Data as product

Rethinking your approach to data

Easy access to reliable, high-quality, and trusted data stubbornly remains one of the most significant impediments to data-driven decision-making by our government agencies. Agencies at all levels are sitting on vast treasure troves of data, but that potential has largely gone untapped.

It's not for lack of trying. Over the years, government agencies have spent millions of dollars implementing highly-rated solutions, yet the problem remains. The issue isn't with those technologies or IT's implementation of them, however. The issue may be how IT has been looking at the problem.

By now, virtually every technology leader has embraced the idea that just "lifting and shifting" a legacy system to the cloud won't unlock the cloud's full value. Releasing this value requires a completely different way of thinking about what application delivery is. Otherwise, you're just moving all of the limitations of that old on-premise system to a different data center. But many of those same IT leaders have yet to consider that their data projects, too, might require a very different way of thinking to successfully provide decision makers with the insights they need.

It requires thinking of data as a *product*.

Why modern government is important

Government agencies in the U.S. must modernize in order to keep up with changing user needs, regulations, and health and public safety requirements. Leaders of modern governments rethink business processes and service delivery models to more effectively achieve their mission. This article is one of a series that features how modernizing affects the government workforce and the user experience, improves security and public trust, and accelerates the digital journey. KPMG team members offer insights intended to help guide governments in their modernization efforts to encompass all processes, technologies, policies, and the workforce so each works together to create connected, powered, and trusted organizations.

Lessons from consumer products

We can begin to illustrate the difference in thinking by looking at successful consumer product companies. They tend to be led by marketers, not technologists. Marketers typically look at everything they do through a customer lens. They listen to their customers to understand their goals and their pain points. It's not so much about what they can give their customers as why their customers might want it or need it. They continuously look for ways to improve their products to stay in sync with those customer needs.

They also help customers see possibilities that the customers themselves can't envision. Few consumers would have told market researchers that they needed mobile apps on a touchscreen device before they saw an iPhone. Perhaps more importantly, Apple is obsessively focused on the user experience—making it easy, intuitive, and even fun—more than on the number of its features.

The classic IT approach

Contrast this with how most IT organizations respond to agency requests for data.

Such requests are typically treated as discrete, bespoke engineering projects. You'd identify the sources of the data they've requested, centralize it, clean it, provide access to it, and then—after six to nine months of work—move on to the next project. You might have a collection of these projects—multiple, siloed data stores, each designed to solve a specific agency challenge, each based on a specific request. Each time, you'd start from scratch, with delivering the data they requested, reliably, on time and on budget as your only goal.

In the end, you may have achieved this goal, but did you solve their challenge—the reason why they needed the data in the first place? For most IT leaders, this thought never crosses their mind. Chances are, you focused only on the plumbing required to deliver the data. Did you consider who needed the data? Why they needed it? What decisions would rely on it? What other things they might be able to do if they had access to more or different data? How other agencies might be able to take advantage of it? Importantly, did you consider how the answers to all of those questions might change over time?

You're not an engineering services firm

Here's the key point: when it comes to data, you need to stop thinking of IT as an organization that "sells" engineering services or projects. Instead, **you need to think of yourself more like a consumer product firm that sells easy access to clean, robust, relevant, reliable, and up-to-date data. That's your product.**

Your customers—agencies and their data scientists, analysts, and decision makers—will "buy" or "subscribe to" your product. As with any successful consumer product, you'll carefully design it and its features based on listening to your customers and understanding their needs, frustrations, and aspirations. You'll focus on the customer experience, making it easy and even enjoyable. You'll continue to improve it based on customer feedback. You might use analytics to see what your customers are actually doing with your product—how they're really using it rather than how you, or they, thought they would.

Reusability is a key feature. Instead of a catalog of engineering projects, you now have a catalog of insights. Even if an unanticipated agency need arises, you'll now have a product that is leverageable. You no longer start from scratch each time.

Rethinking your engineering practices

Of course, you'll still need to be concerned about the plumbing. This is where your engineering skills come back into play. You still need to have a capable team to develop, deliver, and maintain a successful data product. Importantly, you need these processes to be uniform across the enterprise, guided by a singular culture and enabled by common tools. This, too, requires a significant transformation: rethinking the way IT is organized to create that product, and what new practices, workflows, and tools you'll need to deliver and update it. Broadly speaking, this paradigm shift is known as DataOps.

DataOps applies principles such as Agile development and continuous integration/continuous delivery (CI/CD) to data. It enables teams comprising both data and engineering professionals to collaborate and rapidly innovate —and, just as rapidly, reassess their priorities based on changing requirements or user feedback. It enables them to implement quality and efficiency improvements at every step, based on that user feedback or those previously mentioned usage analytics. It employs automation to enable continuous, on-demand testing and deployment in the same way DevOps has enabled companies to literally deploy thousands of software releases each year instead of three or four.

Data must be treated as you would software. It must have the same quality checks applied. If a data exception or anomaly occurs, you'd get the same alerts you'd get if a server's memory usage spiked or a process failed to respond.

