

# Monetizing Enterprise Data and Analytics



By James Kobielus

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### About the Author



**JAMES KOBIELUS** is senior director of TDWI Research focusing on data management. He is a veteran industry analyst, consultant, author, speaker, and blogger in analytics

and data management. Kobielus focuses on advanced analytics, artificial intelligence, and cloud computing. Previously, he held positions at Futurum Research, SiliconANGLE Wikibon, Forrester Research, Current Analysis, and the Burton Group, and he has served as senior program director, product marketing for big data analytics, for IBM, where he was both a subject matter expert and a strategist on thought leadership and content marketing programs targeted at the data science community. You can reach him by email ([jkobielus@tdwi.org](mailto:jkobielus@tdwi.org)), on Twitter ([@jameskobielus](https://twitter.com/jameskobielus)), and on LinkedIn (<https://www.linkedin.com/in/jameskobielus/>).

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([dstodder@tdwi.org](mailto:dstodder@tdwi.org)), James Kobielus ([jkobielus@tdwi.org](mailto:jkobielus@tdwi.org)) and Fern Halper ([fhalper@tdwi.org](mailto:fhalper@tdwi.org)).

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### Acknowledgments

TDWI would like to thank many people who contributed to this report. First, we appreciate the many users who responded to our survey, especially those who agreed to our requests for phone interviews. Second, our report sponsors, who diligently reviewed outlines, survey questions, and report drafts. Finally, we would like to recognize TDWI's production team: James Powell, Pete Considine, Lindsay Stares, and Rod Gosser.

### Sponsors

SAP and Snowflake sponsored the research and writing of this report.

# Research Methodology and Demographics

**Report purpose.** In TDWI research, we see that widespread enterprise deployment of self-service business intelligence, data science, and other analytics tools is a key business strategy for empowering personnel to use data more effectively. This Best Practices Report examines whether enterprise democratization of data and analytics is expanding the contribution of these assets to revenues, cost reductions, process efficiencies, returns on investment, and other quantifiable aspects of financial performance.

**Survey methodology.** In October 2022, TDWI sent an invitation via email to the analytics and data professionals in our database, asking them to complete an online survey. The survey collected responses from 250 respondents, 185 of whom

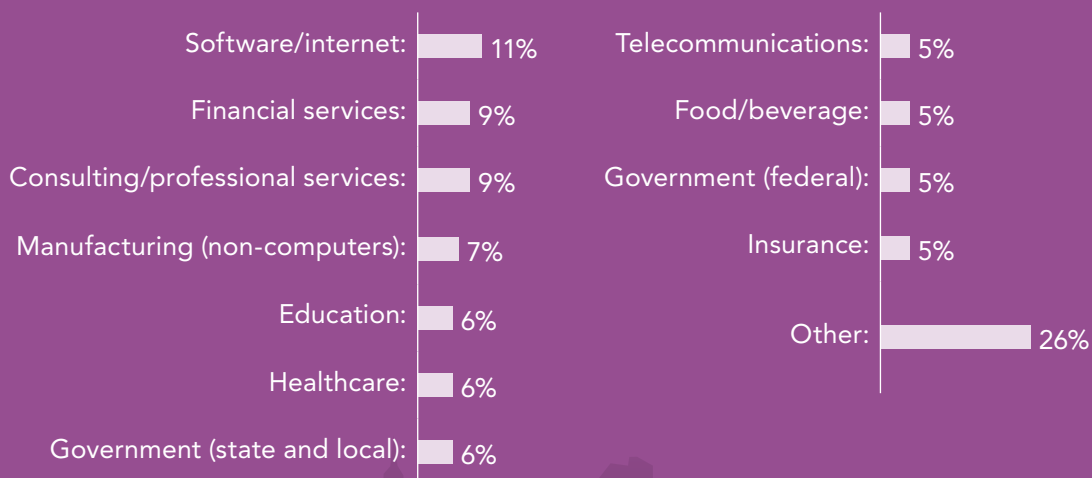
completed the entire survey and met quality standards. This group was used for analysis.

**Survey demographics.** Respondents act in a variety of roles. These include corporate exec/VP/directors, data analysts, line-of-business managers, architects/engineers, business analysts, and others.

Respondents came from a range of industries including software/internet (11%); financial services and consulting/professional services (9% each); manufacturing (non-computers) (7%); education, healthcare, and government (state and local) (6% each); telecommunications, food/beverage, government (federal), and insurance (5% each); and others.

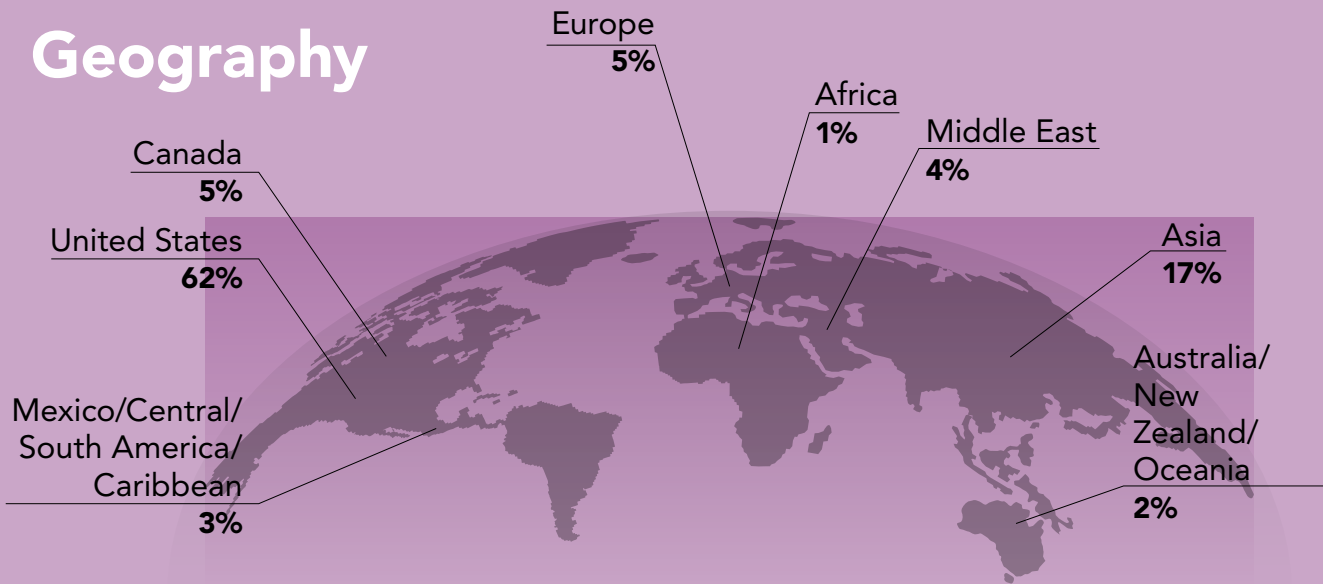
Survey respondents reside in the U.S. (62%), Asia (17%), Europe (5%), Canada (5%), Middle East (4%), Mexico/Central America/South America/Caribbean (3%), Australia/New Zealand/Oceania (2%), and Africa (1%). Respondents come from enterprises of all sizes.

## Industry

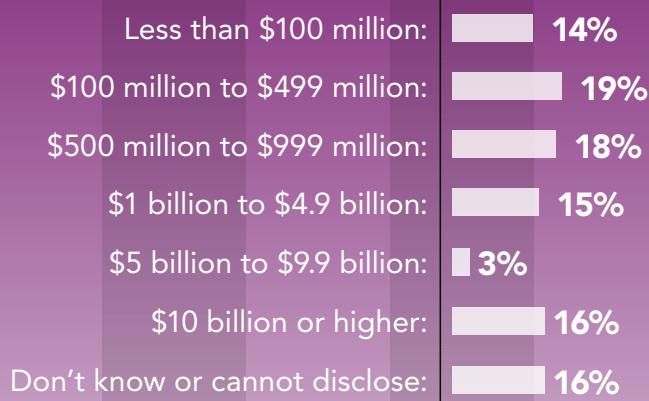


("Other" consists of multiple industries, each represented by less than 4% of respondents.)

# Geography



# Company Size by Revenue



Based on 185 respondents.

