



# DATA STRATEGY: A DATA-DRIVEN TRANSFORMATION

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## Contents

Introduction.....	2
Who's Data Strategy for?.....	2
The Recipe of a Data Strategy.....	2
Strategy: Aligning data strategy with business strategy.....	3
Organization: Coordinating people, processes and reshaping culture.....	3
Analytics: Employing the right methodologies and applications.....	4
Technology: Building the proper data infrastructure and tools.....	4
Building a Data Strategy: DUDE Framework.....	4
Use-Case Driven.....	4
Quick Wins.....	4
Understand: assess the current state and define data strategy vision.....	5
Design: identify opportunities and design the path for implementation.....	5
Execute: develop use cases, proof value of data, improve continuously.....	5
Conclusion.....	6

## Introduction

**I**n a rapidly changing global business environment, the pressure on organizations to make accurate and timely decisions has never been greater. The ability to identify challenges, spot opportunities, and rapidly adapt business is not just a competitive advantage but also a **requirement for survival**.

**That's the reason why big data and analytics** have climbed to the top of the corporate agenda: together they have the potential to transform the way companies do business.

Besides company's assets, teams, and business processes, there's no doubt that **data has increasingly become a crucial asset of competitive differentiation**. Companies from every sector are seeking to move towards data-driven strategies, making efforts to trade gut-feeling for accurate data-driven insight to achieve effective business decision making. No matter the issue to be decided – predict sales volumes, analyse customers preferences, optimize the workforce – it is data that now has the power to help businesses succeed.

Even though big data and analytics effectiveness is clear and documented, **our experience reveals that most companies are unsure how to proceed**. Apart from Internet powerhouses that have successfully established data-driven business models, companies in other sectors are typically in the early stages of exploring how to benefit from their growing pile of data and put this data to good use. Top management is understandably leery of making substantial investments in big data and advanced analytics.

They are convinced that their organizations simply aren't ready, or they may not fully understand the potential benefits of a data-driven business. It's not uncommon to encounter companies that have lost piles of money on long-term data-warehousing projects that never fit with business processes, or don't have the expertise to properly understand the data they have, or have ICT and analytics programs in place that are too complicated and do not yield valuable insights or generate lower than expected returns. Or even all of the above.

At Bip, we believe that the **time has come to establish a pragmatic approach** to big data and advanced analytics, one tightly focused on how to lead your company or department to becoming data-driven, thus using data as core asset for decision making.

Bip's Data Strategy will lead your organization to become data driven, thus using data as a core asset to guide business decisions, supporting your organization as a co-manager and co-entrepreneur throughout the whole journey.

## Who's Data Strategy for?

It is for just about everybody. There are going to be data-based companies: Amazon, Google, Bloomberg. Their business strategy is almost totally based on data. But just because your company was not born on data, this doesn't mean you can't put data in the centre of your strategy, exploiting and using data smartly.

Consider retailing. Booksellers in physical stores could always track which books sold and which did not, and with loyalty programs they could also record purchases of individual customers. But that was about it. As online shopping came along the understanding of customers habits increased dramatically—: online retailers could track not only what customers bought, but also what else they looked at; how they navigated through the site; how much they were influenced by promotions and reviews. This enabled to collect valuable data and develop advanced algorithms to understand similarities across individuals and to predict what books customers would like to read next.

In fact, Data Strategy has the **potential to transform traditional businesses as well**. It may offer even greater opportunities for competitive advantage.

As we'll discuss in more detail, the big data of this revolution is far more powerful than the analytics that were used in the past. We can measure and therefore manage more precisely than ever before. We can make better predictions and smarter decisions. We can target more effective interventions and can do so in areas that so far have been dominated by gut and intuition rather than by data and analytic rigor.

## The Recipe of a Data Strategy

The journey to becoming a data-driven business involves establishing a spectrum of new corporate capabilities (*figure 1* below) aimed at capturing and organizing vast amounts of data (technology), making sense of the data (analytics), rallying the entire company or

department (organization) to embrace and execute a developed data strategy, while linking all of the above to the business objectives (strategy).

An effective transformation will vary based on your business needs and capabilities. Indeed, it is not a neat and tidy process and not every company goes through the exact same progression. Moreover, in large companies, different departments may be traveling the same road at different speeds and with more or fewer stop signs.

