DATA

3.1 Establishing the right model

Working with external consultants to implement the right strategic approach coupled with the right technology can help avoid common mistakes, such as expensive projects that seem impressive but fail to deliver tangible results, largely because realistic, data-driven KPIs were not set from the outset.

By deploying the principles of data science, a company can articulate the issue at stake, secure universal buy-in and predict the outcomes to fully understand the project and its value drivers.

The model should be optimised on an ongoing basis to drive the value decisions. Mistakes happen when the project is led by the process rather than the results. Tools like ML are facilitators of analysis, but not drivers of the process of change. There also must be a willingness to adapt and change based on insight rather than intuition (see Figure 4).

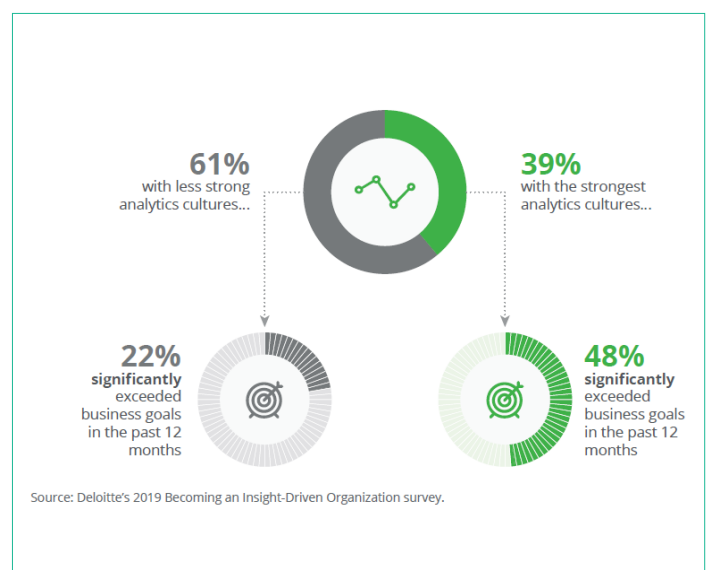


Figure 4: Data-driven culture and business performance [1]

3.2 Data-driven decision making

A data-driven culture is one in which key decisions are made based on data and its analytics. There is a strong correlation between culture and business performance, and businesses that have a strong leaning towards data-driven decision making achieve their business goals. The bottom line benefits of creating the right culture through a data-driven mindset throughout the business are clear.

4. STEP 4: MEASURES OF SUCCESS

4.1 Clear use cases

The most successful projects start with a strong use case and an understanding of the value that can be delivered. Data analytics will become embedded throughout an organisation faster if clearly linked to business outcomes with a quantification of the benefits. There is still some way to go in demystifying the whole concept of data and demonstrating how extracting its value can improve job satisfaction, facilitate automation of repetitive tasks and deliver better outcomes for every individual in the chain – from customer to employee.

4.2 Skills transfer

Working with external specialists on business transformation helps create the data-driven mindset critical to achieve cultural change. This is where the greatest value lies: in the opportunity to create strategies to identify talent gaps and upskill existing members of staff to understand, implement and appreciate the wider benefits of a data-driven culture across the business.

4.3 A data-driven mindset

The success of a business transformation can be measured in the mindset of the team. A team in which every individual looks first to the data for a solution to any

problem is a team that has embraced the concept of a data-driven mindset. This team will assess the data impact of change to a business process in terms of business results – for example a lost data flow caused by stopping the recording of call centre calls can be replaced by better note-taking and logging.

Productionising data – i.e. bringing data to the everyday routine – depends on every member of the team having a data-driven mindset. Embedding this data-first approach as the norm is key to success.

4.4 Mutual reward

When every member of the team appreciates the value of data to the business and to their own role within it, the data-driven culture becomes greater than the sum of its parts. Individuals acting as data collectors – by designing forms for example – understand the benefits to the rest of the team in gathering machine readable data in a predefined format. They will also understand the consequent benefit to their own role in receiving that data served back as a user-friendly product by the data science team.

4.5 Reproducible model

Building a standardised model around a framework created for a business develops a process that is reproducible in the short term – and this model can be used as a basis for further development and refinements by the upskilled team in the longer term, once the consultants have moved out.

