



Driving towards high-performance data & analytics

It starts with building the right organization

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High-performance data & analytics requires the right strategy, structure, and support

Feeling the pressure to drive better insights from data & analytics (D&A)? You're not alone.

Nearly every organization collects and analyzes data to better manage its business, drive growth, increase efficiency, and reduce risk.

“Effective D&A requires a methodical strategy and plan, aligned to business needs, supported with the right talent and leadership, and focused on the right things.”

— Traci Gusher, Principal,
Data & Analytics, KPMG LLP

Today, the ability to unlock value from D&A is a prerequisite for business success. It is essential to not only stay in line with the competition, but also to move ahead of them.

Building a leading-edge D&A capability is not just about having the latest technology or tools. Gartner predicts that through 2017, 60 percent of big data projects will fail—they will not be completed within budget or on schedule, or will not deliver the features and benefits promised¹. Forrester found that business leaders are increasingly dissatisfied with the level of analytics in their companies². Global KPMG research revealed that only one-third of business leaders trust the analytics that their business operations generate³.

So what is the missing piece? From KPMG's perspective, it is often the manner in which D&A capabilities are structured and managed within organizations. D&A projects falter when they are not supported by the right framework and talent, and ultimately, are not aligned to the business strategy. That's because D&A is not just a stack of technologies, or a few talented data analysts isolated on one floor of a company's building. D&A must be the “pulse” of the organization, incorporated into all key decisions across sales, marketing, supply chain, customer experience, and other core functions.

This paper unveils a tested but often overlooked approach—pioneered by KPMG's award-winning People & Change practice⁴—to designing high-performing D&A organizations, emphasizing the people and organizational components that are so essential for success. Read on to learn how developing the right strategy, plan, talent, governance, and focus can unleash the true power of D&A in your organization.

“Organizational design is a critical step in creating a sustainable and effective D&A function.”

— Paul Lipinski, Principal,
People & Change, KPMG LLP

¹ “Gartner Says Business Intelligence and Analytics Leaders Must Focus on Mindsets and Culture to Kick Start Advanced Analytics” (Gartner, September 2015)

² Forrester's Global Business Technographics Data And Analytics Survey, 2016

³ Building Trust in Analytics (KPMG International, 2016)

⁴ Change Management Consulting (ALM Intelligence, June 2016)

Why organizational design matters

D&A functions are complex to create and manage, given:

- Numerous internal stakeholders having different demands and expectations
- The technical and business acumen required
- Their reach across all arms of the organization
- The limited availability of qualified talent
- A misunderstanding of what D&A actually means
- Lack of “ownership”

Some organizations spread D&A capabilities randomly across functions or rely on a few data analysts working in silos to provide insights. This lack of structure can be problematic, as it prevents D&A staff members from building the close business relationships necessary to build trust in their ability to deliver valuable insights and help drive informed business decisions.

Furthermore, many are too reliant on technology toolkits and rigid architectures, and not enough on creating an agile environment that can effectively leverage people with the right expertise to drive D&A projects forward. This model will not stand the test of time to truly produce transformative D&A capabilities.

Fewer organizations succeed at establishing well-designed, well-structured, well-staffed, and highly functioning D&A units. When looking at the D&A strategy for many organizations, one often has to question the level of consideration placed into the planning. Was the vision for the D&A capability—including goals—clear from the outset? Were targeted benefits defined and skillset demands anticipated? Did the organization consider how governance and decision-making would work? In other words, what was planned versus what was haphazardly put in place as a response to a business need?

According to KPMG International’s 2017 CIO Survey, data analytics was the most in-demand technology skill for the third year running, but more than 40 percent of IT leaders say they suffer from shortfalls in skills in this critical area⁵. What’s more, less than one-quarter of organizations feel that their D&A maturity has reached a level where it has optimized business outcomes⁶.

