


# CREATING A **SCALABLE** AND **EFFECTIVE** DATA AND ANALYTICS ORGANISATION

## **STAGE 1: BASE CAMP** **DEVELOPING YOUR** **DATA STRATEGY**



“Gartner predicts that **90%** of corporate strategies will specifically reference information as a critical business asset and analytics as a critical competency.”

### **INTRODUCTION**

Many organisations are increasingly looking towards data-driven decision making. With the growing importance data and analytics provide to many businesses, the ability to create intelligent insights at speed is becoming a business imperative that will enable companies to compete and differentiate in an increasingly agile economy. Allowing organisations to identify market trends, optimise operations, predict risks and help identify new opportunities are all crucial in guiding strategic decisions, as well as choosing the right data platform to support.

And with an overwhelming amount of products and services in the market today that seem to solve problems that we don't even know exist yet, teams are grappling with the challenges of establishing a connected data analytics strategy alongside the increasing business pressure to deliver value. This often leads to frustration within the business as a whole and poor execution overall.

Therefore, there is a need to establish a coordinated approach to provide a high-performance, scalable, secure, reliable and cost-effective approach to building data

Boston Consulting Group reported that **70%** of digital transformations fall short of their objectives.

The need to establish data and analytics capability is broadly accepted as a business imperative, however, many organisations are struggling. With factors at play such as poorly organised and disjointed programs of work, duplication of effort and a lack of coordination between disparate teams, challenges are arising continuously.

and analytics capabilities. This paper outlines key considerations in building modern data and analytics platforms, operational models and roles and responsibilities to help organisations unlock the potential of data at their fingertips to deliver meaningful business outcomes from the very start.

## CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

The days of extensive planning and complex business cases to justify significant capital investment and operational expense are over.

### HAVING A CLEAR ARCHITECTURE IN MIND IS CRITICAL

What is needed is an approach that delivers rapid value, whilst at the same time establishing a solid foundation in which long-term ambitions for the data analytics capability can be established.

Establishing a data analytics platform to deliver an executive dashboard of KPIs from a single source of truth using a wide variety of connected data sources is relatively straight forward.

- ▶ However, will the same platform be able to take real-time data to increase accuracy?
- ▶ Will it become a platform for Machine Learning or Artificial Intelligence?
- ▶ Will it be able to scale and perform at speed as the amount of data increases exponentially?

In summary, will it provide the analytics and data capabilities that many business haven't identified yet, as a need to compete in the future?

However, contemplating the long-term future at the expense of setting off can be counter-productive.

Establishing the right foundations for technology, teams, and partnerships enables organisations to make swift progress by delivering business value through a set of incremental projects tuned towards the long-term goal, even if that means adjusting frequently along the way.

Co-ordinating and architecting the teams and technology roadmap is falling on the shoulders of leadership. This article takes a look at the different roles, models, and governance processes to help organisations develop a strategy that delivers outcomes to build confidence and trust at speed.



# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## THE MAIN DATA & ANALYTICS MODELS

Establishing a well-organised data analytics platform delivers many advantages, including sustained return on investment, an accelerated process of gaining valuable insights, improved data management, realisation of economies of scale, and ultimately

harnessing data analytics as a competitive advantage. These objectives are commonly cited as key objectives in the transformation journey in order to become a data-led decision-making organisation.

The most common methods for structuring data and analytics within organisations typically fall into the following classifications:

### CENTRALISED MODEL

This is where the majority of businesses start on their Data and Analytics journey. In this model, all Data and Analytics personnel are consolidated into a single, enterprise-wide team or department.

This team assumes responsibility for all facets of data management, analytics, reporting, and the delivery of insights throughout the organisation.

**In theory, this approach offers several advantages, such as:**

- ▶ Enforcing uniform standards, methodologies, and key performance indicators (KPIs) across the organisation.
- ▶ Enhancing coordination among various analytics initiatives.
- ▶ Effectively utilising analytics teams and resources.
- ▶ Realising cost efficiencies through shared infrastructure and tools.
- ▶ Establishing structured career development paths to retain talent.

However, in practice, only a handful of organisations have succeeded in implementing this model at scale. It is widely accepted that this model doesn't scale well and is ill-suited for modern-day mid-sized organisations.