4.6 A self-reliant data-driven culture

The best possible outcome is to transform the business culture to the degree that it becomes embedded as the norm. A culture where every member of the team values and brings to life the data-driven mindset to bring improvements to process efficiency, decision-making agility and service quality is ultimately the desired result (see Figure 5).

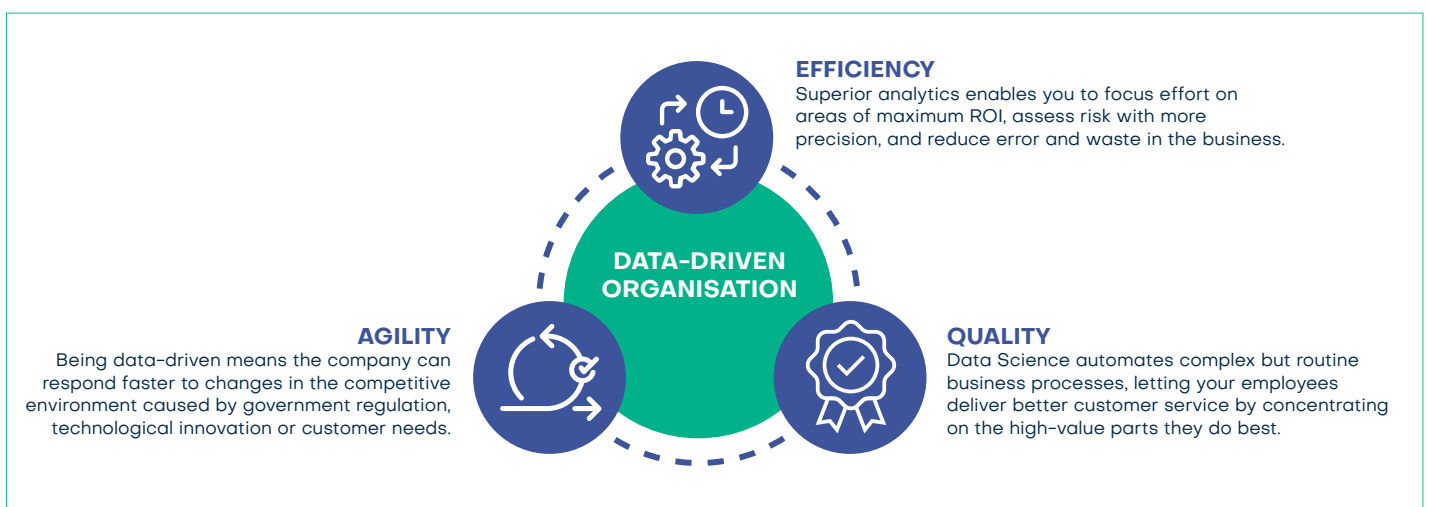


Figure 5: Why be data driven

5. STEP 5: BUSINESS TRANSFORMATION BASED ON DATA SCIENCE

5.1 Data-driven = high performance

A business transformation strategy is a continuous process. The field of data science is relatively new and at early adoption stage within most businesses.

A data-driven culture drives a high-performance culture, where issues or bottlenecks can be identified rapidly and with precision. The open flow of data reinforces a culture of democracy and enablement, as every member of the team is aware of the big picture and their contribution within it.

A culture in which every individual has the freedom to suggest solutions to problems and is empowered to make their voice heard is a powerful contributing factor to employee satisfaction. Known as a closed loop culture, it is synonymous with talent retention, an inclusive structure and a successful driver of business transformation.

As the application of AI, ML and deep learning continues to improve data management and interpretation, data science is the discipline that enables businesses to make informed decisions over continual improvements to their services.

5.2 Long-term goal

Becoming a data-driven organisation is a long-term process. Building an analytics capability is no easy task. Companies who are further along the maturity scale are able to use their data to move beyond understanding what happened, towards being able to predict the outcomes of their decisions, and are gaining competitive advantage (see Figure 6).

Data science supports an organisation's cultural shift towards becoming a data-driven business. Change management underpinned by predictive data-based modelling of outcomes ties analytics directly to decision making. This results in a better understanding of the business and of its customers – and delivers tangible value in terms of improved business performance.