## Executive Summary

Data monetization opportunities are increasingly within reach of businesses everywhere. Recent innovations in converged data analytics platforms can accelerate an enterprise's ability to productize their data and other data-derived assets, such as trained machine learning models. In addition, cloud marketplaces can be key channels for monetizing these assets as well as any AI/ML-powered products, services, and applications with which they are bundled or into which they've been embedded.

Monetization opportunities thrive when enterprises make data, data-driven analytics, and insights more easily accessible, consumable, shareable, and programmable. For years, TDWI Research has written about the growing democratization of self-service business intelligence, data science, and other analytics tools. This Best Practices Report examines whether enterprise democratization of data and analytics is making a contribution to increased revenues, cost reductions, process efficiencies, returns on investment, and other quantifiable aspects of financial performance.

This report uses findings from a survey of 185 data management and analytics professionals. It illustrates how enterprises are addressing data monetization opportunities—both indirect and direct—through the democratization, operationalization, productization, and sale of data. Key findings include:

**Data democratization expands access to tools, platforms, and skills needed for monetization.**

Democratization is often the starting point and focus of most enterprises' data monetization journeys because it can empower employees and others working within (and in partnership with) the enterprise to do more. In that regard, respondents reported that two-thirds of their organizations have been either very successful or somewhat successful at data democratization and roughly two-fifths of business users employ self-service tools for data discovery or exploration. Where democratization is concerned, the most important enabling enterprise investments cited included building data literacy, self-service analytics and data preparation, providing data analytics automation and productivity augmentation tools, and improving the skills of business analysts to perform more advanced analytics.

**Data operationalization is widely adopted and drives indirect monetization.** Data operationalization is the process of using data an enterprise owns or has acquired to influence business outcomes that boost revenues and/or reduce costs. It's often a key jumping-off point for subsequent enterprise journeys into direct data monetization. To the extent that an enterprise has successfully democratized access to data and analytics, it can drive data operationalization more deeply into every facet of its operations. It can more pervasively pursue data-driven optimization of every decision, process, and interaction to achieve the best results, both quantitative and qualitative.

Almost two-thirds (60%) of respondents cite data operationalization as a priority impact of data and analytics in their enterprise.

**Data productization is a fundamental step toward direct monetization, but it's not yet widely adopted by enterprises.** We define data productization as an enterprise using its data and data-derived assets to build revenue-generating products and services that it sells to external customers. For purposes of this report, a "sale" refers to any collection of a fee for the distribution of a product or service to a customer. This includes a one-time sale, leasing or licensing a product or service, or providing an updated product or service on a regular basis (such as through a monthly subscription). Data productization is not yet a major revenue-generating activity for most firms, but there is ample expectation that the bottom-line contribution from these activities will grow in coming years.

Enterprises are almost evenly split between productizing data and analytics as a revenue-generating practice now (or planning to) and having no plans to do so. More than one-fifth (22%) report that their organizations are currently productizing data and analytics, with the principal products being data-derived analytics applications such as dashboards and scorecards.

Nevertheless, organizations are beginning to organize for greater adoption of data productization, with more than two-thirds (68%) of respondents reporting that their enterprises have designated specific individuals, roles, or functional groups for productizing data and data-derived assets they own, or that they plan to. However, there is currently no clear single role responsible for data productization in the business world; the responsibility is most often assigned to data managers and data stewards.

### **Data sale is a logical next step beyond productization, but it depends on enterprises having access to trusted cloud marketplaces and exchanges.**

Data sale refers to the selling and licensing of business data, analytics applications, and other data-derived assets. Enterprises are clearly on the path to reselling raw data sets, cleansed and curated data, pretrained machine learning models, and other such assets directly to consumers, many of whom are also businesses. Around one in five respondents reported, for example, that they are selling derived, transformed, cleansed, augmented, and/or curated data sets, while almost as many are reselling data-derived algorithms and/or models, such as machine learning, deep learning, and natural language processing models. Close to three-quarters of respondents reported that their enterprises already rely on cloud data marketplaces, data exchanges, or other channels to sell data sets, pretrained machine-learning models, and other digital assets—or plan to in the coming year.

Of course, there's a clear limit to how far enterprises can and should go with data monetization. An enterprise should never attempt to monetize any data through any approach unless it owns the data or has clear rights to use it in the intended fashion. Given the wide range of data privacy laws and regulations around the world, businesses must be exceptionally careful when attempting to monetize data that includes personally identifiable information of customers, employees, and others. Additionally, they should always maintain robust governance safeguards for ensuring that only sanctioned, high-quality, curated, and compliant data assets are monetized.

It's still the early days for data productization and monetization. Nevertheless, the journey is enticing and many enterprises have embarked on it. The

widespread adoption of robust DataOps and MLOps pipelines are empowering more data scientists, business analysts, and others to productize data and analytics more effectively. These tools and platforms—plus the cloud-based marketplaces through which data and data-powered products and services are offered—are the key to comprehensive data and analytics monetization.

## What Is Data Monetization?

Enterprises are monetizing their data and analytics assets to boost the quantifiable bottom-line financial results from deployment of these assets.

## What Is the Data Monetization Journey?

The key to successful data monetization is having people, processes, and platforms that identify and extract business value from an enterprise's data assets.

*Monetization is a set of strategies for maximizing the quantifiable bottom-line return from an enterprise's use of data and analytics.*

The key facets of the data monetization journey are:

- **Data democratization:** Expanding authorized access within the enterprise to business data and analytics
- **Data operationalization:** Using the data an enterprise owns or has acquired to influence business outcomes that boost revenues and/or reduce costs



## Monetizing Enterprise Data and Analytics

- **Data productization:** Using the enterprise-owned data and data-derived assets (such as machine learning models) to build revenue-generating products and services to be sold to external customers
- **Data sales:** Selling business data and data-derived assets, but not as a component in a productized data analytics-based solution

These are not separate steps in the data monetization journey but rather distinct strategies enterprises may choose to implement in sequence, in parallel, or in combination. To unlock the most monetizable value from their data and analytics assets, enterprises should pursue these steps in a coordinated fashion.

## Data Democratization

Data democratization is a strategic imperative in many organizations for empowering more people to use data effectively, as measured by various blends of qualitative and quantitative business outcomes.

Democratization refers to enterprise initiatives that focus on expanding authorized access to business data and analytics. It can ultimately empower more people in the business to make data-driven decisions that contribute to the enterprise's bottom line (the essence of data operationalization); to build data analytics products for sale (data productization); and to sell more data and analytics assets directly to consumers (data sales).

For years, TDWI Research has written about data democratization as an ongoing trend in business intelligence, advanced analytics, data science, and other core data management domains. TDWI has covered the topic in the context of our research into the growing uptake of self-service, visual, low-code, guided, and augmented tools that

enable new categories of business stakeholders to enhance their ability to work with increasingly large, complex, and rich data sets in a growing range of use cases. We have consistently found that enterprises are democratizing access to self-service data analytics through better leadership and organizational improvements. For example, we asked survey respondents about the most important factors in unlocking the full value of their data and analytics (see Figure 1).

These key democratization enablers include better data governance (32% of respondents), a better organizational model for data management and advanced analytics (31%), improving data management leadership (reported by 25%), and better business and technical processes for data management and advanced analytics (also reported by 25%).