However, this journey tends to progress over four distinct components that are common ground to any organization. Each component relies and builds upon another — the better-developed one component is, the better the other components will perform. Each one of them can be developed to various degrees of sophistication.



Figure 1 - The Recipe of a Data Strategy

### Strategy: Aligning data strategy with business strategy

It is paramount to ensure the alignment of analytic initiatives to organization objectives, combined with consistent and effective coordination of activities across business units. This minimizes duplication, maximizes the sharing of resources and speeds execution.

To exploit big data, better predict outcomes and improve every aspect of the business, organizations need to first recognize that data is an asset that's as valuable and essential as any other capital asset in the business. And they must have a big data strategy—one that melds into the overall corporate plan.

The strategy itself needs to start with an end goal in mind. It must document how opportunities afforded by data will align with the strategic priorities of the business, enabling the company to reach its objectives. Of course, the strategy should access all available data and prioritize its usage to allow the organization to become more agile while operationalizing big data to inform business decisions in real time.

### Organization: Coordinating people, processes and reshaping culture

Much as some strategic plans fail to deliver because organizations lack the skills to implement them, so too data-driven transformation

plans can disappoint when organizations lack the right people and capabilities. Companies need a road map for assembling attracting and enabling the right talent and expertise to manipulate and understand data. Technology and analytics alone cannot do the job. A common, critical missing link is having the ability to think about the data in new and scientific ways, to connect data insights with the goals of the business and evolving needs of the customers, and to illustrate and communicate to the broader organization the meaning and impact data can, and will, have on their day-to-day work and performance. Making these links requires skilled personnel.

The best plans will go further, outlining how the organization can nurture data scientists, analytic modelers, and frontline staff who will thrive in the new data- and tool-rich environment.

No less important are the management and the culture behind a data driven organization. Indeed, this is the most challenging component: define an adaptive, agile approach to creating and fostering a culture that embraces data and analytics and applies them to everyday business. This is an area that is now attracting the attention of thought-leaders and corporate executives—one that even the most forward-thinking businesses are still struggling to master.

Many intricate ingredients go into building a culture in which data and analytics form the foundation of every business decision, while intuition and experience play a secondary role. At the heart of the recipe are two critical ingredients: top-down leadership and bottom-up engagement.

There is no replacement for a CEO with a vision and a personal mission to inspire and instill a culture that looks for data-driven insights and works on facts-based decision-making, as Mr. Glass of LinkedIn pointed out. It is an absolutely necessary condition for building a data-driven business.

But strong visionary leadership at and from the top is not enough to create a data-centric culture. The trickier and perhaps more critical element is engaging and motivating employees across the organization to embrace the spirit, thinking and practices of a truly data-driven business—and to do so in a consistent, unwavering manner day in and day out.

That is difficult—no one has yet solved this puzzle completely. The output of analytics and modelling may be strikingly rich, but it's valuable only if managers and, in many cases, frontline employees understand and use it. In fact, from our experience, we realized that output that is too complex can be overwhelming or even mistrusted. What's needed are intuitive tools that integrate data into day-to-day processes and translate analytics outputs into tangible business actions: for instance, a clear interface for scheduling employees, fine-grained cross-selling suggestions for call-centre agents, or a way for marketing managers to make real-time decisions on discounts. Many companies fail to complete this step in their thinking and planning—only to find that managers and operational employees do not use the new models, whose effectiveness predictably falls.

## Analytics: Employing the right methodologies and applications

Set up processes and models to accomplish goals and objectives of advanced analytics initiatives is the fundamental link between the data tools and organization capabilities.

Integrating data alone does not generate value. Advanced analytic models are needed to enable data-driven optimization (for example, workforce planning and employee's office locations) or predictions (for instance, what customers will want or do given their buying histories or behaviour). A plan must identify where models will create additional business value, who will need to use them, and how to avoid inconsistencies and unnecessary proliferation as models are scaled up across the enterprise.

As with fresh data sources, companies eventually will want to link these models together to solve broader problems across functions and business units. Indeed, the plan may require analytics "factories" to assemble a range of models from the growing list of variables and then to implement systems that keep track of both. And even though models can be dazzlingly robust, it's important to resist the temptation of analytic perfection: too many variables will create complexity while making the models harder to apply and maintain.

