



Data as a value driving asset—a tax perspective

September 2023



In today's data driven economy, data is increasingly becoming a strategic asset for companies to manage, deploy, and exploit throughout their global organizations. Acquiring and putting data to good use has become an important priority for companies - driving value and transformation across all industries. Indeed, data is increasingly becoming a competitive advantage that makes and maintains industry leaders.

Bringing a tax lens into the overall data strategy allows organizations to better align tax and business objectives around data, identify tax risks, as well as opportunities associated with the evolving digital landscape and determine where data assets fit within existing tax operating model frameworks.

Introduction

The data revolution is driving transformation and disruption across all industries and is changing the way organizational leaders view the acquisition, management, deployment, and exploitation of data as a value driving intangible within the organization. Companies are investing significantly in data assets to build new revenue streams, drive better decision making around customers, markets, and business operations, improve efficiency across global operations, and increase innovation. It is no surprise data investment is increasing – the evidence is clear – data driven digital transformations are driving tangible financial results across all industries.

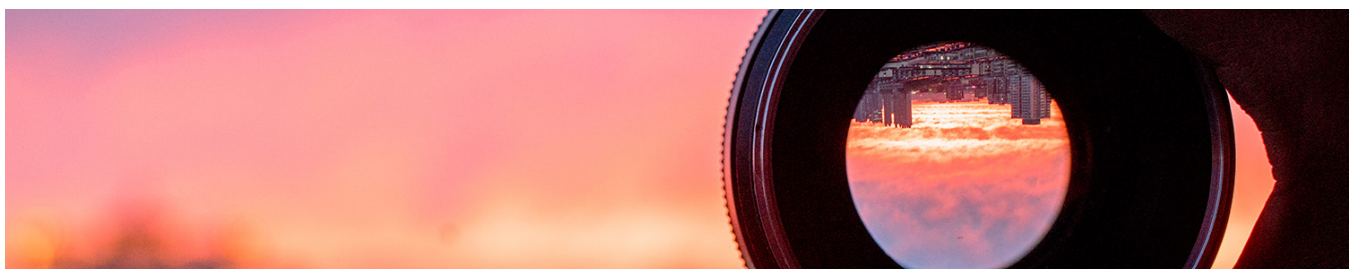


Data certainly is not just a byproduct of business operations, rather the data value stack is an ever increasing portfolio of value driving assets, functions and risk that requires careful consideration and alignment into global tax and transfer pricing operating models.

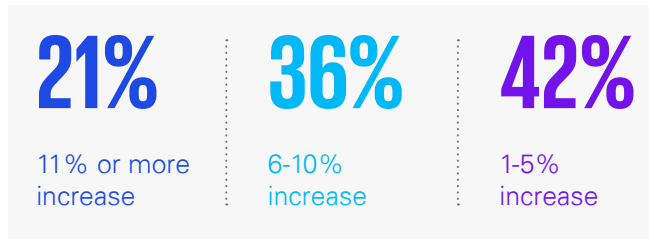
– Brian Trauman – KPMG US's Chief Data Officer – Tax



2022 KPMG U.S. Technology Survey Report: Digital to the core (kpmg.us)



What positive impacts has digital transformation had on profitability or performance over the last 24 months?



Source: 2022 KPMG U.S. Technology Survey Report: [Digital to the core \(kpmg.us\)](https://www.kpmg.us)

As a strategic asset, data should be viewed similarly to other value driving intangibles (e.g., trademarks, technology, customer relationships, etc.) and measured against the value it provides to the organization, whether that is increased revenue or profitability, operational efficiencies or access to new markets and customers. The value of data lies in its ability to provide insights and information that can drive decision-making, create new products and services, and enhance overall efficiency and productivity for an organization.

As businesses continue to invest in data assets and develop new ways to harness value across their global organizations, tax departments are faced with understanding the impact to their current tax operating models:

- How are data asset investments structured within the global organization?
- How to identify and value data assets throughout the data lifecycle or “data value stack”?
- Who owns the assets?
- Who sets the strategies, performs key functions, and controls risks associated with data?
- Where do data assets fit within the organization’s core value drivers, and how does that impact the company’s existing value chain, economic relationships, and tax operating model?
- What transactions exist around data assets and how are they being reported for tax purposes?