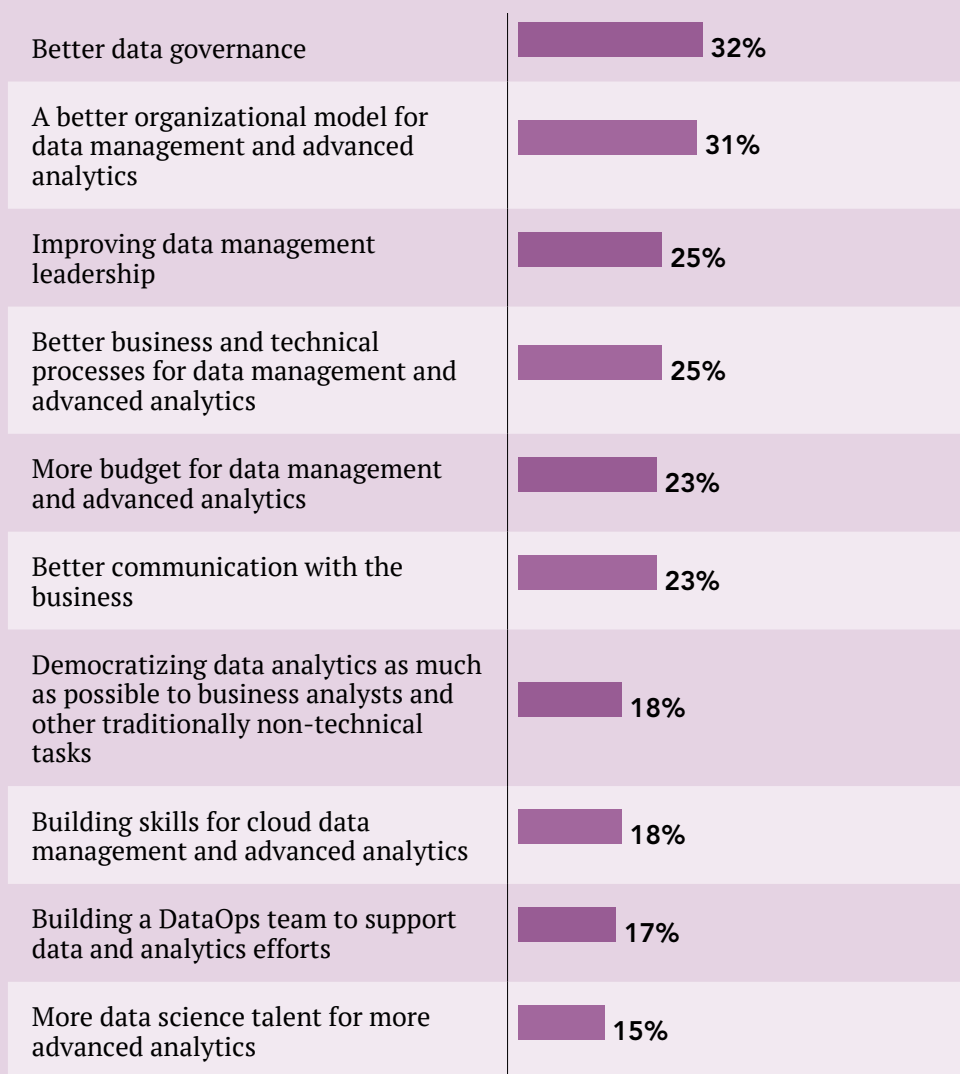
*Role-tailored self-service analytics tools are a key democratization enabler.*

Respondents were asked about the chief tool, platform, and infrastructure factors in their organizations' success with the democratization of data and analytics. In their own words:

- “Providing different data tools for each role in the organization, [such as] simple database queries for some power users, business intelligence self-service application to operational users, and cloud-based notebooks accessing the data lakes to data scientists” — Data management or analytics professional, United States
- “Self-service analytics” —Data management or analytics professional, United States

# Figure 1

What are the most important areas for organizational improvement to unlock the full value of your data and analytics? (Select a maximum of 5 responses)

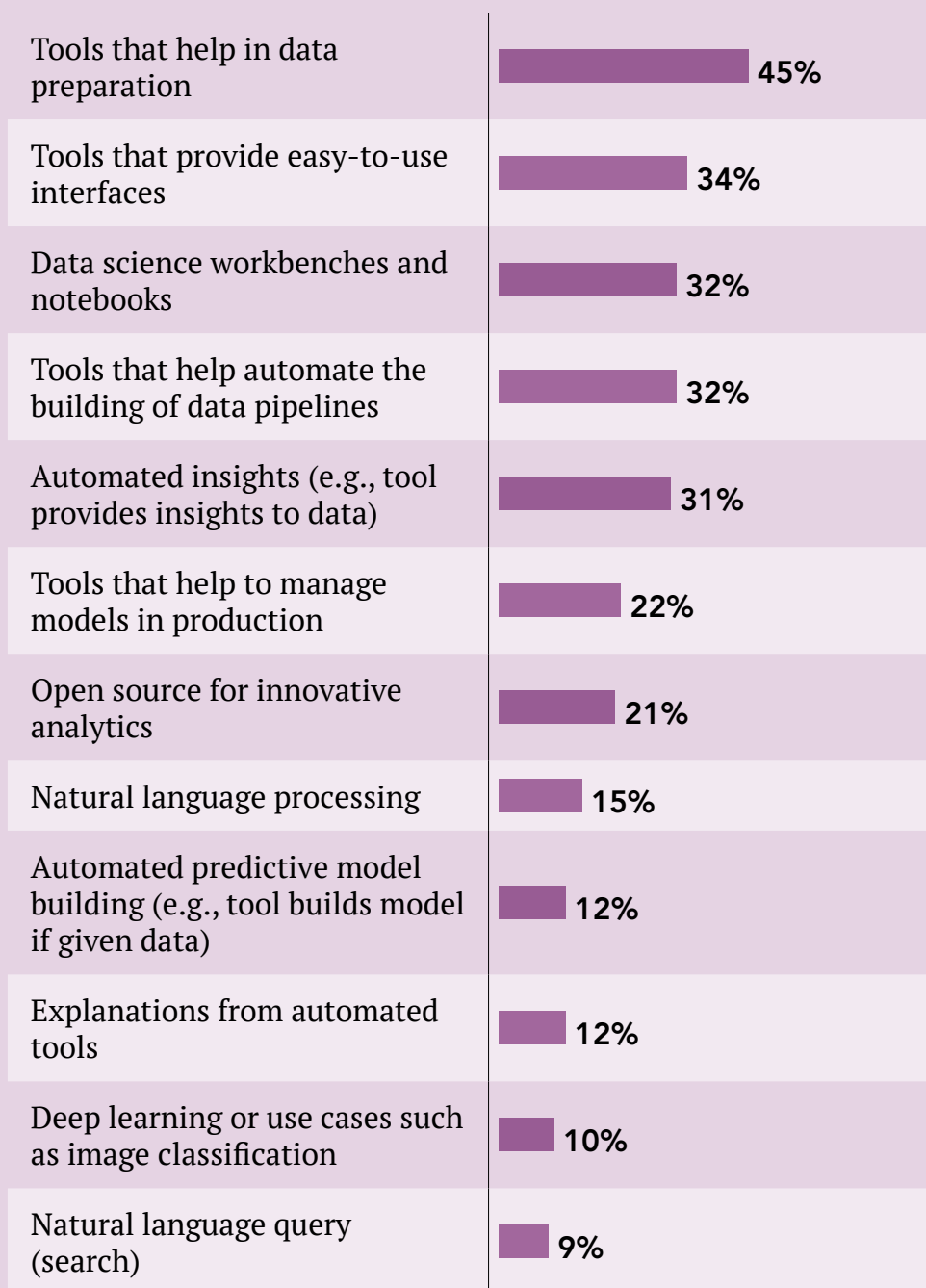


Based on 185 responses

- “Data modeling” —IT professional (but not specializing in data management or analytics), Asia
- “Using cloud technology to deploy our central data and analytics platform” —Data management or analytics professional, Mexico, Central America, South America, or Caribbean
- “A data catalog” —Data management or analytics professional, Europe
- “Have a centralized enterprise data warehouse and make data available to all stakeholders and employees; educate them on how to work with data” —Data management or analytics professional, United States
- “Use of a data warehouse to coordinate and facilitate some discussions and discovery” —Data management or analytics professional, United States

## Figure 2

What data and analytics tools are your organization providing to help data scientists, analysts, and business users derive insight and provide value? (Select all that apply.)



Based on 185 responses.

Where data democratization is concerned, the requisite tools run the gamut, with a key emphasis on self-service offerings geared to business analysts and a wide range of non-technical users and stakeholders. Respondents reported the top data and analytics tools their organization provide to help data scientists, analysts, and business users derive insight and provide value;

these include tools that help in data preparation, data science workbenches and notebooks, and tools that help automate the building of data pipelines (see Figure 2).

*Democratization empowers greater numbers and varieties of business users to seek data monetization opportunities.*

Although 45% of respondents stated that over 20% of their business users are using self-service tools for data discovery, a significant segment (48%) of respondents reported that less than 20% of their business users employ self-service tools for data discovery or exploration. (See Figure 3.)

