BARC DATA CULTURE SURVEY 23
HOW TO LIBERALIZE DATA ACCESS TO EMPOWER DATA USERS

TOPICAL SURVEY

BARC

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FOREWORD

"Data culture eats data strategy for breakfast" has become a popular saying among data and analytics managers and executives. Even the best data strategy cannot fulfill its potential if the data culture in the company does not match it. Ultimately, it is the people in the company who have to change their behavior and mindset in order to benefit from the ever-increasing amount of data available to them.

In last year's BARC Data Culture Survey, participants named 'data access' as the most frequently implemented of the six elements in BARC's Data Culture Framework. For this reason, this year we focused on questions about the implementation of data access. The results provide interesting insights into prevailing views on the 'right to know' and 'need to know' principles of data access, the technologies used and the importance of data knowledge (i.e., the information available on data and the skills required to use it).

In this year's survey, 'data access' is now considered the most relevant initiative to positively influence data culture while 'data strategy' took first place from 'data access' as the most commonly implemented initiative. This confirms that the opening statement has reached the top of organizations and that the consideration and development of a data culture should be anchored in the data strategy.
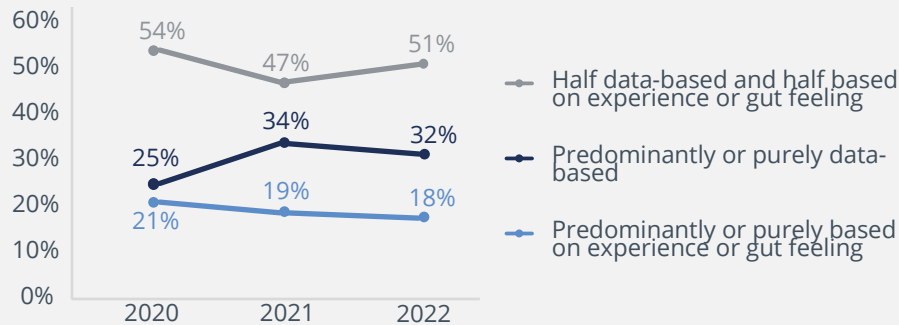
Carsten Bange and Timm Grosser
Würzburg, November 2022

MANAGEMENT SUMMARY

54%
47%
51%
— Half data-based and half based on experience or gut feeling

25%
34%
32%
— Predominantly or purely data-based

21%
19%
18%
— Predominantly or purely based on experience or gut feeling

60%
50%
40%
30%
20%
10%
0%

2020 | 2021 | 2022

Are decisions in your company based on data or gut feeling? (n20=412, n21=429, n22=374)

Data/information is considered an asset

| 40% | 43% | 13% | 4% |

We understand that data knowledge is key for data analytics so we invest or plan to invest in collecting, linking and analyzing metadata

| 30% | 44% | 21% | 5% |

■ Strongly agree ■ Somewhat agree ■ Somewhat disagree ■ Strongly disagree

To what extent do you agree with the following statements regarding the data culture in your company? (n=372)

01 THE MAJORITY RELIES ON A MIXTURE OF DATA AND GUT FEELING FOR DECISION-MAKING

Following an increase in 2021, the proportion of companies making primarily data-driven decisions has remained stable this year at around one third. 50 percent state that they generally base their decisions on a combination of data and gut feeling.
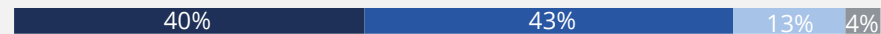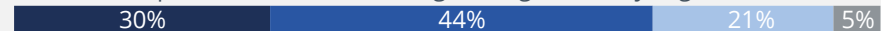
02 DATA KNOWLEDGE IS ESSENTIAL TO DATA AND ANALYTICS

There is a clear understanding that data is an asset to the organization. Almost three quarters of respondents also state that they have recognized the need to invest in ways to access, link and understand metadata. However, when asked about the specific technologies used, it is apparent that the most appropriate tools are not very widespread yet. There is still work to be done to implement and disseminate data knowledge.

MANAGEMENT SUMMARY

03 DATA CULTURE PAYS OFF

Almost half of the companies surveyed count improved decision-making among the goals they have achieved, and more than a third have achieved continuous process improvements and cost reductions through the use of data. However, expectations are much higher and more diverse. Respondents are looking for further improvements in their decision-making and processes, revenue growth and, ultimately, to gain competitive advantage.
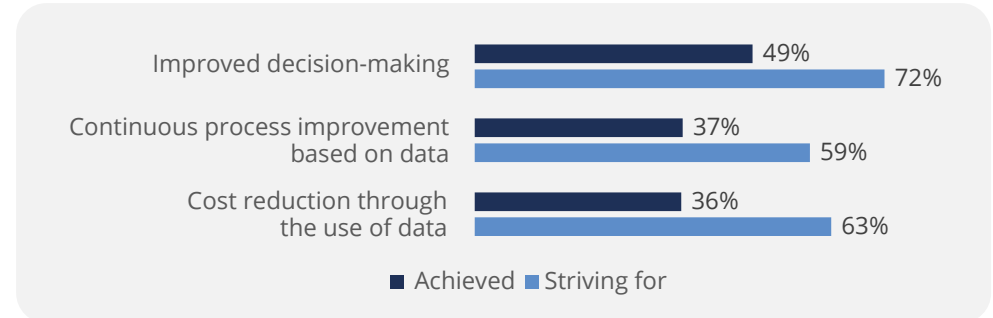
Improved decision-making — 49% / 72%
Continuous process improvement based on data — 37% / 59%
Cost reduction through the use of data — 36% / 63%

■ Achieved ■ Striving for

Which positive effects of a data-driven culture have you already achieved and which do you strive for? (n achieved=367; n strive for=374)

04 DATA LITERACY, LEADERSHIP AND COMMUNICATION NEED A BOOST

Data strategy, data governance and data access are the three data culture initiatives that survey participants consider to be the most relevant and commonly implemented. On the other hand, data leadership, data communication and data literacy initiatives have only been launched by around 20 percent. It is interesting to note that the CxO perspective is quite different: 81 percent of CxOs claim that data literacy is already in place or planned, and 78 percent say the same for data communication.