This is no easy task. For many companies, the impact data has on an organization is substantial and complicated. There are no one-size fits all approaches to identifying, managing, and valuing data assets through a tax lens.

Data is a unique asset because its value and legal ownership can change based on where the data sits within the data value stack at a given point in time and

what has been done to it. Raw data collected during customer purchases has an innate value, but its value can increase exponentially as the data is cleansed, enriched, analyzed, and monetized. Data is not a finite resource; its value and utility often increases as more and more data is collected and analyzed.

Companies should take an integrated business and tax approach to managing data assets given the complexity of identifying value driving data assets, assigning appropriate value, determining legal and economic ownership rights at different stages of the data value stack, and establishing new economic relationships and transactions for data assets.

Data is the New Oil

People often say, “data is the new oil.” In fact, a search for that term on Google on September 9, 2023 produced 2.55 billion results. Many such references are nothing more than a colorful way of saying that data is a valuable commodity. However, sometimes such reference is prescient and thoughtful, and gets to the heart of data. Oil comes in different types – for example, sweet vs. sour or light vs. heavy. Each has different uses and values. Oil (as an asset) has an innate value, but its value increases (sometimes quite substantially) as it is processed and utilized. Oil has nearly no value if it cannot be located and acquired (via drilling, shale extraction, etc.). Likewise, the value of oil is limited unless it can be processed and refined, protected, stored, shipped, often stored again, and exploited – either sold as refined oil or processed into new products such as plastic. Each stage of the oil value chain has value concomitant to the value created by each function.

The same is true of data. Data (as an asset) comes in different types – all of which have different innate values. Publicly available data has less value than private data. Data that is harder to acquire tends to be more valuable. For example, in retail, companies have reams of data on urban buyers who make in-store and online purchases, and typically have high utilization of rewards and membership programs across platforms and retailers. Rural customer data is more difficult to obtain so retailers able to secure this data have “struck oil”, so to speak. The potential uses of data also drive value disparity. Data which supports surge pricing, utilized by companies like Uber, or allows a pharmaceutical company to shave 30 weeks off the development cycle of a new drug are highly valuable, whereas data that allows a single customer to optimize his or her personal drive home may be less valuable.

Just like oil, data must be acquired. It can come from point-of-sale transactions, shipping and production data, etc. – all often pulled from ERP systems –

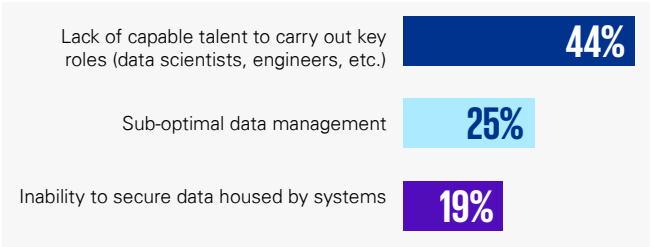
application programming interfaces (APIs), ecommerce platforms, IoT sensors, public data sources, and myriad other intake valves. Simply stockpiling virtual mountains of data alone is rarely sufficient to become a data leader. Data needs to be cleaned, enhanced, stored, protected, and exploited. So-called “dirty data” is not highly usable no matter what the quantity. Some data is easy to clean. Other data is not. In many cases, before data is ready for exploitation, it is enhanced or enriched. As oil is separated into liquids and gases to create refined petroleum products, data is also transformed and combined with other data to create new services and products and bolster decision making. For example, retailers strive to enrich first-party data to make it more meaningful, oftentimes coupling it with useful third-party data in targeting and upselling customers.

Despite the available technologies such as data warehouses, data lakes, data management platforms, and analytics tools, many organizations struggle with simply cleaning and maintaining data to drive tangible benefits. Technology itself is not enough to meaningfully enhance the data value stack. This requires a combination of technologies, people, strategies and processes. Organizations that have invested in data talent and technologies and have developed data strategies and processes around data refinement and enhancement, or are able to unlock the ability to provide valuable insights whether internal or external, are creating significant value for the business.

According to 2022 U.S. Technology Survey Report, data talent, strategies, and processes make up some of the biggest challenges technology leaders face today.