## Technology: Building the proper data infrastructure and tools

Data are coming into organizations from a wide range of sources – whether customer transactions, sensor streams or social-media content and interactions. Thus, it is necessary to put in place a consistent, fit-for-purpose technology platform to gather, process, organize, visualize and share the right data in the most useful and effective way, within the appropriate security controls.

A critical and essential point is a game plan for assembling and integrating data. Companies are buried in information that's frequently siloed horizontally across business units or vertically by function. Critical data may reside in legacy IT systems that have taken hold in areas such as customer service, pricing, and supply chains.

Complicating matters is a new twist: critical information often resides outside companies, in unstructured forms such as social-network conversations.

Making this information a useful and long-lived asset will often require a large investment in new data capabilities. Plans may highlight a need for the massive reorganization of data architectures over time: sifting through tangled repositories (separating transactions from analytical reports), creating unambiguous golden-source data, and implementing data-governance standards that systematically maintain accuracy. In the short term, a lighter solution may be possible for some companies: outsourcing the problem to data specialists who use cloud-based software to unify enough data to attack initial analytics opportunities.

## Building a Data Strategy: DUDE Framework

Employing a company-wide transformation (not necessarily data-driven) with the ambition to revamp all at once the strategy, organization, analytics and technology can be a huge challenge for the management and employees. History and experience taught us that more than one out of two company-wide transformation programs fail to meet expectations and ambitions in terms of economic return and timeline.

Approaching a data-driven transformation with, for example, an end-to-end data architecture overhaul or a wide organizational change centred on data and analytics, can take several months or even years to generate valuable returns and may originate strong resistance from management and employees. Most of the times the consequences translate in multiyear, centralized efforts accounting for millions of dollars wasted.

Hence, the determining factor to a successful data-driven transformation, is the approach to planning and execution.

From the experience and maturity gained on transformation projects in numerous industries, **Bip has developed the DUDE framework to support organizations along the journey: Data-driven transformation, Understand, Define, Execute. It is a use-case driven, incremental approach to a data-driven transformation.** The DUDE approach, is structured in three phases, which make up for its name:



The DUDE approach is oriented at creating returns in the short term with quick-wins, proving value of data strategy and engaging stakeholders, while planning and implementing medium- and long-term solutions on a use-case basis and agile methodologies to build solid data-driven capabilities.

### Use-Case Driven

Building medium to long term capabilities on the four pillars of the Data Strategy requires big efforts in terms of resources and funding and cannot be done all at once.

Thus, it is essential to embrace a data-driven transformation iteratively, building upon different use cases that one after the other will enable to reach the target state.

For example, rather than embracing an end-to-end data architecture overhaul such as migrating the entire data warehouse to the cloud at once, specific use-cases should be selected to enable an iterative migration in which the cloud architecture evolves to meet the requirements of each new initiative.

### Quick Wins

Moving the first steps with quick initiatives is the secret to starting a data-driven transformation. Even though pilot projects are limited in scope, they are essential to demonstrate the potential benefits of

data-driven projects, gain trust from stakeholders and top management and thus increasing the chances of commitment and success.

Quick-wins have to be chosen carefully considering a wide set of criteria. They should be developed with the actual organization capabilities, avoiding radical changes to actual processes, data handling or technologies (e.g. building a data lake) and they should have a high chance of success while granting relatively high returns and visibility once in place.

As the first quick-wins start to roll out, the organization benefits from important lessons learned and starts building the capabilities for larger scale transformation efforts.

### Understand: assess the current state and define data strategy vision

Before attempting to define the vision and target state in the data-driven transformation, an organization needs to have a clear understanding of its data-driven fitness level. In other words, it needs to know where it stands in terms of **data-driven capabilities** across **Strategy, Organization, Analytics and Technology**.

With this objective in mind, Bip has developed its **Data Strategy Maturity Assessment (DSMA)**: a web-based tool that addresses questions on specific topics – represented by the slices in *Figure 2* below – related to each of the four Data Strategy pillars.