Percentage of 'relevant and being implemented'

Data strategy — 34%
Data governance — 33%
Data access — 32%
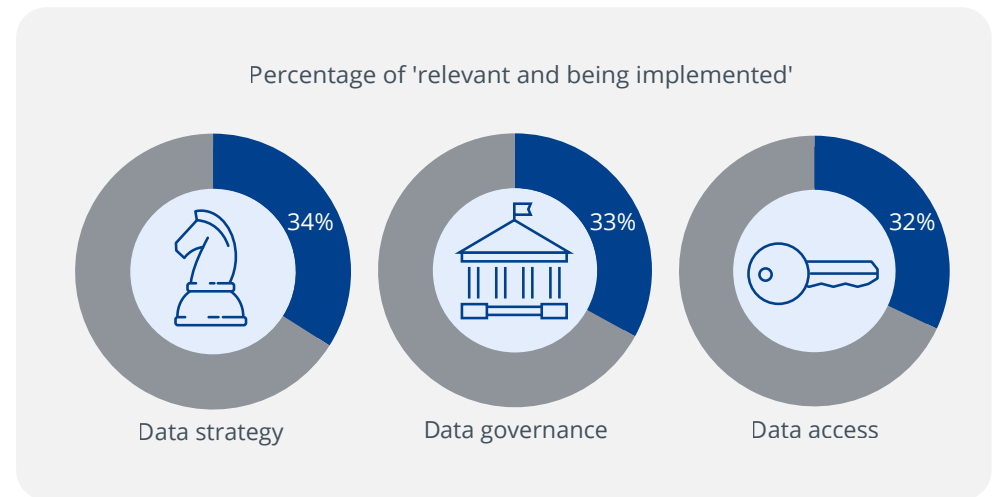
Please indicate the current status and relevance of the following data culture measures/approaches in your company. Top 3 (n=352)

# MANAGEMENT SUMMARY
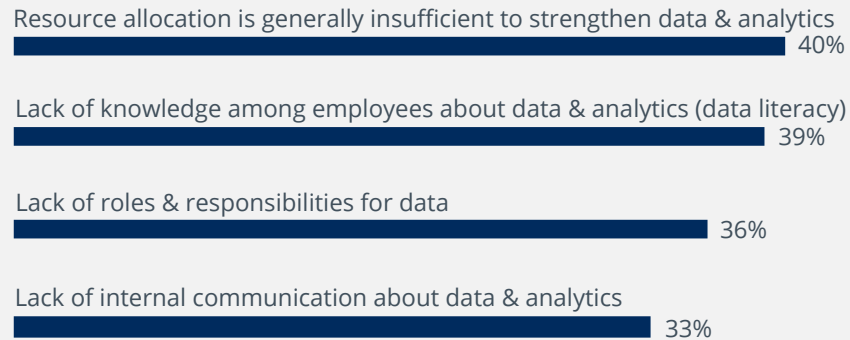
Resource allocation is generally insufficient to strengthen data & analytics
40%

Lack of knowledge among employees about data & analytics (data literacy)
39%

Lack of roles & responsibilities for data
36%

Lack of internal communication about data & analytics
33%

What are the main obstacles to the implementation or initial establishment of a data culture in your company? Top 4 challenges (n=371)

## 05 COMPANIES SEEM TO FOCUS ON THE WRONG ACTIONS

The biggest reported obstacles to implementing a data culture are a lack of resources, a lack of knowledge, a lack of roles and responsibilities, and inadequate communication. This is where companies should take action and seize the initiative if they are serious about becoming data-driven. Unfortunately, it is precisely these obstacles that are the least frequently addressed in concrete initiatives.

Prevalent data access principle

37%
63%
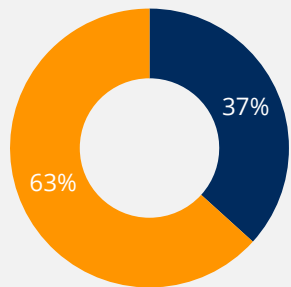
■ Need to know ■ Right to know

Considered as most beneficial

41%
59%
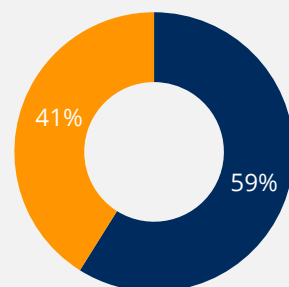
■ Need to know ■ Right to know

Which data access principle is prevalent in your organization? and which approach do you consider most beneficial for your company? (n=365)

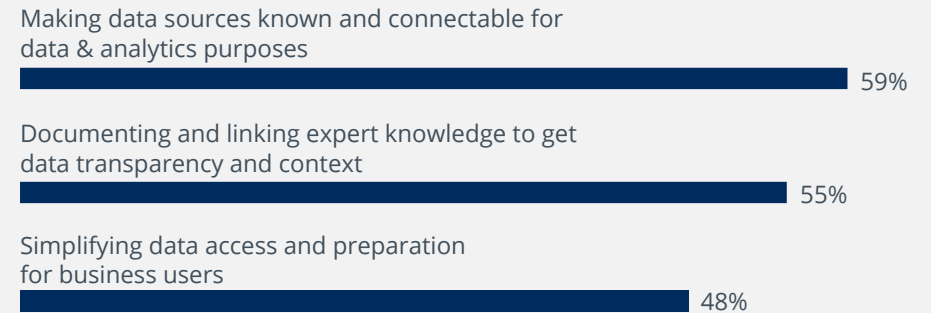## 06 MOST COMPANIES BELIEVE IN THE VALUE OF LIBERALIZING DATA ACCESS

Companies today still predominantly follow the 'need to know' principle, which means data access is only granted on request. 59 percent of respondents see greater advantages in the more liberal 'right to know' approach. 37 percent have already adopted this principle and believe they are more successful with it.