⁵ CIO Survey (KPMG International, 2017)² Forrester’s Global Business Technographics Data And Analytics Survey, 2016

⁶ Big Data and Analytics MaturityScape Survey (IDC, 2016)

Why the greater focus on D&A within organizations?

What if your commute could be faster and safer? KPMG LLP leveraged the latest in data & analytics capabilities to help a public transportation company improve passenger safety and experience. By tracking real-time data about crowd densities and flows on all platforms in a system in a control room, the company was able to optimize use of platforms, trains, and personnel.

That is just one example of the impact strong D&A functionality can have. Others include:

- Identifying gaps in the business model
- Extracting hidden insights
- Enabling faster decision-making
- Reducing “gut-feeling” errors and mistakes due to using incomplete or unreliable data

For data to mean something, you need business alignment

KPMG worked with the risk management function of a large global insurer that was struggling to effectively report conduct risk to senior management. Due to manual and lengthy data collection processes and lack of transparency about how the data was aggregated, the analytics reported up to the chain was not seen as providing value.

KPMG helped the insurer increase transparency and identify risks at the root cause by deploying an app-based analytics solution that streamlined reporting processes and reduced key person dependency, so meaningful data insights could be more readily shared with the business.

At KPMG, we have found most companies that succeed at having a D&A capability that meets their business needs have skilled teams of IT and data science specialists who are wholly focused on D&A initiatives. But the team should not operate in a silo. While structures vary, the unit is typically seamlessly integrated with the company's existing providers and consumers of D&A. It operates in cohesion with non-D&A colleagues—people who really understand both the business challenges and how the business works—to set and work toward realistic and relevant strategic goals. The team also has the complete support of executive leadership, and it's goals are fully aligned to the business strategy.

D&A functions that are designed in this way dramatically increase the information and value that can be extracted from the volumes of consumer and business data streaming through the organization.

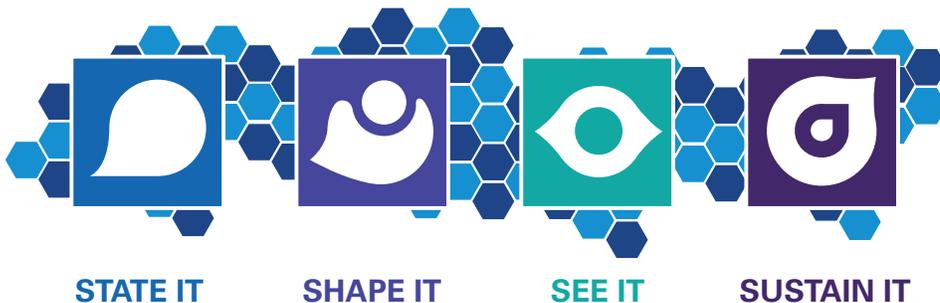
“When the D&A team is closely aligned to the business, it goes a long way toward closing the ‘trust gap,’ giving business leaders confidence to rely on the team’s insights to drive their most important decisions—even when those insights might go against ‘gut instinct.’”