Overall, among all respondents, two-thirds (67%) stated that their organizations have been either very successful or somewhat successful at data democratization (not shown). If we only consider those respondents who report that more than 20% of users in their enterprises are using self-service analytics, a similar percentage (69%) have been

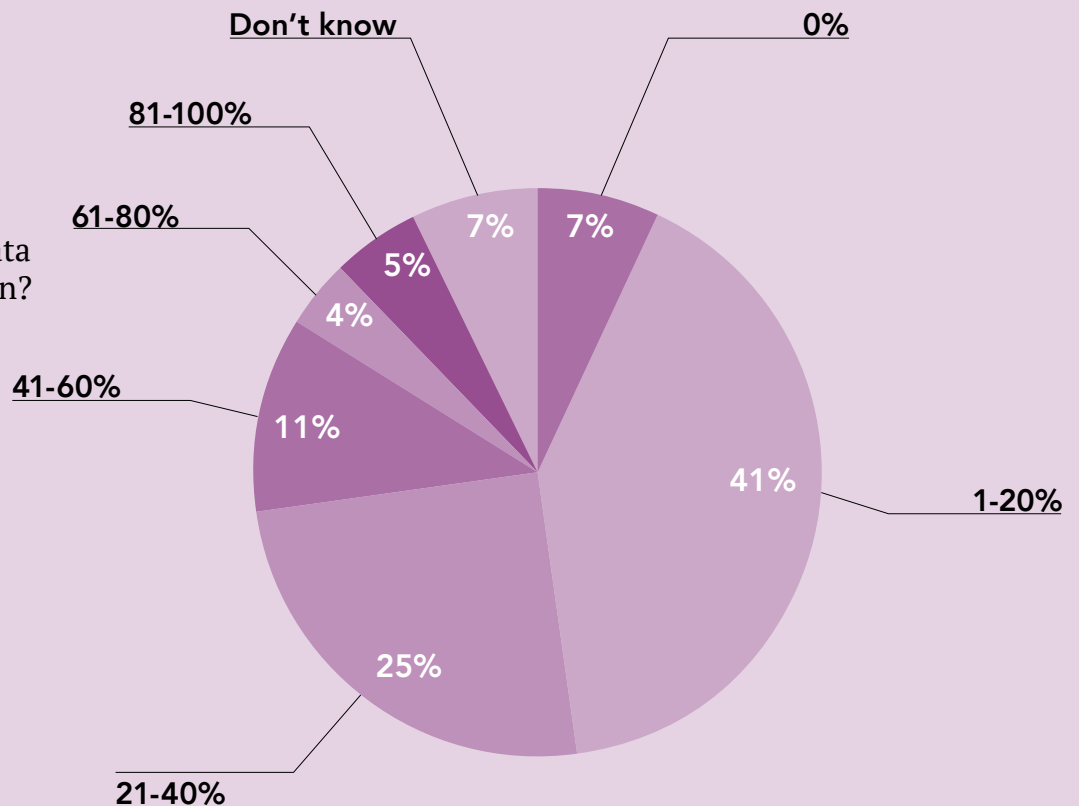
successful. Clearly, adoption of these tools alone is not the sole determinant of success in data democratization, and we should consider data literacy and other factors also important.

Of the respondents reporting that their enterprises have been largely or entirely unsuccessful with data democratization, more than one-third (35%) reported that they have been very or somewhat successful at monetizing data and analytics.

However, of the respondents reporting that their enterprises have been very or somewhat successful with data democratization, over one-half (54%) reported that they have also been very or somewhat successful at monetizing data and analytics. (See Figure 4.)

### Figure 3

What percentage of business users—those not data scientists or business analysts—use self-service tools for data discovery or exploration?



Based on 185 responses

## Data Operationalization

Whereas democratization focuses on empowerment, operationalization is generally focused on indirect monetization of data and analytics. All things considered, this can be accomplished more effectively the more self-service tools, data literacy, and other democratization initiatives succeed.

When considered in the context of monetization, data operationalization is the process of using the data that an enterprise owns or has acquired to influence business outcomes that boost revenues and/or reduce costs. It may involve embedding analytics into enterprise applications that drive customer engagements, operational efficiency, time to market, and/or competitive differentiation. Generally, these are data-driven activities that directly or indirectly increase the market valuation of the company.

Three-fifths of respondents (60%) cite data operationalization as a priority impact for data and

analytics in their enterprise. By contrast, one-third (33%) cite data productization as a strategic priority and one-fourth (25%) cite selling data as a strategic priority (not shown).

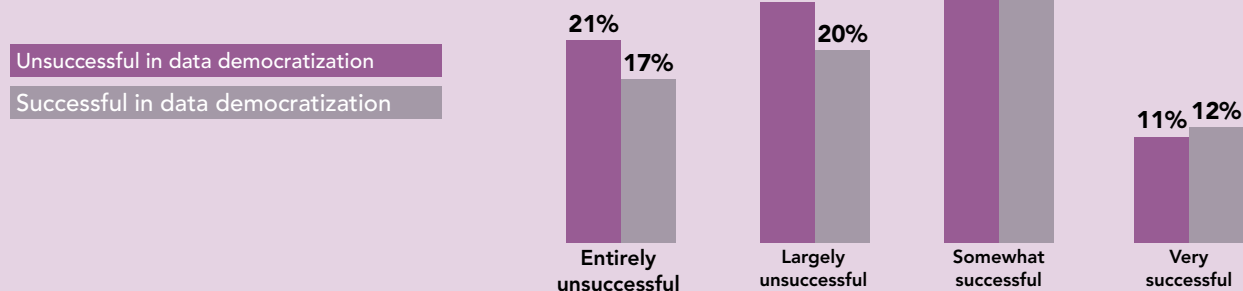
To address operationalization requirements, businesses may source data and analytics online from trusted third parties through cloud data marketplaces, exchanges, and other sharing environments. Externally acquired data assets can supplement and augment the customer, finance, and other operational data that organizations maintain in their data warehouses, data lakes, and other repositories.

## Data Productization

Productization is a key step into direct monetization of enterprise data and analytics. It is defined as an enterprise using its data and data-derived assets to build revenue-generating products and services that it sells to external customers.

### Figure 4

How successful has your enterprise been in monetizing data and analytics?



Based on 108 responses

*Data productization increasingly focuses on generating revenues directly from AI/ML-driven smart products and services.*

Data productization might result in a wide range of hardware, software, and services for sale. Generally, these are offerings that generate top-line revenues. For example, a business may sell smart edge devices that incorporate AI/ML-powered digital assistants and embedded recommenders that drive B2C e-commerce sales.

When asked to report on the types of data products their organization provides now or plans to offer in the coming year, the top response from all respondents was data-derived analytics applications (e.g., dashboards, scorecards) (See Figure 5.).

*Data productization often runs on automated data engineering and machine learning operationalization pipelines.*

To execute data productization initiatives may require a team of dedicated data science professionals to manage the data, build and train the machine learning models, and deliver a steady stream of best-fit models into products of all types. Consequently, estimating the financial return from data-derived products requires calculating the costs associated with data preparation, such as analytics model building and training as well as other software development and operationalization activities.

Enterprises have already begun to organize for data productization as a sustainable practice. More than one-third (38%) of all respondents say their enterprises have designated specific individuals, roles, or functional groups with

responsibility for productizing and/or monetizing data and data-derived assets they own. Another third (31%) plan to do so. For enterprises that have already begun to sell data products, the percentage that have designated specific individuals, roles, or functional groups with data productization responsibilities almost doubles to 71% (not shown).

However, there is no single role responsible for data productization in the business world. Respondents reported that the principal business roles or functions in their enterprises who are responsible for building and selling data products or selling and licensing data and data-derived assets include data managers (17%), data stewards (14%), data product managers (11%), data analysts (11%), application developers (8%), and data scientists (8%). (See Figure 6.)