2022 KPMG U.S. Technology Survey Report [Digital to the core](https://www.kpmg.us) (kpmg.us).

What are the biggest challenges you face in your adoption of new digital technologies?



Once data is refined and enhanced it needs to be exploited. Just like oil, data is often (and increasingly) sold to third parties in a variety of forms – raw data,

cleansed data, and high value analytics and insights. This exploitation is easy to see – there is a transaction with a customer, contracts executed and followed, and cash changing hands. A more frequent, and in many cases more valuable, form of data exploitation is the internal use of data – the ways companies use data to increase revenue, increase margins, and reduce risks. Such internal use of data presents potential tax risk, but is also an area ripe for opportunity.

Throughout each step - from data acquisition to exploitation - data needs to be stored and protected. Data security is often an important function especially where data is more valuable, more sensitive (and hence subject to special government regulations and penalty risks such as protected health information (PHI) or data subject to General Data Protection Regulation (GDPR), California Privacy Rights Act (CPRA), etc.). In order to leverage privacy as a competitive advantage, organizations must establish a cohesive privacy and security strategy appropriately enabled by the right underlying technologies.

Similar to oil, the strategy that underpins each of these activities is often near the pinnacle of the important components in a data value stack. The decision making around the entire digital strategy is what puts these actions into place and is itself an important value driver often at the heart of leading data execution. These technologies and processes themselves can be considered value driving functions and assets and should be assessed as part of an organization’s IP portfolio and development, enhancement, maintenance, protection and exploitation (DEMPE¹) activities.






Driving Value from Data

In order to develop a tax lens around the value of data and the functions and processes of turning raw data into strategic assets, organizations must first understand how they are using data to drive value.

According to a 2021 KPMG and HFS Research survey of more than 300 TMT executives in North America, Europe and Asia Pacific, executives responded with a wide range of benefits and risk associated with effective and widespread data usage.

2021 KPMG International Study: [The Data Imperative](https://home.kpmg) (home.kpmg)

What is the likelihood that the following results will happen due to effective and widespread data usage in the enterprise? (Percent of respondents who indicated likely or very likely.)

<p>75% </p>	<p>72% </p>	<p>71% </p>	<p>68% </p>	<p>65% </p>
<p>Effective enterprise data use can radically change the business model (e.g. move from product sales model to a subscription model)</p>	<p>Effective connectedness linking the front, middle and back offices will greatly improve operational efficiency through the use of and access to enterprise data</p>	<p>Overall revenue increases with greater integrated use of customer profiles and usage data</p>	<p>Operational dysfunction due to functional silos can be diminished through greater access to data across the entire enterprise</p>	<p>ROI on capital project can increase with better use and analysis of financial data, including historical returns</p>

Outcome

Sample: 302 | Source: HFS Research

¹ The concept of DEMPE was introduced into the Organization for Economic Cooperation and Development (OECD) Transfer Pricing Guidelines under its base erosion and profit shifting (BEPS) initiative in 2015. DEMPE is an acronym for development, exploitation, maintenance, protection and exploitation, which are functions one or more of which must be performed by an intangible property owner in order to earn any portion of such intangible property's non-routine return.



Some common ways companies use data to drive value across their organizations include:



Improve operations—Enhance data quality and system integrity, improve supply chain and inventory management, maximize production volume and efficiency, standardize and develop system use, and enable the benchmarking of key information.



Predictive analytics and forecasting—Enable organizations to anticipate future events and outcomes with a high degree of accuracy, providing new opportunities for growth.



Customer targeting—Use purchase patterns to identify product and buyer clusters that have an affinity to purchase more or are at risk of moving to competitors, as well as identify opportunities to cross-sell or up-sell or modify online content delivery to improve conversion.



Targeted advertising—Build unified customer profiles by enabling a single source of truth that links known and unknown customer data together, giving marketers the power to provide personalized experiences for each customer at every touchpoint by connecting data across various external platforms.



Production Management—Leveraging customer, market, and third-party signals data (such as geo-specific hospital ER admittances based on specific symptoms) can drive efficient and sometimes predictive production management leading to increased or decreased production in response resulting on the right medicines hitting store shelves in the right quantities just in time for its need.