**The primary drawbacks include:**

- ▶ **Disconnection from specific business needs:** Centralised teams often struggle to fully grasp the diverse priorities and objectives of different business units.
- ▶ **One-size-fits-all approach:** Complex businesses typically have varied analytics requirements, and imposing standardised solutions by a central team often overlooks unique business needs.
- ▶ **Lack of domain expertise:** Analytics teams, when not embedded within business units, may lack the in-depth domain knowledge required to deliver tailored insights.
- ▶ **Bottlenecks and delays:** Centralising all analytical tasks leads to bandwidth constraints, delays, and backlogs as business teams vie for shared resources.
- ▶ **Single point of failure:** Any disruption in the central team, such as a key resource leaving, affects analytics delivery across the entire organisation.
- ▶ **Political challenges and lack of trust:** It's not uncommon for business leaders to resist full ownership of analytics by a separate central team, leading to a lack of trust in the data and insights provided.

While this list doesn't cover all the challenges, it provides an insight into some of the obstacles. Unless your organisation is relatively small (typically less than 500 people) with limited resources to allocate to Data and Analytics, this model is difficult to implement successfully.

# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## DECENTRALISED MODEL

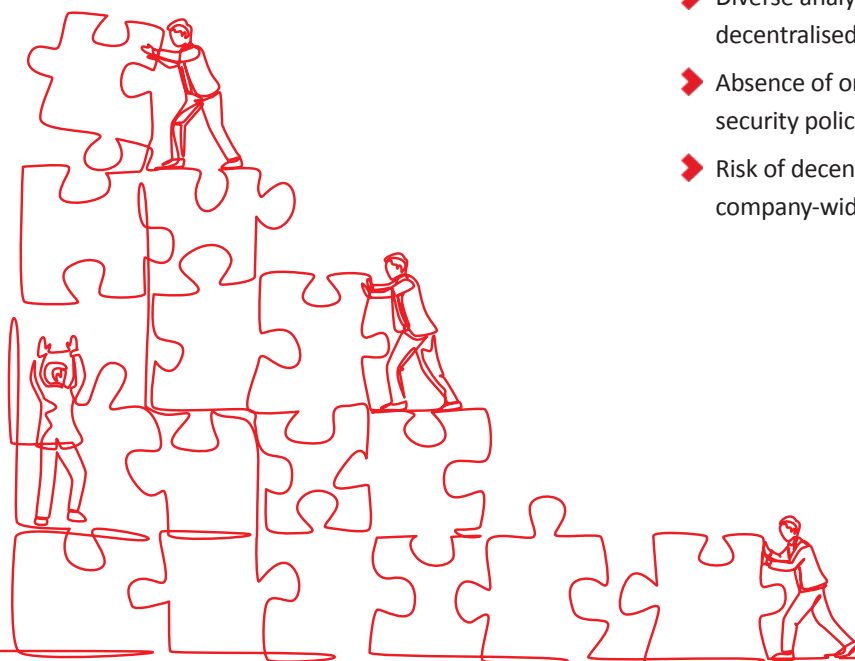
In a decentralised model, Data & Analytics teams and resources are dispersed and integrated directly within various business units and functions. Typically, there is minimal to no existence of a centralised analytics team. This model often evolves organically, with individual business units and functions assuming responsibility for their analytical requirements.

### The advantages of this model typically include:

- ▶ A close alignment with business priorities and objectives.
- ▶ Tailored insights and solutions specific to each business area.
- ▶ Domain expertise gained through immersion in business operations.
- ▶ Faster response times and direct support for business teams.

### However, as expected, there are disadvantages that present challenges when scaling:

- ▶ Replication of efforts across units as they operate independently.
- ▶ Inconsistent standards, methodologies, and KPIs applied throughout the organisation.
- ▶ Difficulty in harnessing knowledge, tools, and best practices organisation-wide.
- ▶ Potential isolation and limited career development paths for Data & Analytics staff.
- ▶ Suboptimal coordination and interoperability among decentralised teams.
- ▶ Proliferation of technology and infrastructure, as platforms and tools are acquired separately.
- ▶ Increasing business silos as units control their own data and insights.
- ▶ Diverse analytical skill sets and gaps resulting from decentralised recruitment, learning, and development.
- ▶ Absence of organisational data governance and security policies.
- ▶ Risk of decentralised teams becoming misaligned with company-wide goals and strategy.