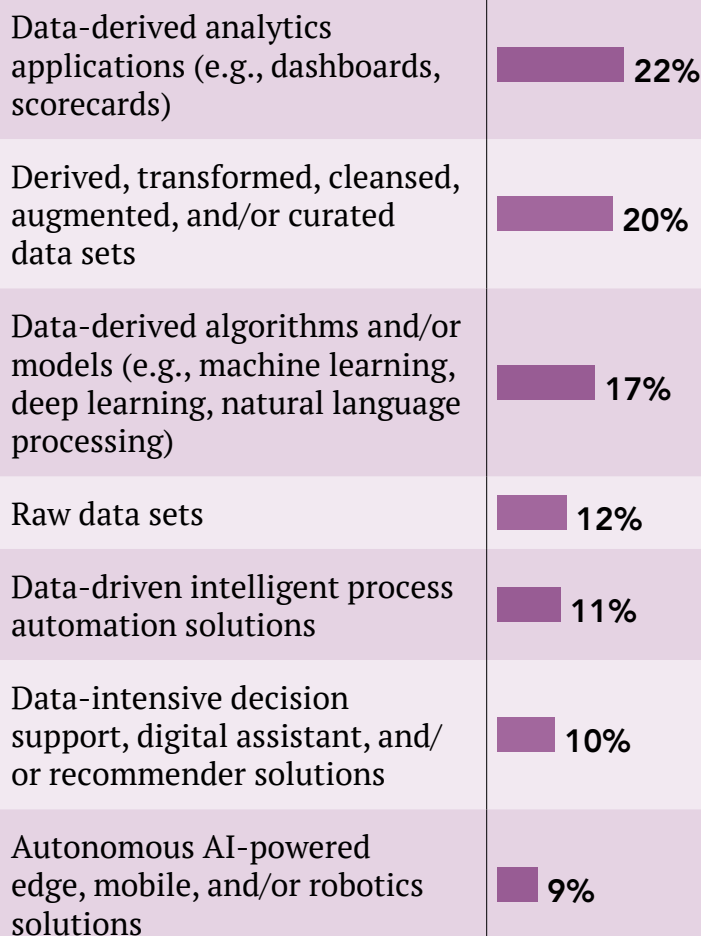
As indicated in this figure, barely 11% of respondents overall stated that this responsibility is specifically vested in a data product manager, a percentage that rises to 34% in that subset of respondents who are already selling data products. Clearly, designating data product managers is a key organizational step in the productization of enterprise data and analytics and therefore in the data monetization journey as a whole.

Data productization is not yet a major revenue-generating activity for most firms, but there is ample expectation that the bottom-line contribution from these activities will grow in coming years. Almost all respondents reporting that they are currently selling data products are in either the United States or Asia.

More than one-quarter of respondents overall (27%) said the revenue impact in their enterprise from the sale of data products is low (1-25% of an enterprise's total revenue); one-fifth (21%) said it was moderate (26-50% of revenue) and 15% said

## Figure 5

What types of data products does your organization currently provide for sale, subscription, or licensing or plan to in the coming year? (Select all that apply.)



Based on 185 responses

there was no revenue impact (see Figure 7). Those percentages are roughly the same (29%, 17%, and 11% respectively) for the subset of respondents currently selling data products (not shown), which would indicate that advancing into productization doesn't immediately translate into a substantial boost in the percentage of an organization's business revenues from the sale of data products. Slightly more than half of companies that are currently selling data products report that their firms have been either very successful (23%) or somewhat successful (31%) at monetizing data and analytics (not shown).

Nevertheless, when asked if they expect revenues from data products to grow, decline, or remain the same in the next year, slightly less than one-half (45%) of all respondents expect revenues

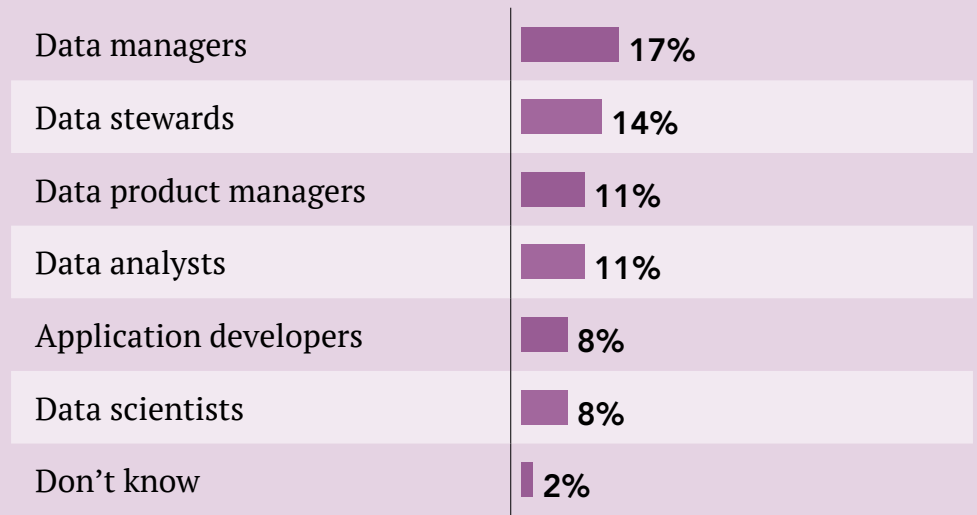
from these sources to grow in the coming year; one-quarter (27%) expect revenues from data products to stay the same, and only 7% expect it to decline (see Figure 8). The expectations of revenue growth from data products are greater for the subset of respondents who are already selling data products—54% of this group expect growth; similar to all survey respondents, nearly a quarter of sellers (23%) expect revenues to stay the same and 6% expect revenues to decline (not shown).

## Data Sale

Data sale refers to the selling of business data, analytics applications, and other data-derived assets, such as trained machine learning models. The data may be sold in individual records or entire collections; in raw, refined, or summary

## Figure 6

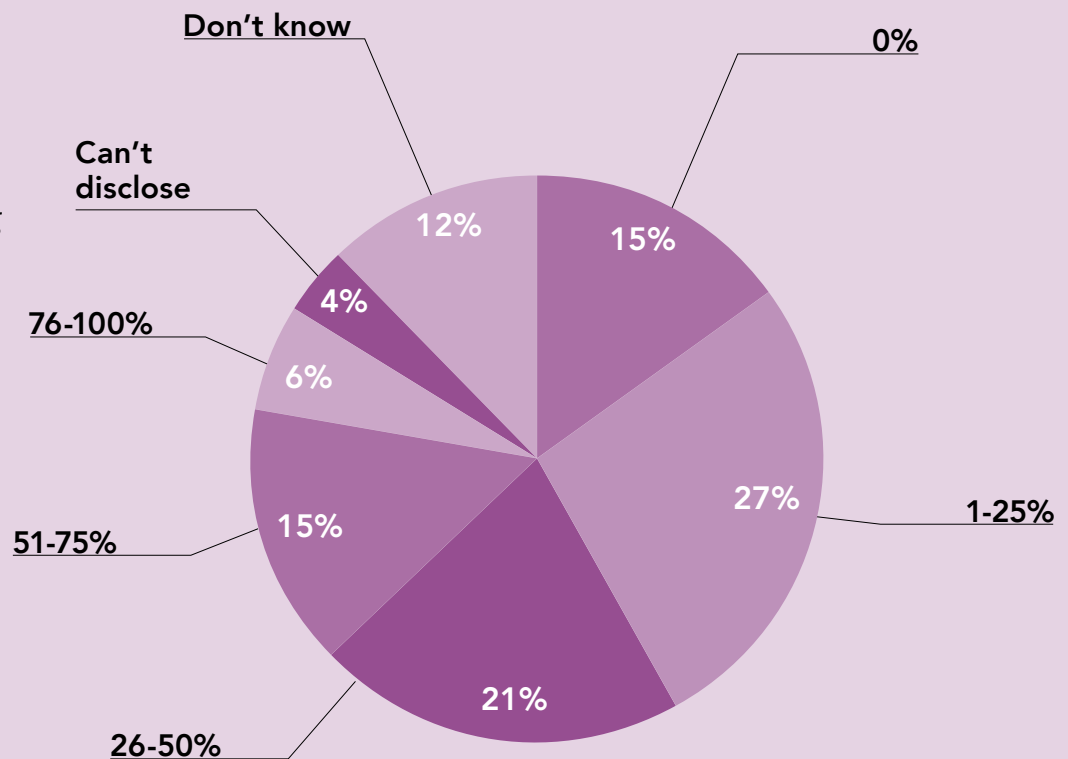
What are the principal business roles or functions in your enterprise responsible for building and selling data products?



Based on 136 responses

## Figure 7

What percentage of your organization's revenues come from the sale, subscription, or licensing of data products?



Based on 185 responses

forms; or as part of a larger package of software, services, and tangible products. It may be offered as a one-time package of data, in a subscription, or through use- or consumption-based pricing in which updates are delivered periodically or as required. It may also be provisioned in

a “data clean room” application that enables analysis of sensitive data without exposing the underlying data. Data sales rely on cloud marketplaces and other channels, monetizing these resources beyond any bottom-line payoff from productization and operationalization uses.