MANAGEMENT SUMMARY

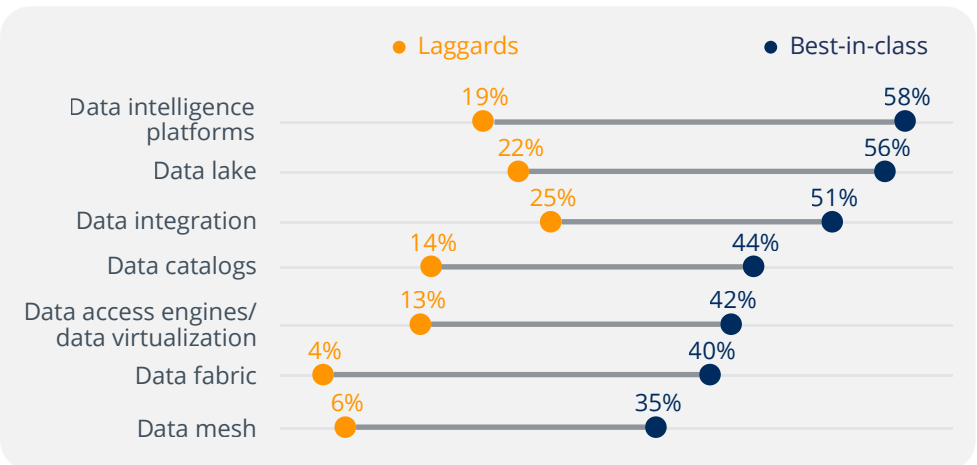## 07 THE CONDITIONS FOR DATA ACCESS FOR ALL ARE NOT YET IN PLACE

The biggest challenges to liberalizing data access are a lack of data knowledge on the part of users and enabling simple access methods. Many of the conditions for better data access must therefore be created first. More than half of all respondents would like their data to be more transparent and want to be able to connect to it more easily.

Making data sources known and connectable for data & analytics purposes
59%

Documenting and linking expert knowledge to get data transparency and context
55%

Simplifying data access and preparation for business users
48%

What do you see as the biggest challenges in data access? Top 3 (n=369)
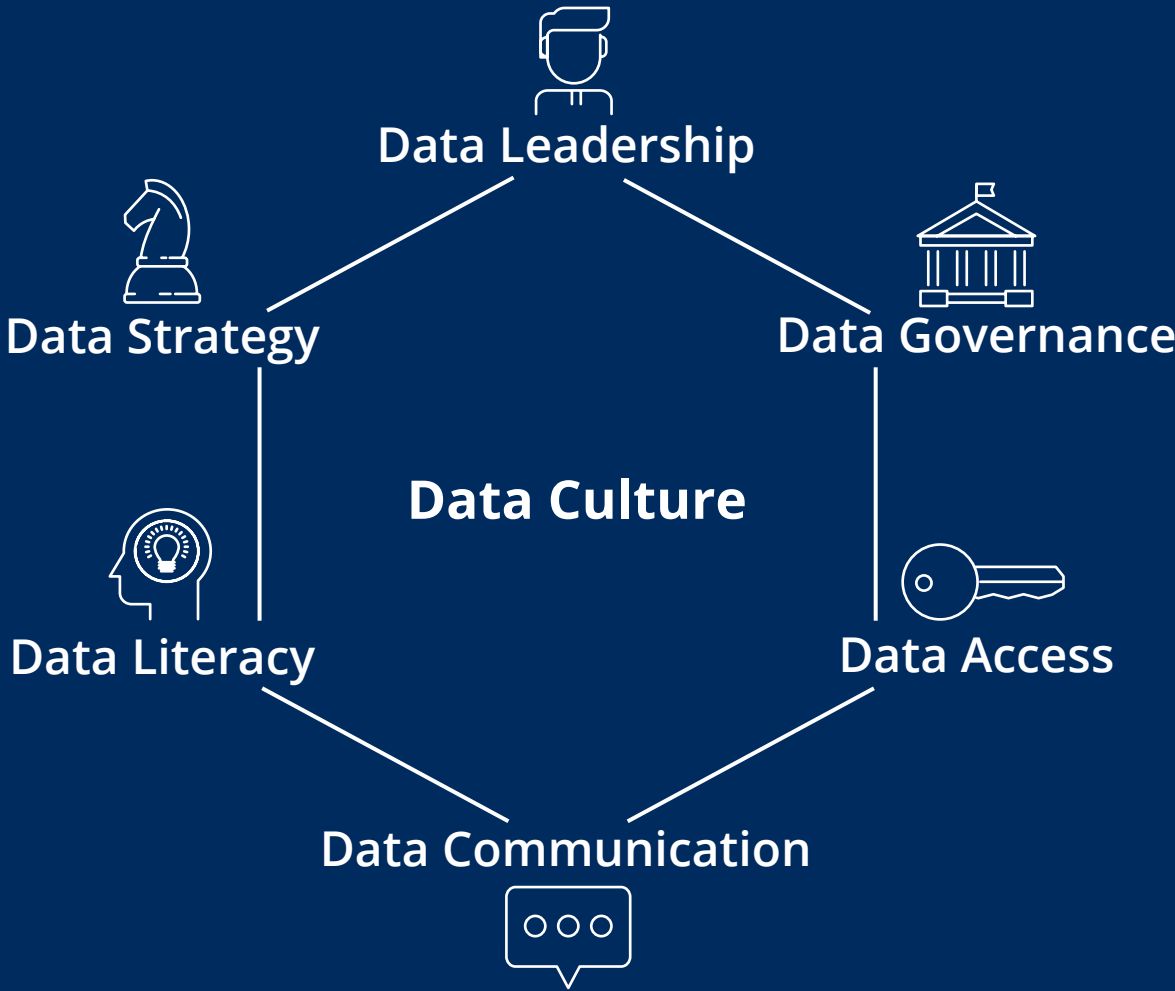
08 BEST-IN-CLASS INCREASINGLY RELY ON MODERN CONCEPTS, TECHNOLOGIES AND METADATA

Best-in-class companies use technologies and concepts beyond 'classic' business intelligence tools significantly more frequently than laggards. These include tools for metadata management (e.g., data catalogs, data intelligence platforms), tools for data virtualization, organizational concepts (e.g., data mesh) and architectural concepts and principles such as data fabric. Best-in-class companies have extracted significantly greater added value than laggards from using these technologies and concepts. For these approaches to be successful, the ability to apply them properly is essential. Knowledge about data, technologies and concepts is a key competency that often needs to be developed in the workforce.