— Traci Gusher, Principal,
Data & Analytics, KPMG LLP

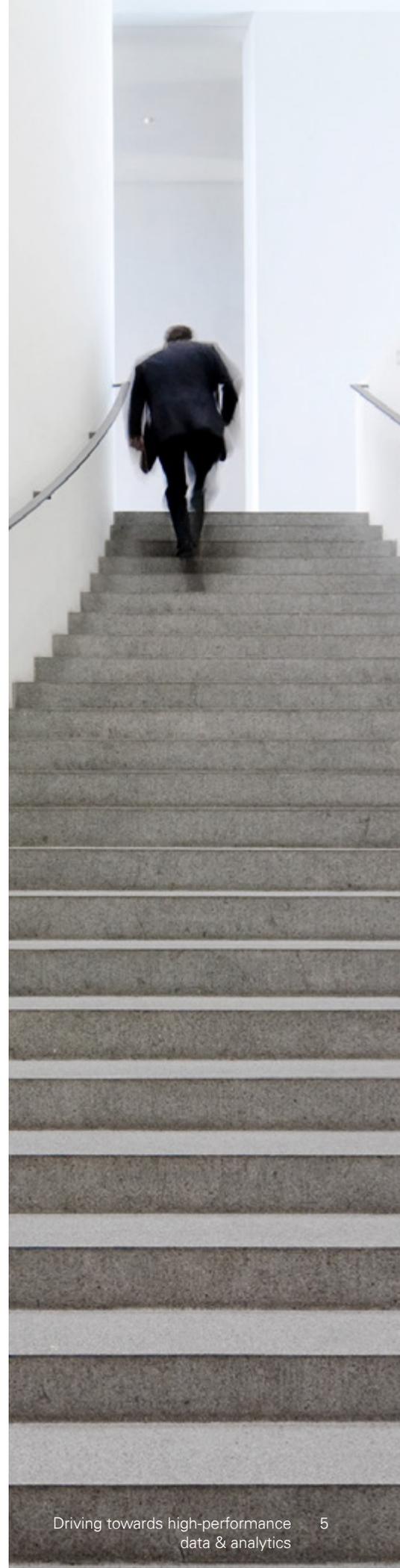
Four steps for driving high-performance D&A

KPMG's four-step **Organizational Design for Performance (ODP) methodology** is designed to help your company leverage its people effectively to increase the performance of the D&A function. While organizations need to also master the technological complexities of D&A, this methodology focuses specifically on the people component, an area that is sometimes undervalued in designing D&A functions.

Our view—based on our years of experience helping companies of all kinds transform business models and operations to work more effectively toward their goals—is that successful, people-oriented organizational design requires (1) **stating**, (2) **shaping**, (3) **seeing**, and (4) **sustaining** the vision for the organization.



Our experience has shown that standing up a D&A organization can be challenging. Keeping these steps in mind as you design (or redesign) your D&A function can help your company position itself to be a future D&A leader.



State it: Why do you need a D&A capability?

Identify the need

Leading-edge D&A functions are always aligned to the goals of the business. That is why the first step in designing a high-performing D&A function is building the business case—getting all stakeholders to agree on why it is in the company's best interest to expand its D&A capabilities.

A large U.K.-based retailer's primary business case for an effective D&A capability was its strategic need to optimize both store replenishment and staffing. KPMG helped the firm analyze real-time internal and external data for "signals" that indicated changes in demand, enabling the company to better understand and predict day-to-day store performance.

So how will D&A help you? Will it help improve business performance? Jump-start process and cost efficiency? Drive strategy and accelerate change? Increase market share? Innovate more effectively?

Set the vision

Whatever the reason(s) for establishing a D&A capability, stakeholders need to carefully think through what successful D&A will look like for the organization. Ask yourself: "Where are we trying to go?" and "What problems are we trying to solve?" Identifying and prioritizing high-value use cases—and how you will meet the data needs associated with those use cases—should be priority number 1.

It is important to understand that D&A teams are not just data warehouses that perform back-office functions. Your data function should be a key contributor to the development and execution of the business strategy by supplying insights into key areas, such as employee performance, customer behaviors, unmet market opportunities, emerging trends in the external environment, and more. Therefore, the final vision for the D&A function should focus on the trusted insights that managed data can bring to the business.



STATE IT

- Leverage stakeholders to develop the business case
- Develop a clear future-state vision for the D&A function
- Align stakeholders with your vision

Develop the strategy

Once the future vision is articulated, it is time to develop the strategy for achieving the vision. Without a strategy—or with too many strategies—D&A efforts can easily fall short. In fact, KPMG worked with a global consumer goods organization that had nine separate D&A strategies that had not been aligned to each other or a central vision. This prevented the organization from seizing current D&A opportunities and made planning for smart future investments in analytics difficult. We helped the company develop an organization-wide D&A strategy that aligned with corporate objectives, helped minimize redundancies, and focused efforts on the highest-priority, value-driving initiatives.