Asset management and predictive maintenance—Using data to determine when equipment and other assets should be serviced, repaired, or parts replaced in order to minimize downtime, reduce cost to operate, and increase employee safety.



Risk mitigation and fraud detection—Using patterns of system access and purchases mapped against external credit data and geo data to identify characteristics of risk prone accounts or transaction types.



Data-as-a-service—Delivery of value to end users through a software as a service (SaaS) mechanism or interface; where the customers can access the data products for a monthly or annual subscription fee.

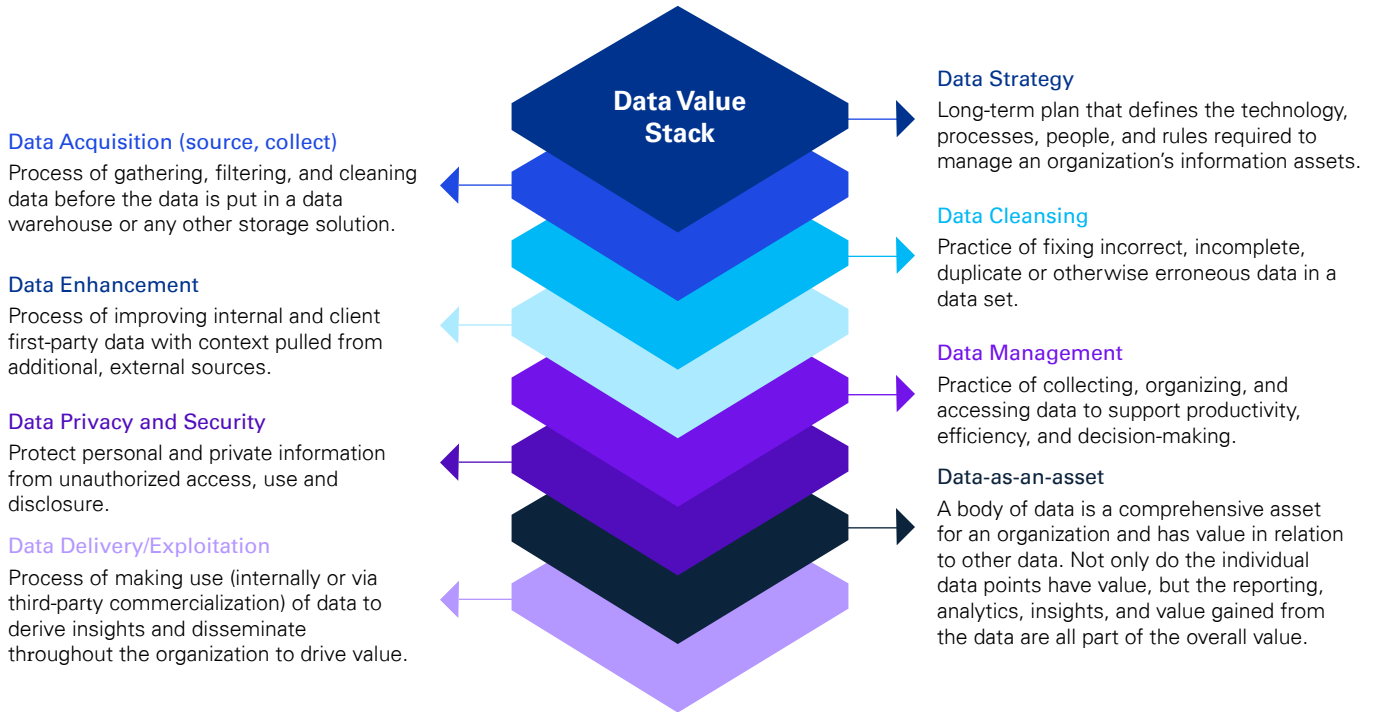


Data Syndication/Monetization—Often used where enhanced data (and in some cases raw data) is delivered or sold to third-party entities in the form of a syndicated data feed (data delivered via some sort of digital means—e.g., API) or preassembled reports.