● Laggards   ● Best-in-class

	Laggards	Best-in-class
Data intelligence platforms	19%	58%
Data lake	22%	56%
Data integration	25%	51%
Data catalogs	14%	44%
Data access engines/ data virtualization	13%	42%
Data fabric	4%	40%
Data mesh	6%	35%

Which technologies/concepts are used in your organization for data access? Largest deviation in tool usage between best-in-class and laggards (top 5, n=115)

BARC DATA CULTURE FRAMEWORK

Data Leadership

Data Strategy

Data Governance

Data Culture

Data Literacy

Data Access

Data Communication

The framework identifies the six most important action areas, thus giving companies a guideline on where to focus their attention.

There is no hierarchy among the six action areas. Strategy, leadership and governance typically specify goals and parameters in which a data culture is promoted or can be restricted. Data access and data literacy are important enablers, while data communication serves as a facilitator for data culture.

ACTION ITEMS

02 TRACK YOUR PROGRESS

In each of the six pillars of the BARC Data Culture Framework, it is worthwhile to regularly measure progress. It makes sense to obtain the broadest possible amount of feedback from within the company.

This survey clearly shows that executives, employees in operational functions and data and analytics leaders can have completely different views on how initiatives are progressing in key areas. The difference is particularly striking in relation to data literacy and data communication.

03 RETHINK THE OPENNESS IN HANDLING DATA

Opening up the use of data for employees starts with making data available as widely and openly as possible. Consider to what extent a 'right to know' data access principle can be implemented and driven forward. Concerns about data security should be taken seriously, but must not block a transformation to data access that is open in principle and has as few hurdles as possible.

01 TAKE A HOLISTIC AND LONG-TERM APPROACH TO DATA CULTURE

Changing the data culture in a company takes time – a change of mindset and a shift in behavior cannot come overnight. This is not a sprint but a marathon. However, it also demands a holistic approach that addresses a number of areas at different levels. BARC's model for systematizing the starting points for changing a data culture – the BARC Data Culture Framework – has become well established.

04 BETTER DATA ACCESS DEMANDS DATA KNOWLEDGE

Knowledge about data creates transparency and helps people to find, understand, evaluate and use data. A lack of documentation is one of the main challenges to data access. Knowledge about data already exists explicitly in the form of metadata. Learn how to extract metadata, expose knowledge from it and promote transparency with data intelligence.

It is important to keep the following in mind:

- Create clear structures and responsibilities for data so that it can be clearly defined and described.
- Enable the generation and collection of metadata to help users find and understand data. Get a picture of what information needs to exist about data.
- Establish a space for knowledge sharing and encourage employees to share their experiences and results with data in communities or on knowledge platforms.
- Build trust in data through data governance, such as data quality monitoring and reporting.
- Encapsulate the complexity of distributed data landscapes and promote easy access to data and data knowledge through metadata technologies such as data catalogs

ACTION ITEMS
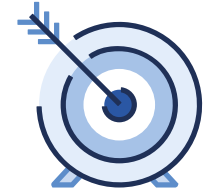
05 **BUILD COMPETENCE – INVEST IN DATA LITERACY**

Lack of knowledge and competence reduces success in data and analytics and lowers the chances of leveraging the full potential of data. Invest specifically in the development of competencies through education, training, communities, etc. This should reach as many employees as possible, and can only succeed if the offer of competence development is targeted to different roles, backgrounds and tasks. Furthermore, data literacy should be understood broadly. It is not just a matter of competencies for understanding data, but also of competencies for establishing business context, mastering technologies for accessing and preparing data, and analyzing and communicating with data using the appropriate methods.

06 **CONSIDER MODERN TECHNOLOGIES – THE DATA WAREHOUSE DOES NOT SOLVE ALL PROBLEMS**

The increasing complexity of system and data landscapes and technologies used requires a rethinking of technology support for access to data. Requirements and scopes have changed. For example, it is not always necessary or useful to physically integrate data. New concepts such as data fabric and data virtualization can help provide data more flexibly. Data knowledge in the form of metadata is also scattered across numerous applications. Tool support (e.g., in the form of modern data catalogs) helps to organize integration more efficiently and simplify access.

01 THE CURRENT STATUS OF DATA-DRIVEN DECISION-MAKING

74 PERCENT OF BEST-IN-CLASS COMPANIES RELY ON DATA-DRIVEN DECISION-MAKING
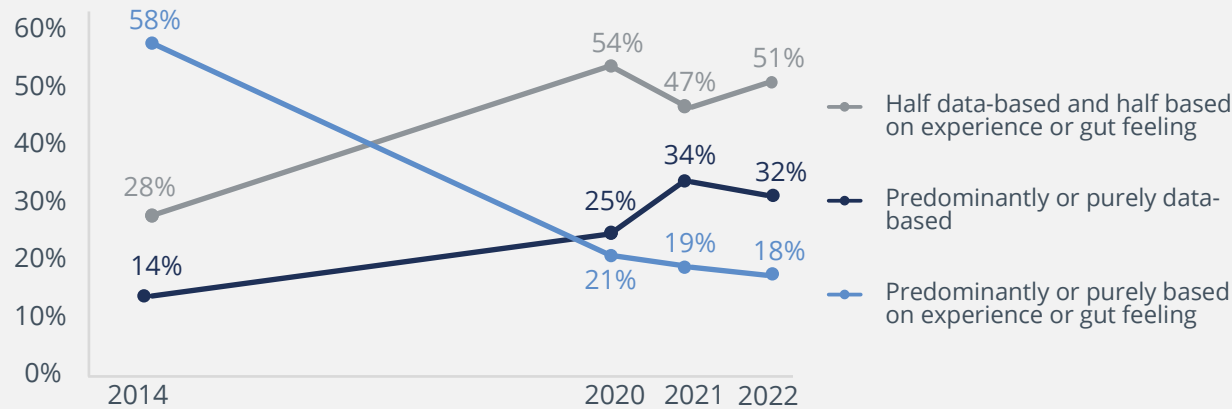
Are decisions in your company based on data or gut feeling? (n14=697, n20=412, n21=429, n22=374)