While embedding Data & Analytics resources provides localised advantages, there are significant challenges that pose a threat at organisational level, including governance, platforms, tools, and nonetheless, the individual business unit level gains tangible benefits from this approach. This prompts discussions about preserving these benefits while mitigating pain points as much as possible when considering change.

# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## FUNCTIONAL MODEL

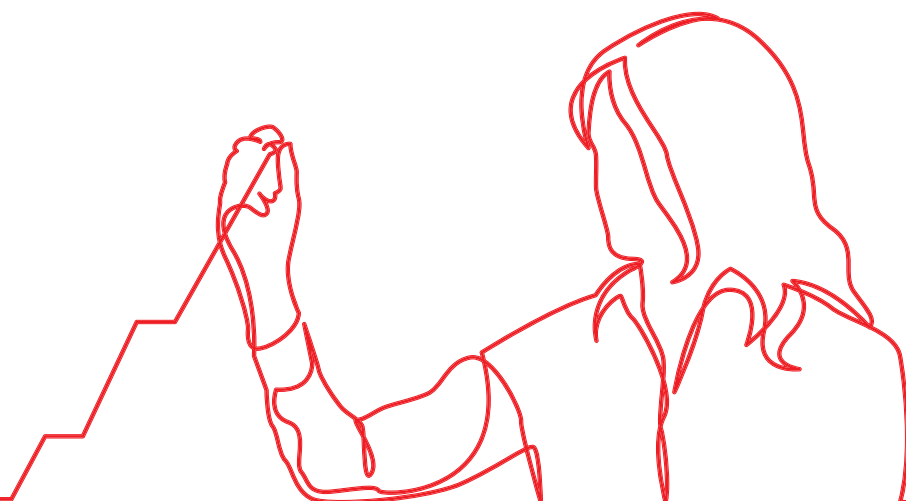
In a functional model, analytics teams are structured according to specialised focus areas such as data engineering, business intelligence, advanced analytics, and data science. These teams are typically organised into guilds or chapters, with the primary goal of fostering a community of practice that promotes excellence and engagement in each specific data and analytics capability.

### There are several advantages to adopting a functional model, including:

- ▶ Cultivating deep expertise within each individual data and analytics focus area.
- ▶ Providing opportunities for career development and growth within specific functions.
- ▶ Establishing standardised platforms and technology stacks within each functional area.
- ▶ Streamlining the recruitment process for specialised skills.

### However, it's important to acknowledge that the functional model also presents its own set of challenges and drawbacks, which include:

- ▶ Limited coordination among different functional analytics groups.
- ▶ The potential to perpetuate functional silos within the organisation.
- ▶ A risk of misalignment with overall business objectives.
- ▶ Narrow perspectives and a lack of an end-to-end view of data and analytics.
- ▶ Duplicated efforts as individual groups address their own specific needs.
- ▶ Competition for shared data sources and infrastructure resources.
- ▶ Delays in obtaining insights as requests must pass through multiple groups.
- ▶ Limited central strategy and governance for data and analytics initiatives.



The functional approach is most effective when groups have well-defined charters, strong leadership, and efficient coordination mechanisms across the various units.

To mitigate the risks of fragmentation and misalignment, especially in large global enterprises with dispersed teams, proactive management is essential.

Similar to the centralised approach, this can be more effective for smaller organisations but difficult to scale into the enterprise.



# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## FEDERATED OR DOMAIN FOCUSED MODEL

In a federated model, analytics teams are structured around specific business domains or units, such as Marketing Analytics, Supply Chain Analytics, Customer Analytics, and Financial Analytics. This model extends beyond the conventional business unit structure, to some extent mirroring how businesses are organised, with domains like Customer Analytics spanning various functions, and in some cases resources can be pooled to meet specific demands.

### This approach offers several advantages similar to those found in the decentralised model:

- ▶ Cultivation of deep domain expertise specific to each area.
- ▶ Tailoring of custom analytics to meet the unique requirements of each business domain.
- ▶ Ensuring a close alignment between analytics initiatives and domain priorities.
- ▶ Focusing recruitment and training efforts on domain-specific skills.

### However, there are also potential drawbacks to consider:

- ▶ Replication of efforts and infrastructure across different domains.
- ▶ Inconsistencies in practices and standards across units.
- ▶ Limited perspectives within individual domains.
- ▶ Absence of a comprehensive enterprise-wide analytics strategy and governance.
- ▶ Challenges in coordinating and facilitating interoperability among domain teams.
- ▶ Missed opportunities to harness the power of analytics across various domains.
- ▶ Creation of isolated data silos with limited data accessibility.
- ▶ Imbalances in the demand and supply of analytical resources as domains vie for them.