Tools of the Trade - The Data Value Stack

The data value stack is a way to organize and visualize the components of value created with respect to data described above. It is created and organized in a manner consistent with a traditional Michael Porter-styled value chain analysis and includes level 2 (and sometimes 3 and 4) detailed functions and activities related to data. It is a tool that allows you to visualize the components of data (asset) and the related functions and risks and provide a framework for understanding and articulating the operations, functions and processes, as well as relative value associated with data.



This diagram shows an example of a basic level 2 data value stack. While most data stacks look similar to the functions listed in this level 2 example, the specific activities included in each box (function) varies by company. Moreover, the value assigned to each function and activity is different for every company.

Applying a focused value chain analysis-styled approach, a company can develop its own bespoke data value stack and identify which functions, assets, and controlled risks are most important, the role of governance, and how data is used in the business. As described in more detail below, this data value stack can be used to assess risk, plan for compliance, and as a basis for implementing models that allow a company to monetize the value of data in the form of tax savings.

Data and Tax

Value Drivers, Transfer Pricing, and Taxes

As described above, data (and the assets, functions, and risks that comprise the data value stack) is a significant value driver for most industries and companies. And for companies that do data right it has demonstrated itself to be a competitive advantage. Because each component of the data value stack creates value, companies often have value related to data being created across the organization – in different states, different countries, and in different legal entities. Data might be collected from the ERP of 100 legal entity distribution or retail affiliates, from five ecommerce platforms, from 50 websites, and countless IoTs² located at factories and warehouses that are shared in varying ways across the global group. It is not uncommon for a company that has not already engaged in affirmative tax planning or IP management planning around data to not have a good sense of who actually owns the data.

² The Internet of things (IOT) describes physical objects with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the Internet or other communications networks. This reference is to IOT sensors that collect data throughout the production and warehousing process.

Such data is managed – sometimes locally, sometimes globally or regionally, sometimes a mix – often by someone other than the original owner of the data. It is often, but not always, cleansed, enhanced, organized, and stored. The person or persons that perform those functions may or may not be the same person that owns the data. Sometimes the data moves from one location to another, one country to another, sometimes its owner changes. It is uncommon for companies to track it all (or to track properly if they do track) and charge for any such ownership changes. Likewise, it is not common that all ancillary functions performed upon the data – cleansing, security, enhancement and the like – are compensated, or compensated appropriately. And then there is the creation of insights and the use of data across the enterprise. Again, typically not a clean table.

The creation of value combined with what is oftentimes a palette filled with omissions, inaccuracies, and simple unknowns creates a myriad of new transfer pricing issues.

- Who owns what data at a given moment in time?
- Are owners appropriately compensated for use or transfers of their assets?
- Are non-owners appropriately compensated for their services?
- How are non-IP owner DEMPE functions compensated?
- When and where within the organization's operations and transactions should data be separated from other functions (e.g., marketing)? And how do you actually accomplish such separations?

These, and many other, transfer pricing issues drive income tax results across countries and states, as well as withholding taxes and other issues. What is delivered when data is used? What bundling of data, insights, and other “stuff” constitutes a sale or a rental of data, versus provision of data-as-a-service (DaaS)? What about purely human services performed with respect to data? How do other countries treat these?

And for each U.S. and foreign characterization of data transactions there is the inevitable waterfall of tax impacts. Subpart F, withholding taxes, GILTI, FDII, BEAT – the entire pantheon of global tax issues that apply to intangible property and services are implicated by data.

And, of course, what are the reporting requirements?

Use and Ownership of Data and Indirect Taxes

In addition to the direct tax issues, the use and ownership of data also creates issues from an indirect tax perspective. Transactions providing for the transfer or use of data or insights can be subject to value added tax or goods and services tax (VAT/GST) or state sales or use taxes. Many organizations permit data to be used across the organization with either no consideration being paid, or a payment that is less than fair market value for such data or insights. This is the case even as the delivery and use of SaaS may be subject to indirect tax in many jurisdictions. Companies often fail to identify the permissive use of data as a taxable transaction, or they incorrectly assume that such use amongst a consolidated group or among branches or disregarded entities, which are ignored for income tax purposes, are similarly ignored for sales and use tax purposes. Unlike corporate income tax, sales and use taxes generally do not respect disregarded entities such as “check-the-box” LLCs, nor do they provide safe passage for transactions within a consolidated group. Instead, transactions such as permissive use of data between related legal entities – even transactions that don't exist for income tax purposes – could be, in some cases, a taxable event.