It is noteworthy that 74 percent of best-in-class companies rely on data and make decisions purely or predominantly based on data. This reveals a significant difference from the average of all participating companies (32 percent) and even more so from laggards, of which only 11 percent rely purely or predominantly on data-driven decision-making.
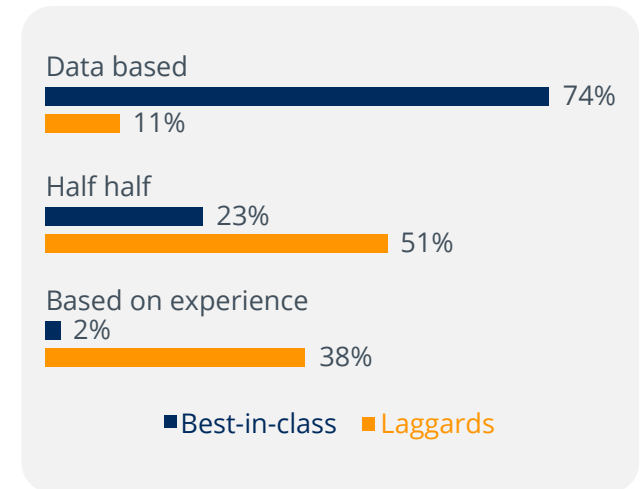
Are decisions in your company based on data or gut feeling? By best-in-class (n=115)

The use of data for decision-making is relatively constant compared with last year. Half of the companies surveyed make decisions based on a mixture of data and experience or gut feeling, while one third make decisions exclusively on the basis of data. The share of companies making decisions based solely on experience is slowly decreasing. 2021 in particular showed a clear move towards more data-driven decision-making, probably driven by external factors, most notably COVID-19. In our observation, the value of data for decision-making remains clear to most organizations, especially in the context of current global political and economic challenges. The difficulties lie more in being able to realize this value at a reasonable cost.

01 THE CURRENT STATUS OF DATA-DRIVEN DECISION-MAKING

THE MOST DATA-DRIVEN DEPARTMENTS ARE FINANCE/ACCOUNTING AND SALES/DISTRIBUTION

Department	Percentage
Finance/Accounting	59%
Sales/Distribution	44%
Marketing	29%
Production	27%
Logistics/Supply chain	27%
Purchasing	25%
Research and development	20%
Personnel/HR	17%
Service/After-Sales	16%
Other	5%
None	1%
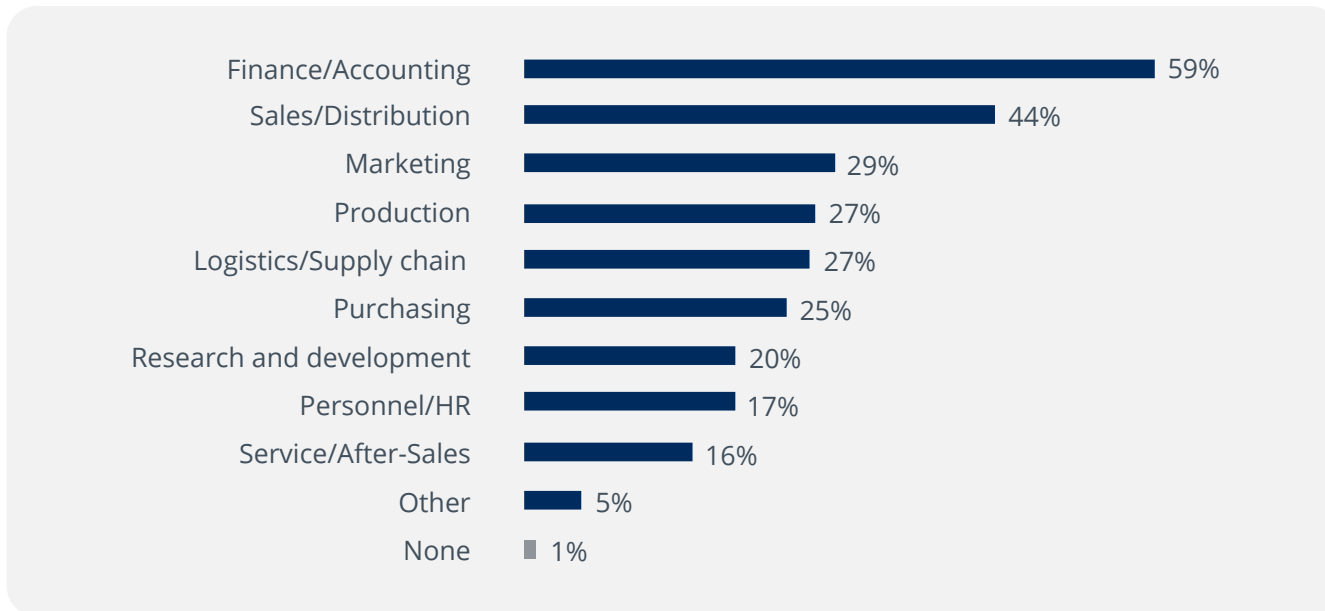
Which departments in your company are the most data-driven in their decision-making, operational processes and/or organizational structure? (n=374)

Survey participants were asked to identify the departments that they considered to be the most data-driven with the option of naming more than one department. That finance/accounting and sales/distribution occupy the leading positions is to be expected. These areas have had the highest penetration of BI and analytics tools for a long time. It is interesting that the top two spots flip significantly for best-in-class companies (67 percent for sales/distribution and 53 percent for finance/accounting). The low values (and the distance behind finance/accounting and sales/distribution) are surprising for areas such as production and logistics, since it is precisely here that a lot has been done with IoT and other data initiatives in recent years.