While the federated approach helps embed insights within crucial business domains, it can also perpetuate fragmentation. Establishing robust governance and platforms becomes imperative to connect domain-specific analytics effectively. Achieving this, however, can be a complex endeavour given the varying levels of maturity across different domains within the organisation.

# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## HYBRID OR CENTRE OF EXCELLENCE (COE) MODEL

This model has witnessed a swift rise in popularity across numerous organisations.

**The hybrid model, in essence, represents a fusion of two leading models:**

- 1 A centralised, company-wide CoE team that offers shared analytics services, standardised platforms, and established norms.
- 2 Decentralised insights teams that are integrated into various business units and functions.

**While in practice, this model can be more intricate than this simplified description, it effectively encapsulates its key characteristics and the anticipated benefits it brings:**

- ▶ The Hybrid Model fosters economies of scale, promotes standardisation, and cultivates organisational analytics capabilities.
- ▶ Insights teams contribute their expertise and deliver tailored analytics aligned with business priorities.
- ▶ It combines the strengths of both centralisation and decentralisation.
- ▶ Shared infrastructure, tools, and platforms drive operational efficiencies.
- ▶ The Hybrid Model offers training, guidance, and mentorship to support insights teams.

**Nevertheless, every rose has its thorns, and this model is not without its share of challenges that must be addressed to realise its potential value:**

- ▶ Demands extensive coordination between all the teams.
- ▶ Introduces complexity in managing a hybrid model across organisational units.
- ▶ Runs the risk of role and responsibility confusion.
- ▶ Insights teams may not fully utilise CoE resources without active engagement and leadership support.
- ▶ The CoE might appear detached unless it proactively aligns with business needs.
- ▶ Accountability and performance measurement need to be clearly defined to maintain focus.

The Hybrid Model aims to strike a balance between organisational analytics capabilities and business-aligned insights. To make this model work effectively at scale, it requires robust governance, leadership, coordination, and a collaborative culture.

When executed well, it enables both standardised analytics and localised solutions. However, its successful execution is not a straightforward endeavour. Establishing a clear line of sight to the business outcomes enables strong leadership and alignment between central functions and local business units or domains.

This model can manifest in various forms within different organisations. Some organisations infuse functional aspects into it, ensuring that communities of practice play a significant role, while others prioritise alignment with specific business units and functions.

Matrix responsibilities may also be introduced, where individual Data and Analytics team members report to both functional leaders (e.g., Data Engineering, Data Science) and leaders in business units or domain areas. It is crucial to define responsibilities clearly and cultivate a strong community to prevent conflicts and goal misalignment.

A widely popular and effective iteration of this model takes the shape of Data and Analytics product teams. These teams bring together all functional components, encompassing the necessary skills to deliver finished products to end-users, often in the form of business units. This typically begins with domain alignment and later evolves into cross-domain teams. Product owners, in collaboration with cross-functional teams, work closely with business stakeholders across the enterprise to provide data and analytics services or products that meet ongoing business needs. They also ensure alignment with other product teams on common standards, governance, and interfaces used for product delivery. Their performance is evaluated based on their ability to meet demand and maintain high levels of end-user engagement.

This approach gained prominence through the concept of Data Lakehouse platforms, combining the strengths and benefits of a Data Warehouse with the flexibility of Data Lakes. This can vary depending on individual organisations, their maturity, and investment levels.

It's important to note that this model demands substantial and long-term investments in personnel, technology, and change management to fully leverage its benefits. Establishing a structure, identifying key domains, and defining working methods represent just the initial steps in a longer journey that will require continuous investment, leadership, and the right set of goals and metrics to thrive.

# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## DATA AND ANALYTICS ROLES IN ENTERPRISE

These organisational models require specific key roles for effectiveness. While role titles and responsibilities may differ among companies, it is crucial to encompass core analytics competencies and ensure clear roles for successful execution.

In a centralised model, key roles tend to be more consolidated and specialised, including functions such as data engineering, data science, and business intelligence. This approach allows for depth within each function but may limit alignment with business objectives and end-to-end ownership.