Key considerations in developing a D&A strategy that is fully aligned to business goals include:

- Defining the optimal ways of working—the people, processes, procedures, policies, structures, and governance to foster the right environment for productivity, teamwork, and innovation
- Addressing your organization’s current and future D&A gaps—i.e., the issues that might prevent your vision from becoming reality, both in today’s business context and in a future that might look very different than today
- Considering what pain points you routinely deal with in using D&A and what internal changes you might make to overcome them
- A multiyear view into technology needs that are scalable and flexible
- Robust data management integrated into business processes

Ready to push the D&A trigger?

A series of trigger questions can help your company determine if you are ready to reorganize D&A to enhance performance:

- Are you using analytics as well as or better than your competitors?
- Does the business trust in the insights provided by the analytics team?
- Who owns analytics in the organization?
- Are you confident that the groups doing the analytics do not overlap?
- Do you have a technology strategy?
- Are you confident that your reported data is consistent and calculated in the same way?



Shape it: Where can you improve?

Understand where you are today

To create a successful D&A function, you must understand how mature your D&A capability is today and how far you have to go to become a D&A leader, as well as where your competition lies on the spectrum. In assessing your organization, key questions to consider include:

- How are you using D&A capabilities today?
- Are analytics projects mostly ad hoc, or coordinated, consistent, and aligned to a single strategy?
- Who owns the majority of data in your organization?
- Who sets the policy on how D&A functions are set up, governed, and staffed?
- Is D&A spread out across multiple areas or centrally managed?
- What return are you getting on your D&A function?

KPMG's D&A maturity assessment questionnaire and interview protocol is one example of a tool leaders can use to rate their organization in a multitude of areas, including strategy, vision, tools, and structure/capabilities. The assessment uncovers significant needs in terms of technology, data, and organization, as well as key analytics solutions to be developed.

Set guiding principles

Developing specific and strategic guiding principles is critical to the design of the D&A function. The guiding principles should clearly establish:

- Critical success factors for achieving the ultimate vision
- The talent and capabilities that will make up the D&A function
- The roles and responsibilities of each member of the D&A team including how they engage with their non-D&A colleagues
- A governance framework that supports on-going effective cross-functional collaboration
- Key performance indicators (KPIs) to quantify the success of the transformation



SHAPE IT

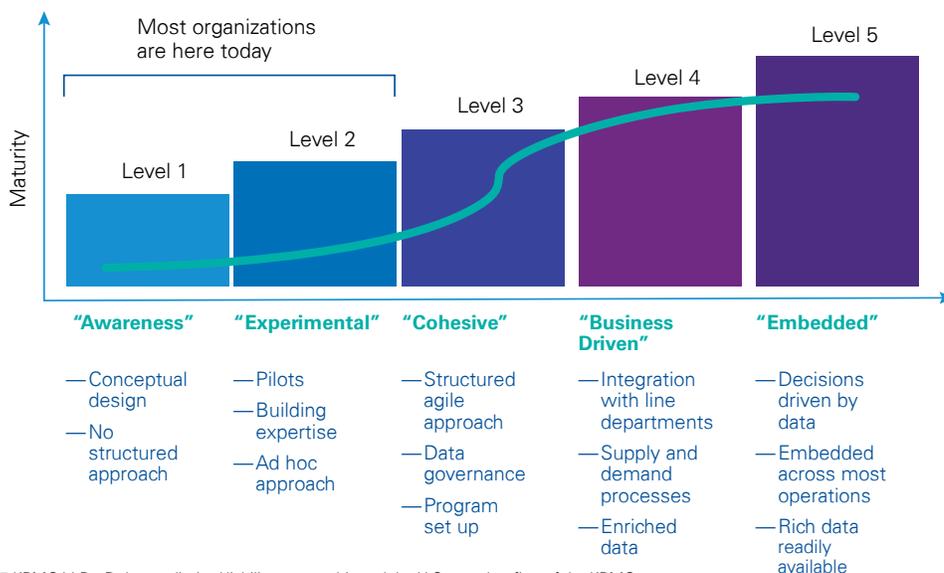
- Understand the current state
- Identify critical success factors
- Assess your D&A maturity
- Create meaningful KPIs
- Blueprint and test different operating models