When asked to disclose the types of data products their organizations sell or plan to sell in the coming year, respondents reported each of the following items for sale:

- Data-derived analytics applications (e.g., dashboards, scorecards) (21%)
- Derived, transformed, cleansed, augmented, and/or curated data sets (19%)
- Data-derived algorithms and/or models (e.g., machine learning, deep learning, natural language processing) (17%)
- Raw data sets (12%)

## What Enables Successful Data Monetization?

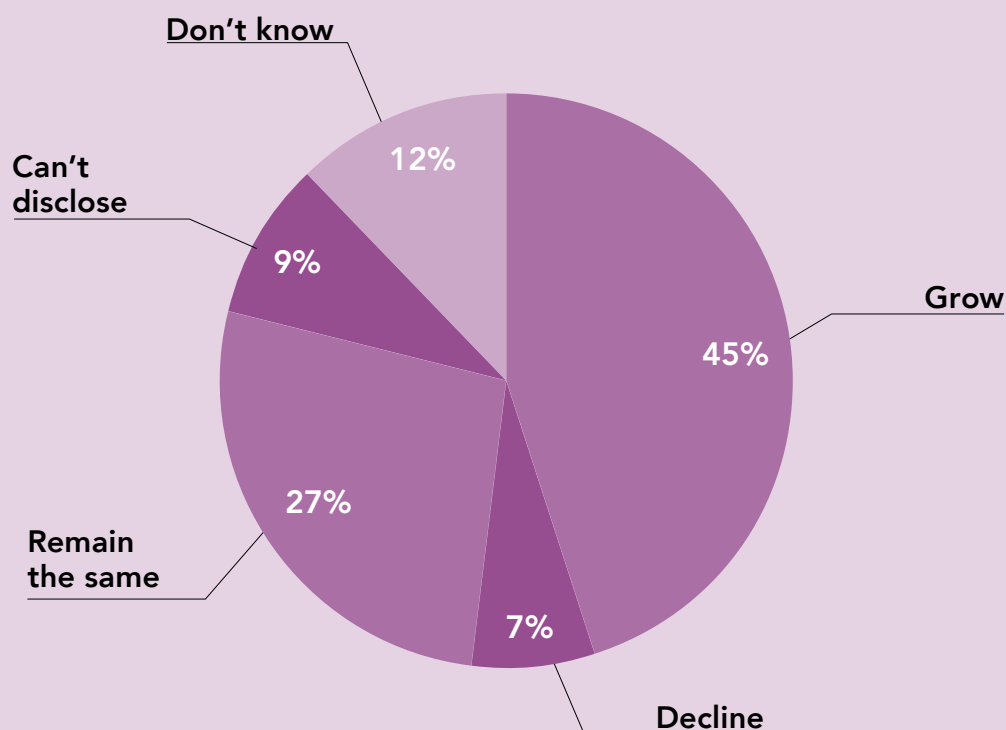
Succeeding with data monetization requires a sustainable practice for achieving bottom-line financial results, either indirect or direct, from data and analytics assets.

This requires:

- An organization, stakeholders, team, and culture that encourage and reward data monetization
- Business processes, including requisite governance workflows, compliance, security, and other guardrails for robust data monetization

### Figure 8

Does your organization expect revenues from data products to grow, decline, or remain the same in the next year?



Based on 185 responses

- The tools, platforms, and infrastructure necessary for each type of data monetization opportunity

### Establishing the Organization, Stakeholders, Team, and Culture for Data Monetization

Having an organizational model that encourages data monetization is the essential ingredient for success. This should include a data product manager. Likewise, data monetization requires a supportive culture grounded in data literacy and “data-as-a-product” mindsets. It also requires pervasive skills and incentives for driving revenue-generating data operationalization, productization, and sales opportunities. Additionally, it requires distribution channels such as direct sales teams and/or personnel who operate cloud data marketplaces to bring data and data-derived products to market.

A well-run data monetization practice requires top-down support for standardized metrics for gauging the bottom-line contribution from operationalization, productization, and sales activities.

Measuring the bottom-line impact of data productization is important for today’s business. Of overall respondents, close to three-fourths reported either measuring this impact now or planning to. More than one-fifth (22%) of respondents overall reported that their organizations do measure this impact and that the bottom-line contribution has been considerable. One-fifth (18%) measure the impact but report no significant bottom-line contribution from data monetization. One-third (32%) aren’t measuring it yet but plan to. Only one-fourth (28%) don’t measure the impact and have no plans to (not shown).

*Close to three-quarters of respondents say their firms either measure bottom-line impacts of data monetization activities currently or plan to.*

When we consider enterprises that are already productizing their data, the importance placed on measuring the bottom-line contribution from these efforts is even more striking. More than nine-tenths (91%) of them reported either measuring this impact now or planning to. This breaks down into 43% who report measuring no significant bottom-line contribution; 31% who reported that their organizations do measure this impact and that the bottom-line contribution has been considerable; and 17% who aren’t measuring yet but plan to (not shown).

As part of our research, we asked respondents to cite what they regard as chief organization, stakeholder, team, and cultural factors in their organizations’ success in monetizing data and analytics. These include factors such as executive support, data literacy programs, and collaboration. In their own words:

- “The CEO support in order to make decisions based on data” —Executive sponsor, business stakeholder, or business user of data analytics, Mexico, Central America, South America, or Caribbean
- “Data literacy program” —Data management or analytics professional, United States
- “Design data solutions thinking in quality, reusability, and sharing” —Data management or analytics professional, Mexico, Central America, South America, or Caribbean

- “Keenly being aware of and continuously assessing sound end-user engagement in operationalizing data” —Data management or analytics professional, United States
- “Having a steering committee made up of members of leadership that support analytics development” —Executive sponsor, business stakeholder, or business user of data analytics, United States
- “Putting the data into the hands of our marketers and business users to show them the performance of their marketing campaigns and have them make more data-driven decisions” —Data management or analytics professional, Europe
- “Working in teams that bring together people who are experts in data, analytics, and business to have all the knowledge necessary to design powerful products for the business” —Data management or analytics professional, Mexico, Central America, South America, or Caribbean
- “Close collaboration across business, data governance office, and IT organization” —Data management or analytics professional, United States
- “Collaboration between the different streams of business, IT, and analytics organizations” —Data management or analytics professional, United States
- “Ownership of data, right grouping of data based on domain” —Data management or analytics professional, Asia

## Instituting the Processes, Governance, and Controls for Data Monetization

Data monetization can only become a robust enterprise practice if it’s aligned and integrated with internal processes.

Data monetization is on a fast track to maturity as an enterprise product pipeline. One-quarter of all respondents (27%) reported that their enterprises have incorporated roles, workflows, and policies for data monetization into their DataOps, MLOps, DevOps, and other internal processes associated with the release of data-intensive applications, services, or products. Over one-third of respondents (38%) say they haven’t yet done that but plan to. More than one-fifth (22%) of respondents reported that their enterprises have not done so and have no plans to do so (not shown).

*Enterprises have incorporated data monetization into their DataOps, MLOps, DevOps, and other application development and release processes.*

Maturation of data monetization pipelines is even more pronounced when we look at those enterprises that sell data products. Survey responses indicate that 62% of those organizations have incorporated roles, workflows, and policies for data monetization into their DataOps, MLOps, DevOps, and other internal processes, and that a further 21% plan to do so (not shown).

Data governance, data quality, and data integration are key processes for powering data monetization. Respondents cited process, governance, and control factors that contributed to their organizations’

success with the monetization of data and analytics, such as “Instituting a data governance function that permeates the organization” and “Data cleanup and streamlining erroneously entered names/information.”

Enterprises are evolving their data governance, compliance, reuse, sharing, and collaboration practices to address requirements for data productization and monetization within DevOps environments. Only one-quarter (26%) of respondents reported that their enterprises have not defined any clear guidance for those roles responsible for productizing and/or monetizing data and data-derived assets that must comply with policies associated with intellectual property, trade secrets, data privacy, data security, data quality, and other applicable laws, regulations, and mandates. However, the majority (67%) reported that their enterprises are providing such guidance now (27%) or plan to (40%) (not shown). A sign that enterprises are making good on their commitments to provide such guidance is the fact that of those respondents whose firms are already selling data products, 65% of them are already providing that guidance (not shown).

Furthermore, enterprises are applying data governance, security, and protection controls to ensure that self-service data democratization efforts remain in compliance with relevant policies governing authorized data access, management, sharing, and use within operationalization, productization, and monetization initiatives. Respondents reported that their enterprises have implemented a number of controls and safeguards to ensure that their users’ self-service data analytics practices remain in compliance with relevant laws, regulations, mandates, and policies (see Figure 9).