02 DATA CULTURE – ACHIEVEMENTS AND PRIORITIES

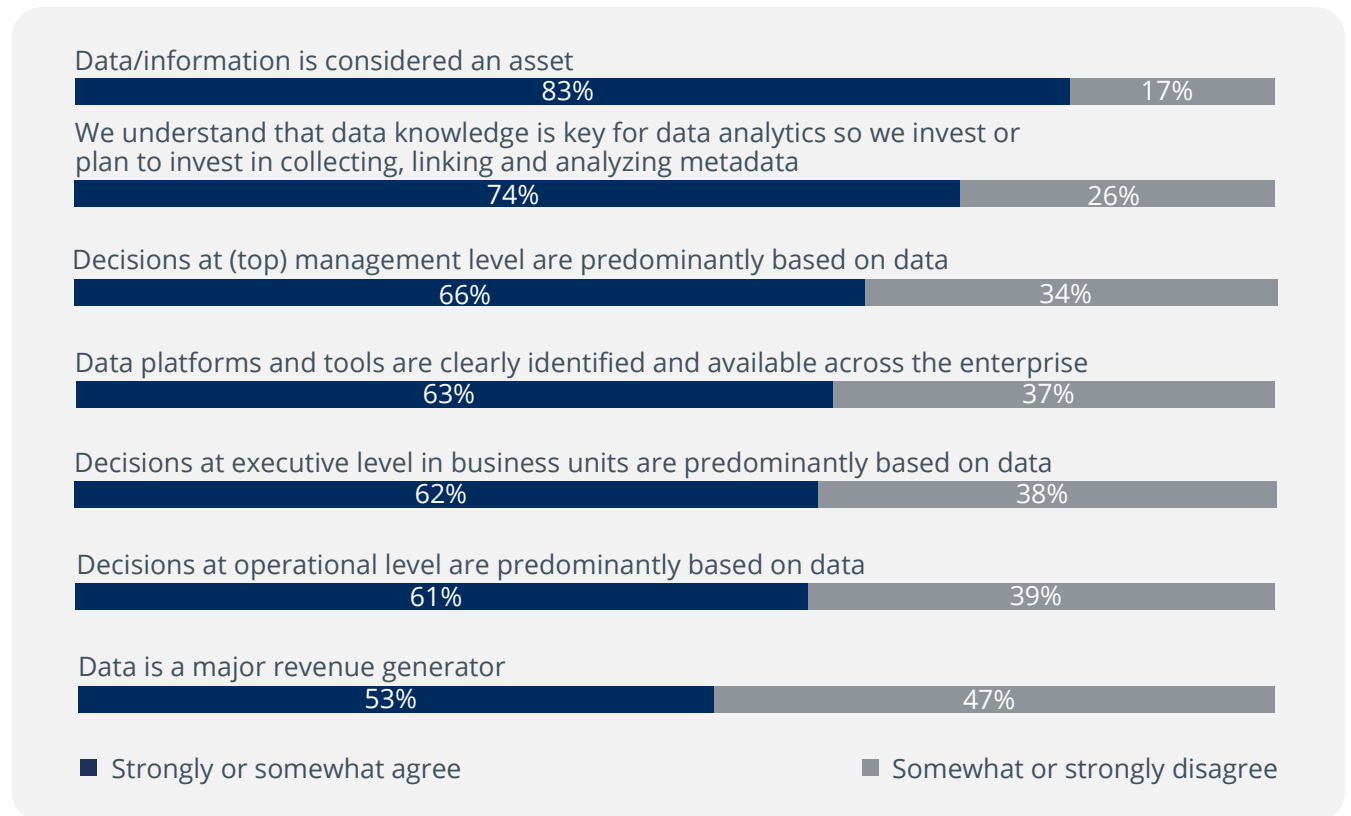### DATA KNOWLEDGE IS THE KEY TO THE SUCCESSFUL USE OF DATA AND ANALYTICS

83 percent of participants confirm that data/information is seen as an asset in their company, but only just over half of the companies surveyed use data as a major revenue generator. There is obviously still some catching up to do here. Best-in-class companies are significantly further ahead in this regard (84 percent).

74 percent of users identify data knowledge as the key to data and analytics and want to invest in collecting, linking and analyzing metadata. Knowledge resides in the enterprise in the form of metadata. It provides the contextual information necessary to help data users find, understand, trust and apply data. The need for knowledge is recognized. Interestingly, however, this study also shows that few companies are currently investing in processes or technologies that help to leverage metadata. However, a detailed look at best-in-class companies shows that 95 percent of them acknowledge the importance of data knowledge and the need to invest.

The picture regarding the use of data at various levels of decision-making is also worth mentioning. At both operational and tactical levels in business

Data/information is considered an asset
83% | 17%

We understand that data knowledge is key for data analytics so we invest or plan to invest in collecting, linking and analyzing metadata
74% | 26%

Decisions at (top) management level are predominantly based on data
66% | 34%

Data platforms and tools are clearly identified and available across the enterprise
63% | 37%

Decisions at executive level in business units are predominantly based on data
62% | 38%

Decisions at operational level are predominantly based on data
61% | 39%

Data is a major revenue generator
53% | 47%

■ Strongly or somewhat agree   ■ Somewhat or strongly disagree

Do you agree or disagree with the following statements regarding the data culture in your company? (n=371)
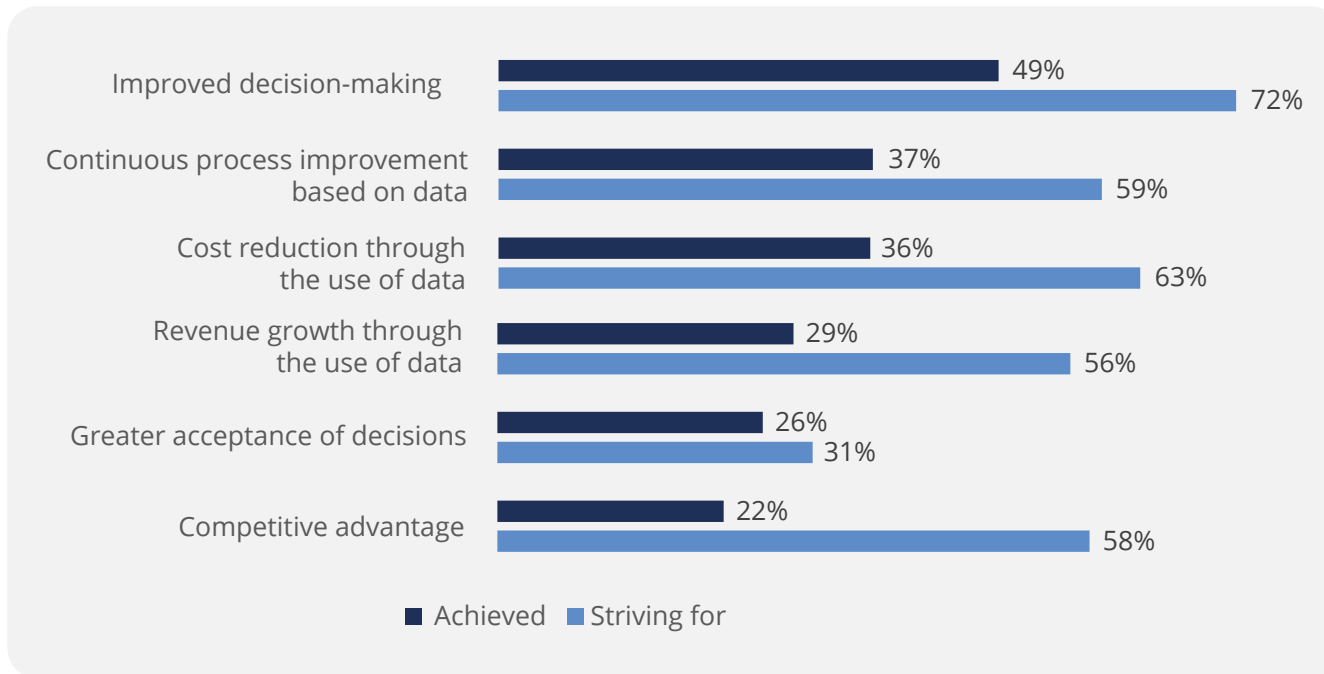
units, just under 40 percent of survey respondents claim that decisions are not made primarily on the basis of data. This is quite a high figure.