Conversely, decentralised models often involve embedding versatile analytics generalists within business units. These individuals assume end-to-end responsibility for analytics but may lack specialisation in any single competency.

The hybrid Centre of Excellence (CoE) model strives to strike a balance between deep technical expertise, typically organised in functional guilds, and decentralised models that incorporate business-focused generalists, often in product manager roles.

While this list is not exhaustive, effective implementation of the hybrid CoE model typically requires a combination of the following roles:

**Chief Data Officer/Vice President/Director of Data and Analytics:** A senior executive responsible for enterprise analytics strategy and governance.

**Data and Analytics Lead:** The head of the Data team responsible for developing shared analytics capabilities, platforms, and services.

**Functional Leads (e.g. Data Engineering, Data Science, Analytics, etc.):** CoE members who establish standards for each guild/chapter, ensure a thriving community, and maintain skill levels and common standards.

**Product Team Leads/Product Owners/Product Managers:** Managers of analytics teams embedded in business units collaborating with the data team to tailor solutions for their specific needs. This is a critical role in maintaining visibility and line of sight to the business goals.

**Data Engineers:** Professionals responsible for constructing and maintaining data pipelines, infrastructure, warehousing/lakes, and integrations within the team.

**Data Architects:** Experts who define information architectures, data models, and governance standards within the team.

**Data Scientists:** Specialists tasked with developing and deploying advanced analytics models, algorithms, and AI solutions within the team.

**Business Analysts:** Liaison between analytics teams and business stakeholders, translating business needs into data/analytics requirements and ensuring quality before release.

**Machine Learning Engineers:** Experts in designing, developing, and implementing complex machine learning systems, working closely with Data Scientists.

**BI Analysts/Engineers:** Creators of reports, visualisations, and dashboards aligned with business needs within insights teams.

**Data Analysts:** Conductors of descriptive and diagnostic analytics embedded within business units, delivering valuable insights.

**Data DevOps Engineers:** Designers and implementers of data and analytics pipelines, applications, and models using DevOps techniques.

**Data Governance:** Enforcers of data standards, policies, access control, and data quality across units or domains.

**Data Quality Engineers:** Responsible for governing and ensuring trusted data quality, using automated rules, checks, and tests to identify issues.

**UX/UI Designers:** Creators of user-friendly interfaces and experiences for data dashboards, analytics applications, and machine learning models.

**Business Support Engineers:** Promoters of analytics tool adoption within business units, elevating data literacy across the organisation.



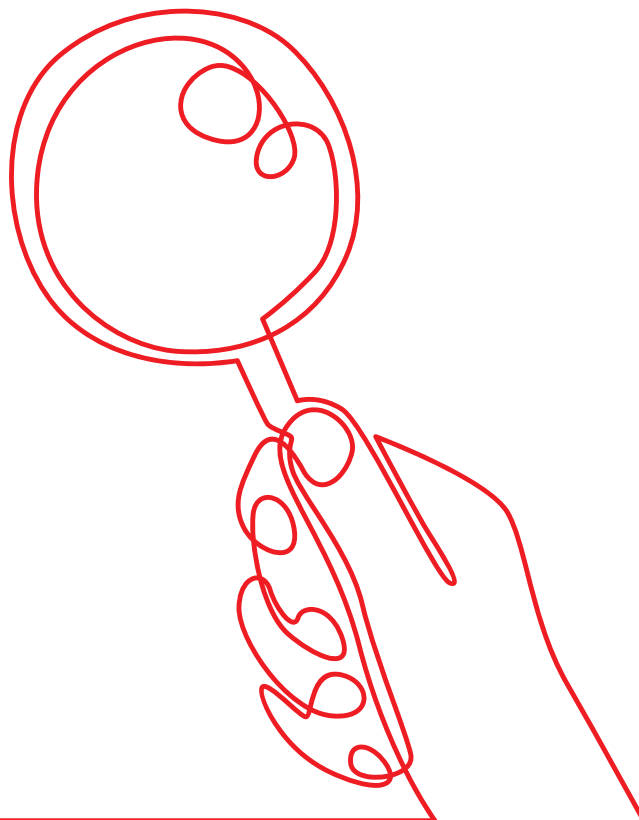
## CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

As data and analytics capabilities evolve, new specialised roles emerge, such as AI Engineering. However, accommodating such a wide range of roles within product teams can be challenging due to budget constraints, skill recruitment difficulties, and maturity limitations.