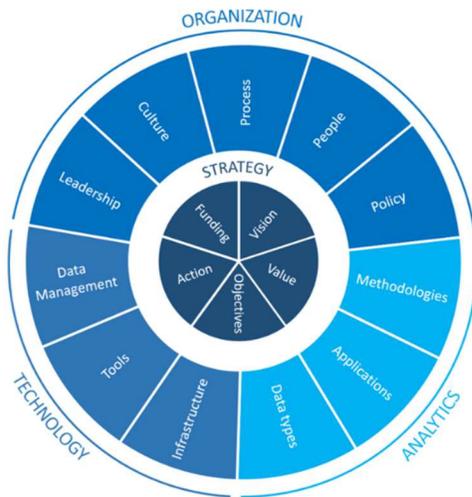


Figure 2 - Bip Data Strategy Maturity Assessment

Beyond Bip DSMA, the *Understand* phase is comprised of an assessment activity across the four pillars:

- Strategy: definition of a short and long-term vision and the objectives to be achieved throughout the data-driven transformation program;
- Organization: mapping of existent areas, roles, skills, policies, rituals and culture that should support the new data-driven organization;
- Analytics: evaluation of the current processes and capabilities to ingest and manipulate data and the ability to make it available across business areas to support decision making;

- Technology: analysis of current data platform, big data and advanced analytics infrastructure and data sources to create a catalogue of platforms and apps, related limitations and potentialities.

At the end of the *Understand* phase, the company will have a clear vision of potentials and critical gaps to achieve its desired data vision and objectives.

### Design: identify opportunities and design the path for implementation

The Design phase is the moment of identification of business opportunities that can add-value for the company, proving value of data usage. There are several potential use-cases to improve operations, reduce costs, provide more information for decision making, transform customer experience, reduce time of response, etc. Bip’s approach consists in three sub-phases: **preparation, ideation, evaluation**.

**Preparation** consists, firstly, in the exploration of our vast experience of past use-case implemented across several industries and business functions that could be implemented and, secondly, in the mapping of existing projects across the company or department.

Collected all these inputs, Bip will share these projects in an **ideation workshop** with the aim to define the use-cases to be considered on the roadmap and prioritize them. The ideation subphase will continue for the design and detailing of the roadmap, where each listed use-case will be refined through the identification of business challenges, technical effort, technological requirements, team skills, data sources, cost, timeline and KPIs to monitor impact.

Based on that, an **evaluation meeting** will be conducted to share the evaluation matrix and the roadmap proposition that will consider Use-Cases, Infrastructure and BI/Advanced Analytics enablers and the proposed operating model to implement and monitor the roadmap execution.

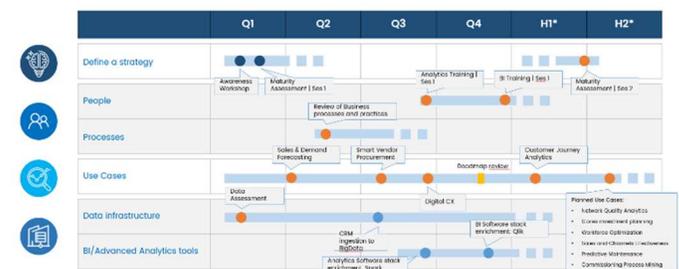


Figure 3 - Bip Use Case Evaluation Matrix

### Execute: develop use cases, proof value of data, improve continuously

At Bip we see the execution phase as a continuous improvement that, ideally, last the time needed to develop a data-driven culture and the capacity to conduce implementation and monitoring routines autonomously.

To succeed on the execution phase, companies must take care of four pillars: Data Governance, Use-Case Execution, BDAA Architecture & Tools and Operating Model Implementation. These four pillars should

be continuously measured and improved ensure company's autonomy on data.

## Conclusion

The potential benefits of a data-driven business transformation have captured the attention of the top management across all sectors. But as with any other major change in business, the challenges of becoming a data-driven organization can be substantial and require hands-on experience, leadership and commitment.

Working alongside numerous partners and clients of various sizes and industries, with different business models and data-driven maturity, we realized that only a small minority of companies may be capable of managing the transformation and the related challenges on their own. And almost none if they require a rapid transition or have wide gaps in terms of data analytics capabilities.

Nevertheless, **becoming Data-Driven is a journey that must be carefully Understood, Designed and Executed, and that executives need to engage with today with an agile, iterative approach alongside a mature partner.**