## Deploying Tools, Platforms, and Infrastructure for Data Monetization

When asked what tools, applications, and platforms their enterprises provide to support data monetization, the top key enablers depend on how the respondents are selected.

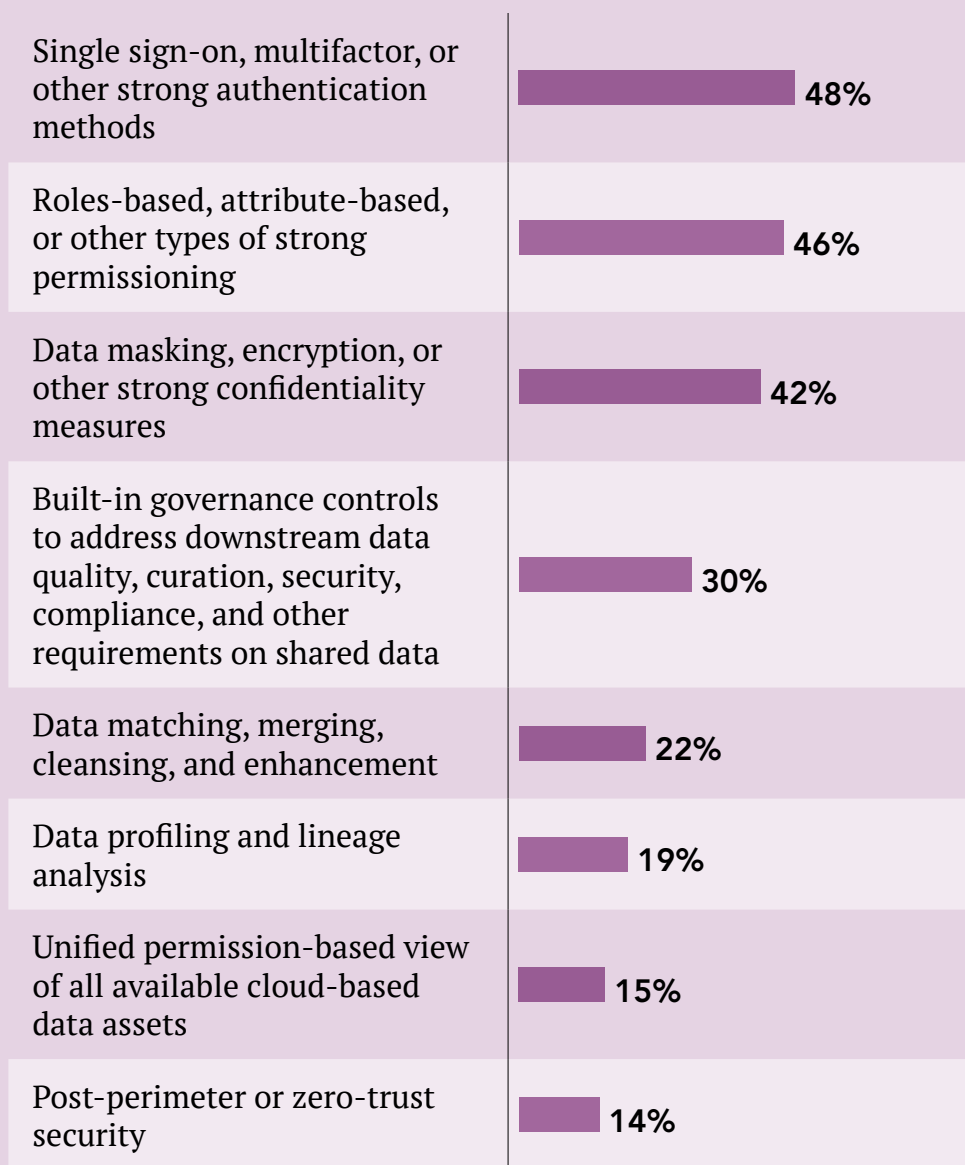
Altogether, respondents reported adopting the following tools and platforms to enable data monetization (in descending order of adoption): cloud data platforms (data lakes, data lakehouses, and/or data warehouses) (30%); application development and programming tools (30%); self-service, visual, no-code data analytics tools (30%); cloud data catalogs (25%); governance platforms (data governance, model governance, and/or code governance repositories) (24%); data productization and/or sharing channels (cloud marketplaces or data sharing exchanges (16%); and automated XOps pipeline platforms (DataOps, MLOps, and/or DevOps) (14%).

When we filter the findings to only those respondents who sell data products, the most common platforms enabling data productization and monetization are cloud data catalogs (56%), cloud data platforms (50%), self-service, visual, no-code data analytics tools (47%), governance platforms (44%), automated XOps pipelines (41%), and data productization and/or sharing platforms (38%). This indicates that organizations are using or are considering using their data catalogs as a way to sell their data products.

Finally, if we look at only those respondents who report being successful in the monetization of data products they’ve brought to market, the adoption ranking order changes yet again: governance platforms (38%), cloud data platforms

## Figure 9

What controls and safeguards does your enterprise implement to ensure that your users' self-service data analytics practices remain in compliance with relevant laws, regulations, mandates, and policies? (Select all that apply)



Based on 185 responses

(36%), self-service, visual, no-code data analytics tools (36%), application programming and development tools (33%), cloud data catalogs (30%), automated XOps pipelines (17%), and data productization and/or sharing platforms (17%).

*Cloud data marketplaces foster vibrant sell-side and buy-side ecosystems for enterprise data monetization.*

Enterprises are adopting cloud marketplaces to source and acquire high-quality data sets, pretrained machine-learning models, applications, and other digital assets to support operationalization, productization, and monetization outcomes, though cloud, self-service, tools, data catalogs, and governance platforms have been more central investments in this push. When asked how frequently their enterprise relies on cloud marketplaces, data exchanges, or other channels to sell and/or license data sets, pretrained machine-learning

models, and other digital assets, 29% say they have never used such marketplaces to sell data products (see Figure 10).

When asked how frequently their enterprises rely on cloud marketplaces, data exchanges, or other channels to discover, acquire, or subscribe to data products, more respondents reported using such marketplaces as buyers, but not many more (see Figure 11).

Looked at in the broader perspective, the rough equivalencies of these frequencies of use indicate that cloud marketplaces foster a vibrant market for data products. In other words, sellers of data-driven products and data assets come to market as frequently to transact business as their customers do. For example, if supply of data products were greater than demand, the percentage of companies reporting sell-side use in each frequency (e.g., once a month) would be noticeably greater than the corresponding

percentage of companies reporting buy-side use at that frequency.

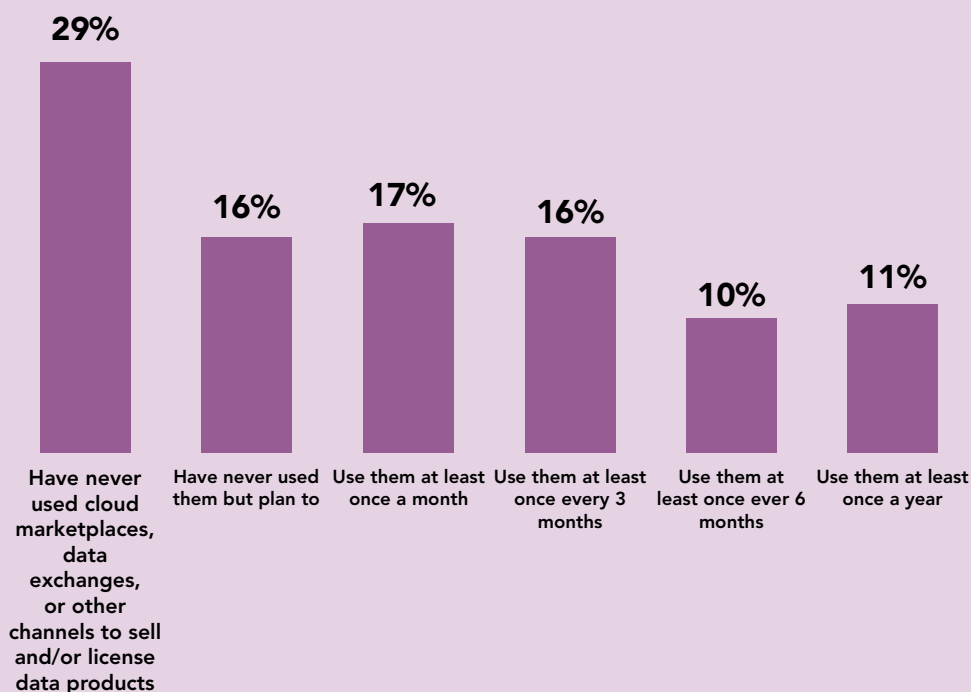
Interestingly, these buy-side and sell-side frequencies of cloud data marketplace use don't appreciably change when we limit our focus to only those respondents whose firms are already selling data products. We might infer from this that the many enterprises that haven't yet begun to sell data products are nonetheless at least buying data products online and, even if they're not yet selling such products, they're visiting these channels frequently as a key exploratory task in the planning and buildout of their own data production teams, processes, and platforms.