Your job is to hide the complexity that lies under the hood—or perhaps more accurately, to ensure that the complexity isn't passed on to your customers. Your data scientists, for example, are likely now spending half their time figuring out where the data they need is, how to access it, whether it needs to be cleaned, how often it's updated, whether it can be trusted, etc. But these are all things that IT can do—and more importantly, things that IT can automate or productize. That would free your data scientists to focus on tasks that require their rare and highly prized skills, such as model or algorithm deployment—the things that generate real value.

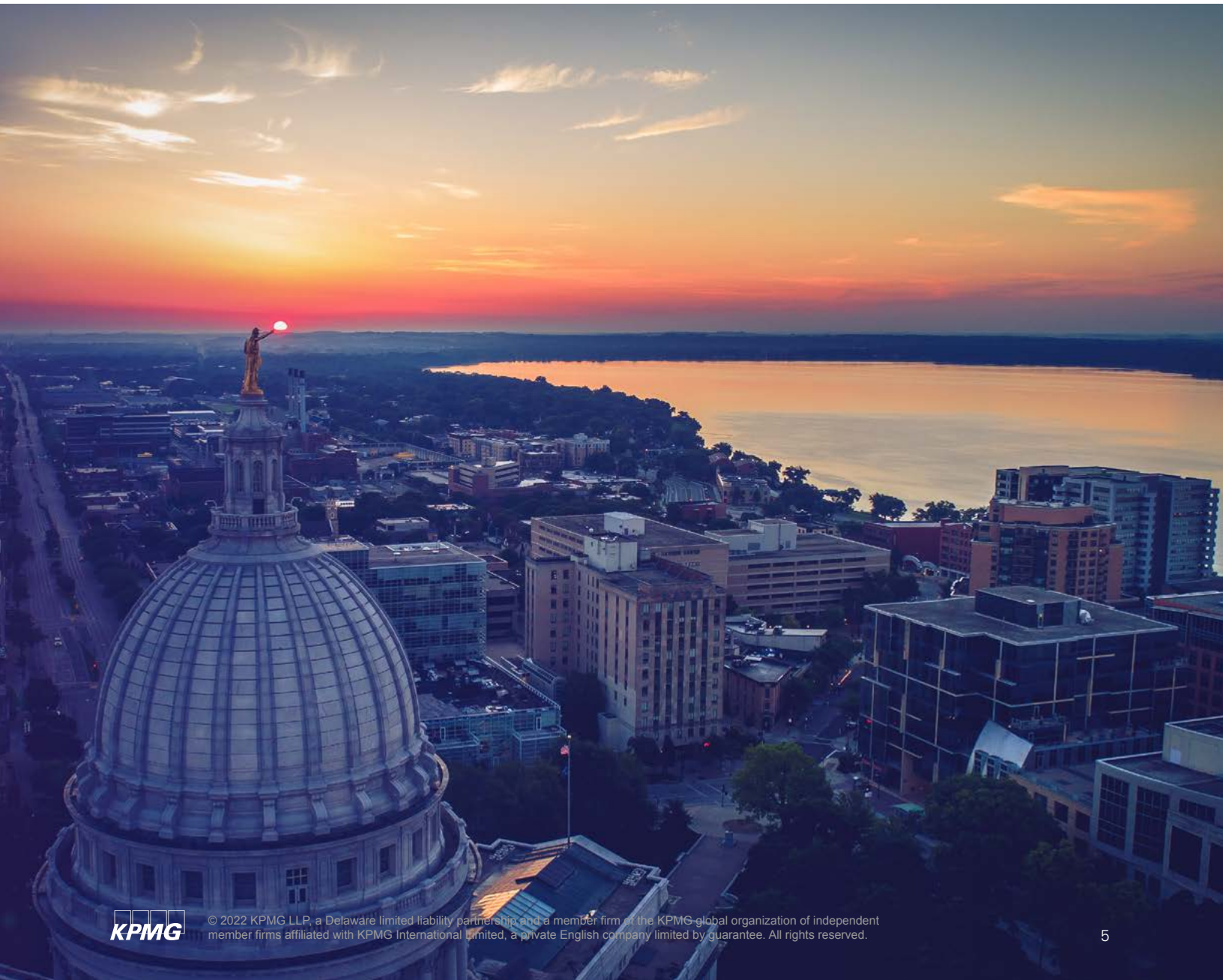
It can also empower analysts to accomplish more on their own, with less dependence on IT or those difficult-to-find data scientists. These are the people with domain-specific skills and experience whose value is just waiting to be unlocked by enabling them to generate insights tied to their domain expertise.

If you start thinking of data as product, you'll finally break through that suborn impediment to becoming a true, data-driven organization. Like to hear more? Send me a message and I'll be glad to talk.

About KPMG

KPMG has worked with federal, state, and local governments for more than a century, so we know how agencies work. Our team understands the unique issues, pressures, and challenges you encounter in the journey to modernize. We draw on our government operations knowledge to offer methodologies tailored to help you overcome these challenges and work with you from beginning to end to deliver the results that matter.

The KPMG team starts with the business issue before we determine the solution because we understand the ultimate mission. When the way people work changes, our team brings the leading training practices to make sure your employees have the right knowledge and skills. We also help your people get value out of technology while also assisting with cloud, advanced analytics, intelligent automation, and cybersecurity. Our passion is to create value, inspire trust, and help government clients deliver better experiences to workers, citizens, and communities.



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