Blueprint the operating model

There are many different types of D&A operating models, and which is right for you will depend on many factors unique to your organization. But they can generally be summarized into three main categories:

- Centralized, where advanced analytics and regular reporting are produced by a central function and the business consumes the insights
- Local, in which advanced analytics and regular reporting are produced by the business, with the support of a central team
- Hybrid, in which advanced analytics are produced closer to the business, while regular reporting and some support is produced centrally

As an example, KPMG helped a global life sciences company seeking to gain competitive advantage through enhanced data insights develop a target enterprise analytics delivery services model that meshed with its current capabilities and long-term business strategy. As the company begins to implement the developed design, it is in position to increase top-line revenue and bottom-line growth by providing full-cycle D&A services.



Outside of the core group(s) producing advanced analytics and reporting, careful consideration must also be taken to align with the organization's technology teams. Technology does not equal analytics; however, it is a key enabler that requires careful attention during the design of the operating model.

The operating model at this stage should also go one level deeper to lay out the key processes that are critical to effective D&A functions, such as project management, data management, business partnering, financial and operational reporting, analytics execution methodology, value tracking, knowledge management, organizational management, and governance.

Develop operating model options

As the D&A function begins to take shape, you should develop multiple operating model options for stakeholders to review and pressure test performance. Gauge stakeholders' comfort level with how well each design for the D&A unit meets the organization's objectives and desired outcomes. Weigh the pros and cons of each model before making a final decision.

"The key to a successful D&A function is to enable specialized data science and engineering resources to be close to business problems and the leaders dealing with them, and provide them with the tools and opportunity to provide real insight into the answers to these problems."

— Tom Haslam, Director,
KPMG Lighthouse

See it: Detailing the organization design

Size and staff of the D&A team

Developing a D&A function of the appropriate scale is critical to ensuring it functions as intended. In order to understand how resources need to be deployed, assess:

- How much work will be required?
- What will the work mean from a staffing perspective?
- What competencies, skillsets, and job roles are required to effectively execute that work?

For example, when KPMG helped the global life sciences company design and build an advanced analytics center of excellence (CoE), one of our key steps was to help hire and establish the essential core D&A resources to support the new shared support service.

Assess the operational impact

Any new capability or shift in how and where work gets done will have an operational impact. If managed poorly, that is often a major area of setback for change programs.

As such, determining the degree of impact of the newly designed D&A function on areas like business processes, systems, and most importantly, people, is incredibly important.

You should conduct two types of assessments:

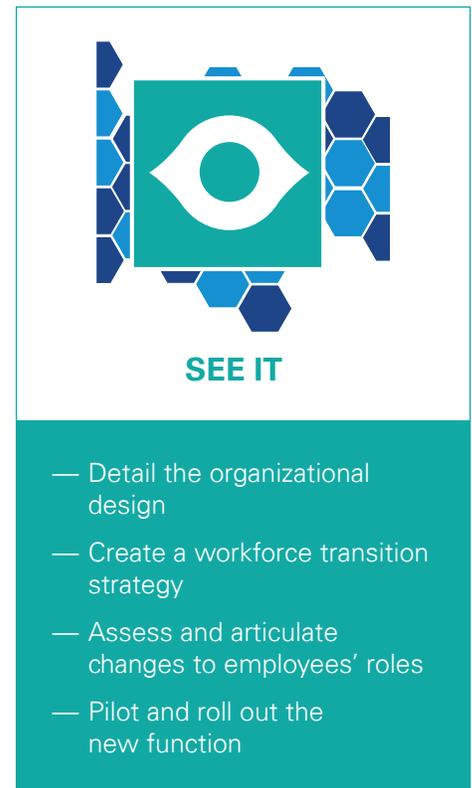
- Organizational impact assessment, to determine how the shift in work will impact current functions and capabilities, business processes, and systems
- Role impact assessment, to understand how a particular role is changing, what it will mean to the worker serving that role, what new skills will be required, and what that worker needs to start, stop, and continue doing