## Recommendations

Monetization is where your organization's investments in data management, advanced analytics, and cloud computing pay off.

### Figure 10

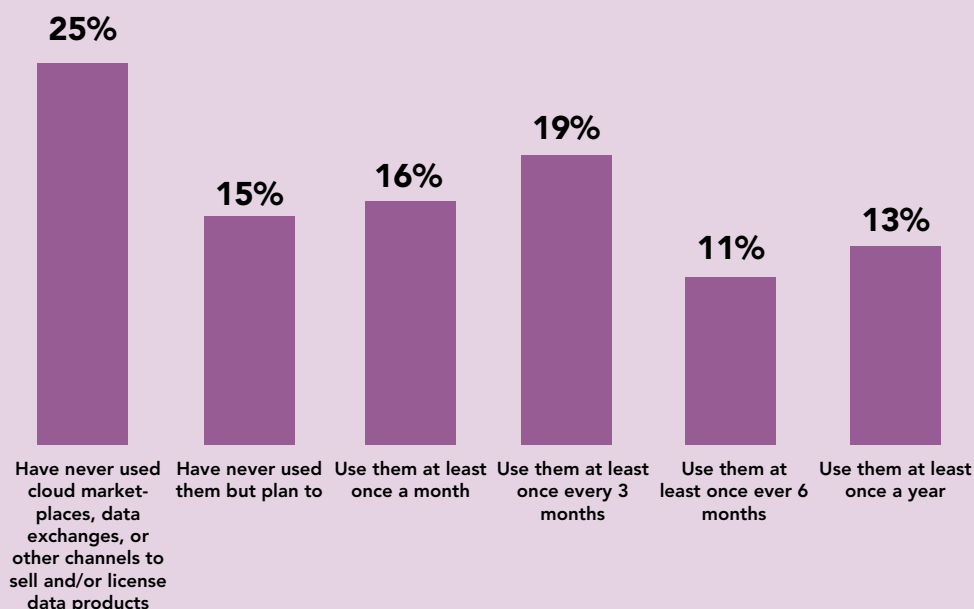
How frequently does your enterprise use cloud marketplaces, data exchanges, or other channels to sell/license data sets and other digital assets?



Based on 185 responses

## Figure 11

How frequently does your enterprise use cloud marketplaces, data exchanges, or other channels to discover, acquire, or subscribe to data sets and other digital assets?



Based on 185 responses

Monetization of data analytics assets can be lucrative, especially when accelerated with a proactive emphasis on data democratization and operationalization. Our survey showed a clear correlation between an enterprise’s success at data democratization—in other words, expanding authorized access to business data and analytics—and successfully monetizing those precious business assets. Of the respondents reporting that their enterprises have been largely or entirely unsuccessful with data democratization, barely one-third reported that they have been very or somewhat successful at monetizing data and analytics. However, of the respondents reporting that their enterprises have been very or somewhat successful with data democratization, close to two-thirds reported that they have also been very or somewhat successful at data monetization.

**Ensure organizational factors are in place for success.** To successfully monetize your data and analytics, you must have stakeholders, a team, and a culture that encourage, measure,

and reward data monetization. According to our survey, close to three-quarters of enterprises measure the bottom-line impact of data monetization now or plan to in the near future. It’s also essential to appoint personnel specifically responsible for productizing and otherwise monetizing data and analytics—a step that’s already been taken by over one-third of enterprises responding to this survey and by close to three-quarters of enterprises that have begun to sell data products.

**Don’t forget about governance and other procedural workflows.** To ensure that data and analytics are monetized in accordance with relevant mandates, policies, and constraints, institute requisite governance workflows, compliance, security, and other procedural guardrails over data monetization processes. Chief among these guardrails, as reported by survey respondents, are strong authentication, roles-based access control, and data masking. It’s also important to provide clear compliance and

governance guidance for those roles responsible for data productization and monetization—a step taken by over one-quarter of enterprises responding to this survey and by almost two-thirds of enterprises that have begun to sell data products.

**Ensure the right technology is in place.** To establish data and analytics as a scalable and robust practice, deploy the tools, platforms, and infrastructure needed for each type of data monetization opportunity. Survey respondents said that chief technological enablers at enterprises that are successful in data monetization include data and model governance platforms; cloud data platforms; self-service, visual, no-code data analytics tools; application programming and development tools; cloud data catalogs' automated XOps pipelines; and data productization and/or sharing platforms such as cloud data marketplaces.

**Perform a comprehensive inventory.** When embarking on your data monetization journey, make sure you perform a comprehensive inventory of your data. Leverage automated tools to build a complete profile and catalog of data assets, flagging these for further curation to determine the extent to which they can be monetized directly or indirectly. This will be important for determining whether monetization is viable on this data from technological, legal, regulatory, and other viewpoints. As you perform these assessments, heed the following guidelines:

- **Understand who would value your data, why, and how much.** Even if you own all the data and/or have all the necessary contracts in place with the legal owners, you shouldn't productize it if nobody will buy it in any form at any price. Have you done any meaningful market research? Have you identified

target customers, their requirements, their alternatives, the competitive landscape, the requisite sales and marketing, the optimal pricing and licensing structure, and all of the other essential go-to-market issues? If these don't check out in the affirmative, there's no point in productizing your data.

- **Set realistic goals for monetization.** Even if you can productize your data in some fashion and realize revenue, this may not be a good addition to your product mix. The reasons you might refrain from monetizing your data are diverse, including low return on investment, anemic growth potential, strategic misalignment, competitive vulnerabilities, and cannibalization of your existing product revenues.

**Instrument your processes for continual discovery of monetizable insights.** Embedded analytics are among the most effective tools to ensure continual guidance in all customer-facing touchpoints and back-end processes so every decision maximizes its monetization potential. Augmented analytics ensures that your business analytics can access a steady stream of AI-distilled monetization insights. Data storytelling frames those opportunities into compelling business cases. Predictive analytics, if implemented throughout your business, ensures that monetization efforts benefit from the best forecasts, trending, and what-if models available to your business.

**Test, learn, and tweak.** If data productization is within your operational reach, has strong revenue and profit potential, and makes strong strategic sense, it's likely your company can execute effectively on a monetization initiative. If you're unsure, it's best to establish test programs for productizing specific data sets, drawing on data



## Monetizing Enterprise Data and Analytics

stewardship personnel who have both the domain expertise and the mandate to ensure that data product managers don't run afoul of regulatory and business restrictions on using those data sets.

**Clarify data ownership and privacy.** Always bear in mind that your enterprise should never attempt to monetize any data through any approach—sale, productization, or operationalization—unless it owns the data or has clear rights to use it in the intended fashion. Given the wide range of data privacy laws and regulations around the world, your enterprise must be exceptionally careful when attempting to monetize data that includes personally identifiable information of customers, employees, and others.

**Maintain governance and visibility.** You must also have clear, transparent, end-to-end visibility into the provenance, processing, storage, governance, access, and manipulation of data throughout your DataOps and MLOps pipelines. These controls must also be implemented within any data marketplace, exchange, and other channel through which data is sold, acquired, or shared. At the very least, institute robust governance safeguards for ensuring that only sanctioned, high-quality, curated, and compliant data assets are offered, acquired, or shared for monetization purposes.

**Consider adopting modern cloud-native data engineering and data science platforms.** These—plus cloud-based marketplaces through which data, data-derived analytics, and data-powered products and services are offered to the buying public—are the key to sustainable monetization of all data analytics assets throughout a business.

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A Division of 1105 Media  
6500 Canoga Avenue, Suite 1150  
Woodland Hills, CA 91367

E [info@tdwi.org](mailto:info@tdwi.org)

[tdwi.org](http://tdwi.org)