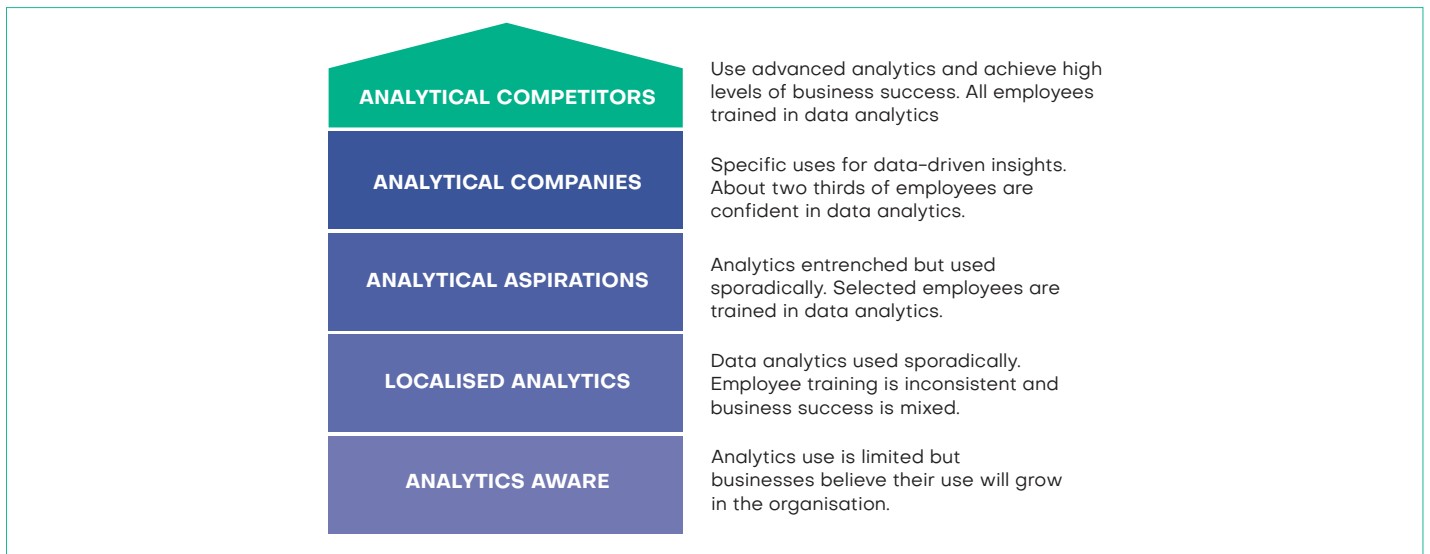


Figure 6: The data-driven maturity scale

Whitehat Analytics. Powered by data, driven by results

We enable companies to be powered by their data. To prepare themselves for the information age, companies with legacy technologies, processes and skillsets must undertake a business transformation to become data-led organisations.

Our mission is to help companies undertake that journey. Our goal is to help companies to structure themselves around an empirical, data-driven business model, where decisions and process are analytical and outcome-focused. By developing a data-led culture that runs through the entire organisation, we allow our clients to unlock the power of data and thrive in a more competitive, data-led global marketplace.

We drive cultural change: we embed analytical capability deep within the organisation, via a structured program of engagement, education, and enablement. All parts of the organisation are empowered to use data to do their jobs better.

We deliver technical excellence: we work on the bleeding edge of data science, integrating large, complex data sets with the latest tools, and using the most advanced analytical techniques such as neural networks to allow our customers to see further and react faster.

We are compliance-driven: we know your data must be secure, it must be accounted for, and the quality must be verified. Your business' reputation relies on your customers trusting you and your processes, so we build in governance, audit, compliance, and quality validation at every stage of the process. We are ISO 9001 and ISO 27001 certified – so we understand the compliance process first-hand.

We are outcome-focused: we believe that data science must be deployed to drive business value. That's why we ensure that we deliver products and services that are usable, scalable and robust, to change business outcomes on the frontline.

REFERENCES

^[1] Deloitte Insights: Analytics and AI-driven enterprises thrive in the Age of With: The culture catalyst, 25 July 2019 <https://www2.deloitte.com/us/en/insights/topics/analytics/insight-driven-organization.html>