Create a transition strategy

Your enhanced D&A capability is getting close to coming together. That means it is time to begin developing a strategy for implementation. Outlining a clear approach and roadmap for workforce transformation makes all the difference in results, yet this step is often the most overlooked aspect of the entire process of designing a D&A function.

Your transition strategy should include the following components:

- Role-mapping resources: Based on future skillsets, which roles are most prepared to support the new functional requirements, and what roles require new skillsets and demand new talent?



- Workforce transition strategy: How and when will the workforce transition and what do they need to be aware of?
- Pilot approach: How will you pilot the D&A function, measure its effectiveness, and make adjustments based on feedback?

To demonstrate the importance of transition strategy, consider KPMG's work helping build a D&A organization to support a global life sciences company. While the company greatly increased its D&A maturity with the development of its new D&A organization, it recognized that it still may not have a scale to provide advanced analytics and big data services during the highest capacity time frames. Therefore, the company has built partnerships with select external vendors (including KPMG) to scale its D&A capability when needed.

Likewise, when KPMG helped the internal audit function of a client organization develop its D&A capability, one of our key points of focus was working with the client's data analyst to transfer skills and train for future D&A-enabled audits. We wanted the client to be able to sustain the D&A-enabled auditing effort once our consulting engagement was complete.

Defining the D&A roles of the future

In our work with clients, we have begun to define what the primary roles for a high-performing D&A function should look like. Below are examples that showcase the variety and responsibility of these roles:

- Chief analytics officer: This emerging role is responsible for translating business strategy and requirements into D&A-specific strategies and activity. The chief analytics officer does not sit in IT or related functions. Rather, he/she reports directly to the CEO.
- Data and software engineers: Frequently overlooked in the organization build are process, data, and software engineers who are just as important as data scientists. These professionals translate advanced analytics problems into technical approaches, designing and implementing system architectures to tackle big data needs.
- Data scientists: Either homegrown or sourced through data-related curriculums from universities, data scientists use their detailed industry and technical knowledge to question, analyze, understand, and manipulate massive volumes of data.
- Scenario advisers: Scenario advisers are strong science, technology, engineering and mathematics (STEM) degree earners with the ability to determine and advise the business on likely scenarios, the causes for each scenario, and the financial and business impacts.

Sustain it: Realizing the people transformation

Pilot the D&A team

Piloting the new D&A function is the pinnacle of the project. You are now ready to execute all of the strategies you have developed in the first three steps.

Successful pilots rely on strong business readiness to go live. That means:

- Ensuring you have filled all roles and with the right skillsets
- Having business procedure documents in place
- Having use cases lined up for prototyping that are commonly viewed as high value targets
- Ensuring all parties understand how the D&A function fits in the larger organizational structure
- Creating a culture that allows for risks and roadblocks to be openly addressed
- Gaining leadership presence and communication throughout the process

Address change impacts

Even before any pilots occur, distribute specific communications to each stakeholder group about how the new D&A capabilities will affect them. If change impacts are not pragmatically assessed and addressed, the change will feel harsher and will be more likely to fail, especially since many parties will not trust D&A.

Once the D&A function is in place, leadership and key change agents should continue to be vocal and honest regarding progress, yet always optimistic. Reports should go out on a regular schedule to assess progress and whether the change vision has been achieved.

Finally, remember to measure the benefits and the shortfalls. Consistently monitor the effectiveness of the D&A team by tracking and reporting on the KPIs set during the “Shape it” phase.