Even if it's not feasible to fill every role, clarity on responsibilities is crucial. While a limited number of small teams with cross-functional individuals covering multiple areas can be formed, this approach rarely scales. Highly skilled, cross-functional "unicorns" command significant premiums and are rare.

The goal should be to provide clarity on required capabilities while being pragmatic about limitations. Leverage centralised excellence to enhance competencies across decentralised domain teams. Strategically distribute cross-functional experts and foster knowledge-sharing communities.

Clearly defining roles and responsibilities while managing expectations is essential for building a high-performing data and analytics organisation within practical constraints.



# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## MANAGING THE DEMAND FOR DATA AND ANALYTICS

Creating a simple and effective demand process that fits all scenarios across any organisation is almost impossible. Nevertheless, every Data and Analytics organisation should consider integrating components from the

following list and adapt them as needed to tailor them to specific organisation needs. The specific implementation details will naturally differ due to internal variables.

Integrating some or all of the following considerations will facilitate the development of efficient demand management processes:

### 1. TRANSPARENT INTAKE PROCESS:

Establish a documented procedure for business units to submit analytics requests and prioritise them within the product teams' backlogs. This should include providing visibility into all backlogs and regular, business-friendly communications regarding upcoming items. These should be prepared in partnership with the Product Owners and Business Analysts as part of the documented input process to ensure business goals are clearly identified.

### 2. PRIORITISATION FRAMEWORK:

Implement a transparent set of criteria for evaluating requests based on factors such as business value, urgency, and effort. This aids in aligning enterprise strategy across different units and effectively managing stakeholder expectations.

### 3. GOVERNANCE FRAMEWORK:

Create policies for data access, security, model validation, and asset sharing that encourage collaboration. This is crucial for the success of the hybrid model and should rank as a top priority.

### 4. ANALYTICS PORTFOLIO MANAGEMENT:

Group requests, programs, and resources into portfolios based on goals, outcomes, and Return on Investment. While initially focused on specific domains, there will be a need for cross-domain and cross-enterprise projects. Effectively grouping and managing these is critical for success.

### 5. ENTERPRISE ANALYTICS STEERING COMMITTEE:

Form an executive group responsible for reviewing portfolios, top priorities, and resource allocation. This committee's purpose is not to diminish unit authority but to foster alignment on enterprise priorities.

### 6. ENTERPRISE ANALYTICS MARKETPLACE/CATALOGUE:

Maintain an inventory of available data, models, metrics, applications, and reports to prevent duplication and facilitate access.

### 7. STAFFING MODEL:

Define the allocation of talent from teams across organisational initiatives versus time for business units. Clearing up this process will mitigate potential conflicts when demand inevitably leads to competition for key resources.

### 8. D&A FUNDING MODEL:

Establish a model that outlines how individual teams and capabilities are funded, encompassing both personnel and platforms. Addressing this challenging topic early on yields positive effects relatively quickly.

### 9. MONITORING KPI/OKR FRAMEWORK:

Develop a set of key metrics shared between the data team and business units to align goals and monitor quality. While extensive in scope, agreeing on a common set of metrics promotes uniform standards across the organisation.

### 10. REGULAR COMMUNICATION:

Ensure continuous communication between the data team, decentralised analytics teams, and key business stakeholders.

While this list is not exhaustive, it provides an overview of the typical priorities and processes to support the development of a successful Data Team. Like many organisations building the capability, it is iterative, and this is simply an overview of what is necessary to successfully implement data and analytics at scale within an organisation.

# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## IN SUMMARY

Every organisation has its own distinct set of needs, maturity levels, skill sets, and constraints, all of which play a critical role in determining the most suitable data and analytics model to adopt. What may prove effective for one entity might not be directly applicable to another. Nonetheless, there are several recurring themes that consistently emerge in the realm of data and analytics:

### **1. CLARITY OF VISION AND STRATEGIC ALIGNMENT:**

It is imperative that the organisational data and analytics model is directly aligned with the overarching business objectives and priorities. Achieving this alignment necessitates a clear articulation of the “why” behind the chosen model and the securing of leadership buy-in. This establishes a platform for delivering business outcomes at speed, helping organisations gain confidence to continue investment.