Data-driven decision support should be in place throughout the company at all levels, so there is work to be done here.

02 DATA CULTURE – ACHIEVEMENTS AND PRIORITIES

THE BENEFITS OF A DATA CULTURE ARE PROMISING AND EXPECTATIONS ARE EVEN HIGHER

Benefit	Achieved	Striving for
Improved decision-making	49%	72%
Continuous process improvement based on data	37%	59%
Cost reduction through the use of data	36%	63%
Revenue growth through the use of data	29%	56%
Greater acceptance of decisions	26%	31%
Competitive advantage	22%	58%

■ Achieved   ■ Striving for

Which positive effects of a data-driven culture have you already achieved and which do you strive for?
(n achieved=367; n strive for=374)

When asked about the positive effects of a data culture, the picture this year is similar to last year. Expectations are high while the actual benefits achieved are still significantly lower. The most frequently achieved (and also expected) benefit from data culture is improved decision-making, which almost half of the survey participants have achieved.

The benefit with the smallest deviation between expectation and achievement is 'greater acceptance of decisions'. For just under a third, this is a desirable goal, and almost all achieve it.
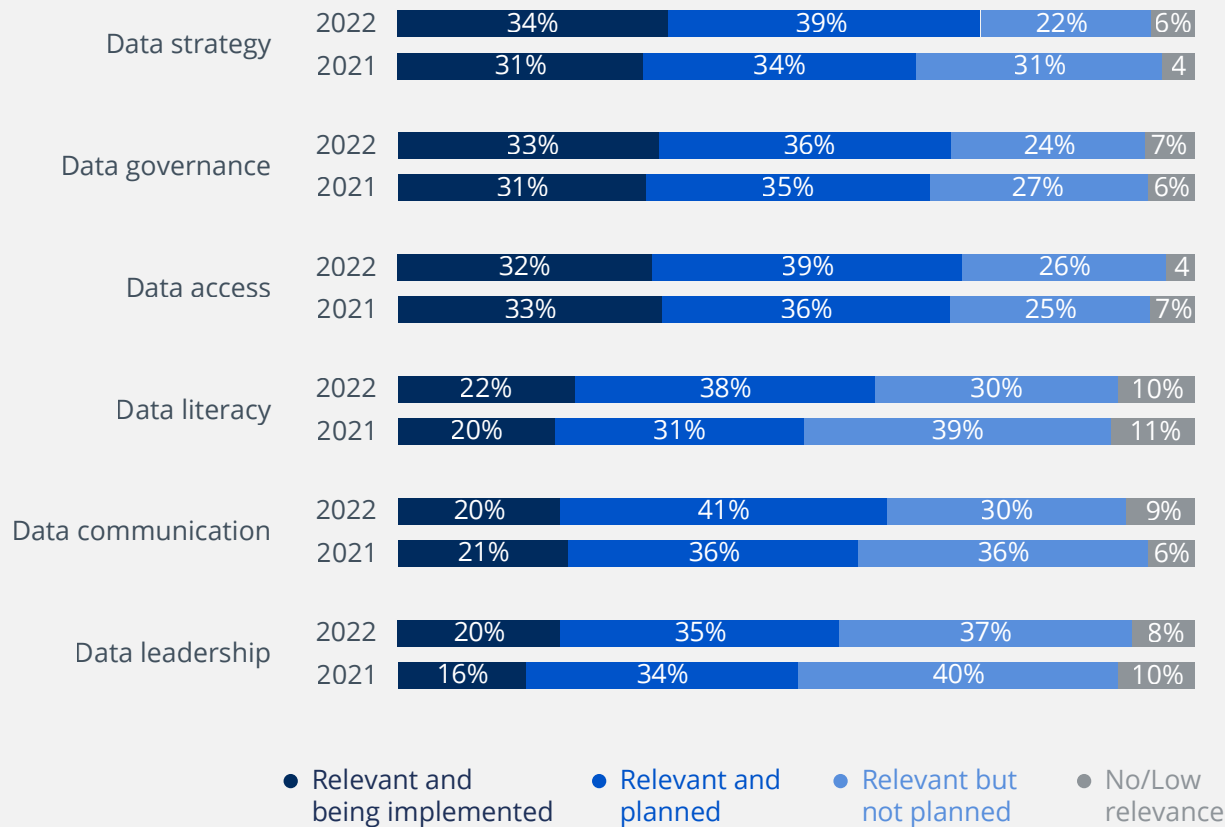
Best-in-class companies prove that improving their data culture pays off. They achieve benefits significantly more frequently than laggards, and the differences between best-in-class and laggards are greatest when it comes to achieving 'competitive advantage' (56 percent vs. 4 percent), 'revenue growth through the use of data' (60 percent vs. 19 percent) and 'improved decision-making' (70 percent vs. 40 percent).

Europe, at more than 50 percent, expects significantly greater benefits from reducing data silos and a distributed understanding of data than respondents from the United States and APAC (less than 40 percent). Overall, actual benefit achievement is noticeably higher in the United States and APAC. In these regions, there is also a higher adoption rate of new concepts and technologies (e.g., more widespread use of data products).