Align the culture

If your culture is not aligned to the goals of your D&A capability, then the changes implemented above will be for naught. One huge cultural shift that many organizations struggle with is the concept of “fail often, but fail fast.” Failure is frequently seen in corporate culture as exactly that: failure. However, failure in the context of advanced analytics is seen as a necessary step to develop the best models with the best insights.



Improve your initial design

As your organization evolves, so will your D&A needs. You will need to continuously update the design of the function and create new transition strategies as you decide to make small and large changes.

To continuously improve the design of your D&A team, consider routinely performing gap analyses, tracking best practices in the market, and best of all, using your new D&A capability to predict future trends and needs, and drive business decisions.

Keep your support network strong

Ultimately, one of the biggest keys to success in designing a D&A function is maintaining a strong network of support long after the initial “go-live” date. Failure to integrate the D&A team with the functional teams, or a drop off or lack of leadership visibility, will make it difficult to realize the business case.

As such, you should actively work to facilitate knowledge sharing across functions, share dashboards and progress on a regular basis, identify discrepancies and potential challenges, and clearly articulate the return on investment of the new D&A function.

Keeping the best

Struggling to hire and retain D&A talent? Many companies are, especially companies outside of the technology sector, which tends to offer the most interesting and lucrative analytics opportunities. To attract highly sought after D&A talent, consider:

- Giving your people access to the most cutting-edge, emerging analytics tools on the market
- Creating interesting problems to solve
- Creating a “collegiate,” collaborative physical environment where D&A talent can work closely with others
- Offering a rich, rewarding and high-growth career path, from employee onboarding through retirement

How KPMG can help

Data continues to be created at a pace we have never seen before. In this era of digital change and disruption, business leaders need D&A they can trust to inform their most important decisions.

KPMG D&A has earned that trust. KPMG's "Lighthouse" capability—our global CoE for D&A—is a distinct group with strong connections to the firm's overall business strategy and staffed with the right talent and skills to support each of our main practice areas. Forrester named the KPMG International global member firm network a Leader among insights service providers in The Forrester Wave: Insights Service Providers, Q1 2017, noting that

KPMG global member firms are "on the forefront of innovation," and have "cracked the code for balancing business and technology expertise."

In addition to KPMG Data Analytics' market-leading D&A solutions, **KPMG People & Change** professionals help clients build the right organizational design into their D&A functions. KPMG's ODP methodology is a straightforward and robust approach to helping your organization create high-performing D&A functions.



STATE IT

State the current business context and future aspirations, the opportunities and ambitions to be addressed, and the critical success factors for the future

SHAPE IT

Shape the future design by analyzing the current design, identifying the root causes of performance, and developing the aspirational high level design

SEE IT

See how the future state vision comes to life through the detailed design and transition planning, assessing impacts at the individual role level

SUSTAIN IT

Sustain the integrity of the design through detailed transition execution, and monitoring and measurement led by internal organization design capability

⁷ The Forrester Wave: Insights Service Providers, Q1 2017 (Forrester, 2017)

About the authors



Traci Gusher is a principal in the KPMG Lighthouse, KPMG's Center of Excellence for D&A. She is responsible for managing KPMG's D&A Strategic Transformation service offering and oversees the KPMG Lighthouse Artificial Intelligence Team. Traci has helped several companies establish their own analytical CoEs. She has significant experience in systems implementation, advanced analytics execution, big data technologies, cognitive computing, and D&A strategy.



Paul Lipinski is a Principal and leads Organizational Design for Performance (ODP) services for KPMG's People & Change practice. He has extensive experience in the development and execution of strategies associated with organizational-, process-, and technology-enabled transformations, crossing multiple industries and geographies.

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Businesses that understand what they should do with their data are going to be the big winners in the years ahead. Get in touch with us to learn more about how we can help your organization seize D&A opportunities.

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