### **2. BUSINESS PARTNERSHIP:**

Regardless of the chosen model, fostering strong collaboration between technical teams and business stakeholders is indispensable for driving adoption and achieving meaningful impact and continued investment.

### **3. BALANCING STANDARDISATION AND CUSTOMISATION:**

Striking the right balance between standardisation and customisation is crucial. Leveraging Data Analytics teams can help enhance expertise across various domains, all while allowing room for localisation. Avoid falling into the trap of adopting a one-size-fits-all mentality.

### **4. TALENT MANAGEMENT:**

Acknowledge the scarcity of highly skilled analytics generalists. To strategically address this, disperse such talent thoughtfully across the organisation while nurturing specialist expertise through communities of practice. Seek partnerships aligned to your organisational needs to optimise the team and build skills effectively.

### **5. GOVERNANCE AND COORDINATION:**

The establishment of strong governance, along with effective coordination mechanisms, is non-negotiable. Leadership, processes, and policies must be in place to ensure coherence across organisational silos and different models.

### **6. BUSINESS-CENTRIC SOLUTIONS:**

It’s crucial to remember that well-governed technology and data are tools, not ends in themselves. Organise teams to provide insights and solutions that are tailor-made to align with specific business goals. Identify the business use case first and explore tools second establishing a platform that will meet the long term ambitions.

### **7. EVOLUTION OVER REVOLUTION:**

Instead of aiming for a complete organisational overhaul, it is often more prudent to evolve existing strengths while addressing shortcomings through incremental improvements. Exploring potential within the organisation (not always IT) presents an exciting opportunity for talent development across the organisation.

### **8. MEASUREMENT AND CONTINUOUS REFINEMENT:**

Implement mechanisms for regular performance assessment, feedback gathering, and model adjustments. Organisational agility is paramount in this context.

### **9. CHANGE MANAGEMENT AND COMMUNICATION:**

When transitioning to new models, pay due attention to change management and communication. Beyond structural changes, it’s essential to focus on shifting mindsets and securing buy-in across all stakeholders.

While the ideal data and analytics model will inevitably vary from one organisation to another, these guiding principles serve as a robust foundation for structuring analytics entities for success and scalability.

Equally important is the cultivation of a collaborative culture deeply rooted in the pursuit of impactful business outcomes.

In the fast-moving sector of Data Analytics and Artificial Intelligence, establishing a clear use case and delivering a quick win will pave the way to lasting success in Data & Analytics, providing we take the time to put the right foundations in place.

With a clear vision and genuine partnership, data-driven enterprises can not only survive but thrive in today’s dynamic landscape.

# CREATING A SCALABLE AND EFFECTIVE DATA AND ANALYTICS ORGANISATION

## UNLOCK THE POWER OF DATA TODAY

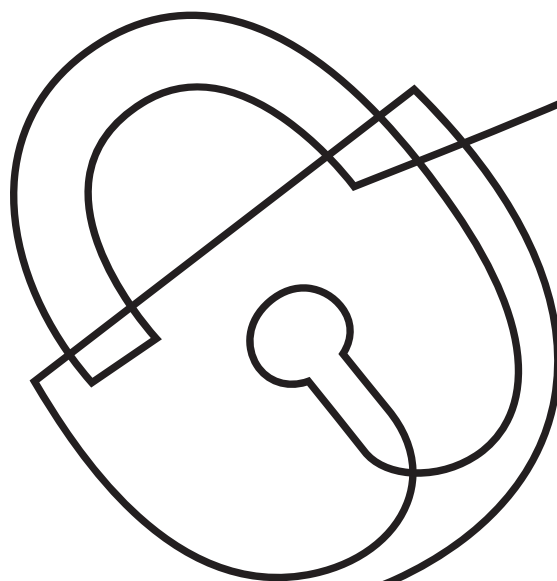
### MAKE RAPID PROGRESS BY QUICKLY IDENTIFYING THE RIGHT TANGIBLE BUSINESS OUTCOMES

IF YOU'RE THINKING ABOUT:

- ▶ Embarking on your data journey
- ▶ Looking at options for modernising legacy solutions
- ▶ Trying to get the most out of your modern platform investments

We would like to offer a **workshop** to explore the art of the possible.

Together we will identify the right tangible business outcomes to support the progression of your data maturity.



## MEETING YOU WHEREVER YOU ARE ON YOUR DATA MATURITY JOURNEY