The Data Hub

For non-tax reasons many leading companies are focused on operational excellence with respect to data. They have strong compliance, governance, and protection models. Moreover, similar to other high value components of the business that involve assets or functions that could benefit all or large components of their global business, many companies leverage operating models for data that are aligned with business efficiency. One common model is a “data hub” (although the names companies actually use for such teams varies widely). Such models often centralize ownership, or control, or both, of data including managing how other entities within the global organization operate with respect to data – how it is acquired, managed, enhanced, utilized. The hub nearly always houses data strategy but its remaining composition (what is included or excluded from the data value stack) is always bespoke to how each company operates with respect to data.

Many companies understand that the best tax strategies are those that not only align with the business but often mirror as much as possible the model that the core business has built. In the case of data, some companies have built a tax data hub model that is either embedded into the business's data hub or aligned to it. Doing so not only drives the desired business benefits but also reduces risk and creates tax savings opportunities. By truly following the business, such models are fit for purpose and built to last. KPMG

has worked with several Fortune 500 companies across industries to build such models. In some cases, clients have had business needs for a centralized data hub already located in a tax efficient location that would own the data itself while also performing all or nearly all of the valuable data functions. More often, however, there are business reasons that make centralizing everything complicated, costly, or misaligned to the business strategy – or naturally tax inefficient. For example, certain data is subject to multiple layers of regulation – such as PHI, GDPR – which does not eliminate the ability to move data but could significantly limit the ways in which that is done. Depending on your company’s operational structure as it relates to data as well as the types of technology and security models you use – for example how do you use clean rooms, remote access, etc. – will drive the decisions around what type of data hub fits best with your facts. In those cases, a data hub is created that captures value on selected functions and assets. While such versions of a data hub may nominally capture less than all the enterprise data value, building such models that are so closely tied to the business increases the ability to retain all or substantially all the tax benefit upon audit or in controversy.

We have built data hubs that cross international borders as well as state borders (indeed, the nature of data models in many companies leans heavily into designing a state tax planning model for the data hub).

How KPMG can help

Data Value Stack Assessment – Leveraging value chain analysis techniques as well as economic analysis, KPMG can assess relative value to components of the data value stack which can provide visibility into where pockets of value are being created, where risks could lie, and which opportunities are most viable. Often such data value stack analysis incorporates assessment of operations and governance (which is vital in properly assessing risks and opportunities).

Data Value Stack Risk Assessment – KPMG can deliver an expanded data value stack assessment that includes assessing the quantum of identified exposures (e.g., transfer pricing, indirect taxes, etc.), document potential controversy responses, and assessment of ASC 740 and 830 positions and reporting.

Support and Compliance – Based on your facts and potential risk exposures, KPMG can help you support your tax provision and return positions which could include: detailed economic analysis and benchmarking; secondary economic analysis and alternative transfer pricing positions based on current facts (which could include analysis on potential best method positions); business process documentation and governance related to your end-to-end data value stack to support positions; technical memoranda or tax opinions; and consideration of protective measures such as advance pricing agreements (APAs), cost sharing agreements (CSAs), pre-filing agreements (PFAs), etc.

Data Hub Planning – KPMG can help design and implement a data hub fit for your specific purposes. Data hub planning can involve building a model around existing business operations – defining and expanding your governance framework – as well as development of new operating models for data that are designed and implemented in conjunction with the company’s data and other impacted stakeholder teams to align with the company’s future objectives for data – a solution fit for purpose and built to last.



Please contact any of the data specialists in the KPMG Value Chain Management (VCM) practice below to discuss further.

Contact us

Nicholas Stavrakis
Managing Director, Tax – Economic & Valuation Services and Value Chain Management – Digital Services

T: 908-581-8865
E: nstavrakis@kpmg.com

Erik Oliverson
Partner Tax – Value Chain Management – Digital Services

T: 503-820-6476
E: eoliverson@kpmg.com

Paul Glunt
Principal Tax – Co-Leader U.S. Value Chain Management – Digital Services

T: 949-885-5759
E: gpaulglunt@kpmg.com

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