02 DATA CULTURE – ACHIEVEMENTS AND PRIORITIES

INITIATIVES TO IMPROVE DATA CULTURE – PRACTICAL ACTIONS COMPANIES CAN TAKE

		Relevant and being implemented	Relevant and planned	Relevant but not planned	No/Low relevance
Data strategy	2022	34%	39%	22%	6%
	2021	31%	34%	31%	4
Data governance	2022	33%	36%	24%	7%
	2021	31%	35%	27%	6%
Data access	2022	32%	39%	26%	4
	2021	33%	36%	25%	7%
Data literacy	2022	22%	38%	30%	10%
	2021	20%	31%	39%	11%
Data communication	2022	20%	41%	30%	9%
	2021	21%	36%	36%	6%
Data leadership	2022	20%	35%	37%	8%
	2021	16%	34%	40%	10%

● Relevant and being implemented ● Relevant and planned ● Relevant but not planned ● No/Low relevance

Please indicate the current status and relevance of the following data culture initiatives in your company. (n22=352, n21=400)

Compared to 2021, the importance of data culture initiatives has increased in each of the six aspects of the BARC Data Culture Framework. Data strategy takes the lead as the most relevant and also the most implemented initiative impacting data culture, with 94 percent of respondents considering it to be relevant and 73 percent having already launched an initiative or planning to do so. This makes sense as the lack of a strategy is often cited as a barrier to data-driven work. It provides a target picture, the framework and links data activities with corporate goals. Closely linked to data strategy is data governance as an instrument for establishing a secure, reliable and consistent data foundation that meets corporate requirements and regulations. Data governance is already being driven forward by one third of respondents and a further 36 percent have initiatives planned. Data leadership is also considered relevant in 92 percent of companies, but only 20 percent have anything in place and 35 percent have implementations planned. More would be expected here in light of the fact that a lack of management support and resources are among the biggest impediments to data initiatives.
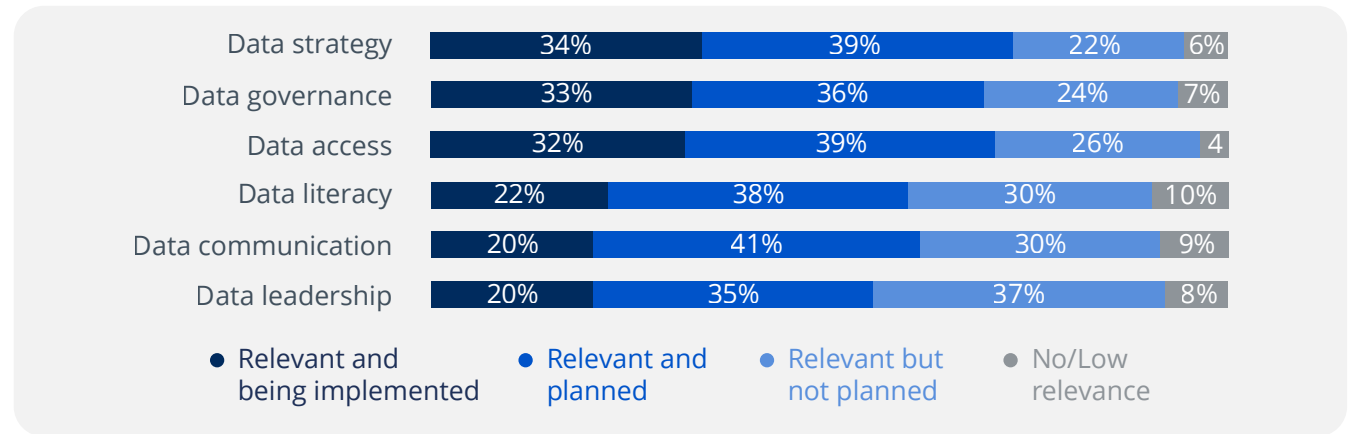
02 DATA CULTURE – ACHIEVEMENTS AND PRIORITIES

INITIATIVES TO IMPROVE DATA CULTURE – PRACTICAL ACTIONS COMPANIES CAN TAKE

Data leadership is based on conviction and strategic thinking. But it is also a question of the generation of leaders. In our recent study, *Strategies for Driving Adoption and Usage with BI and Analytics*, a new generation of data-driven leaders was cited as the strongest driver of BI and analytics tool adoption and usage.

The CxO perspective is particularly interesting: 81 percent of the CxOs surveyed claim that data literacy initiatives have already been implemented or are planned, and the corresponding figure for data communication is 78 percent. Overall, the CxO's view of initiatives that have already been implemented is significantly more positive than in general. Employees in operational functions and data and analytics leaders and experts report less widespread activity, so there is definitely work to be done here to convince top management that competence and communication are still nowhere near as far advanced as they think. This is particularly relevant for data literacy, as this is seen as the second most frequent obstacle to the proliferation of a data culture (see page 17). If management does not provide sufficient resources for this and other initiatives (obstacle no.

	Relevant and being implemented	Relevant and planned	Relevant but not planned	No/Low relevance
Data strategy	34%	39%	22%	6%
Data governance	33%	36%	24%	7%
Data access	32%	39%	26%	4
Data literacy	22%	38%	30%	10%
Data communication	20%	41%	30%	9%
Data leadership	20%	35%	37%	8%

Please indicate the current status and relevance of the following data culture initiatives in your company. (n22=352)

1 for data culture), then strategic considerations will not be converted into actual practical benefits. Data access initiatives have the highest relevance overall at 96 percent, having already been implemented by 32 percent. Data literacy and data communication trail way behind, each with around 40 percent of participants not planning any initiatives in these areas. However, in our view, they should not be delayed too long because a lack of knowledge is one of the top challenges in the implementation of data projects and can even prevent benefits being generated from data and/or technology.

This is recognized by companies that follow the 'right to know' principle. Here, the level of implementation and planning of data leadership initiatives is 7 percentage points higher. Also, it is 6 percentage points higher for data communication and 5 percentage points higher for data literacy. We therefore see a connection – at least a slight one – between strong leadership, communication and literacy and data democratization through the 'right to know' principle.
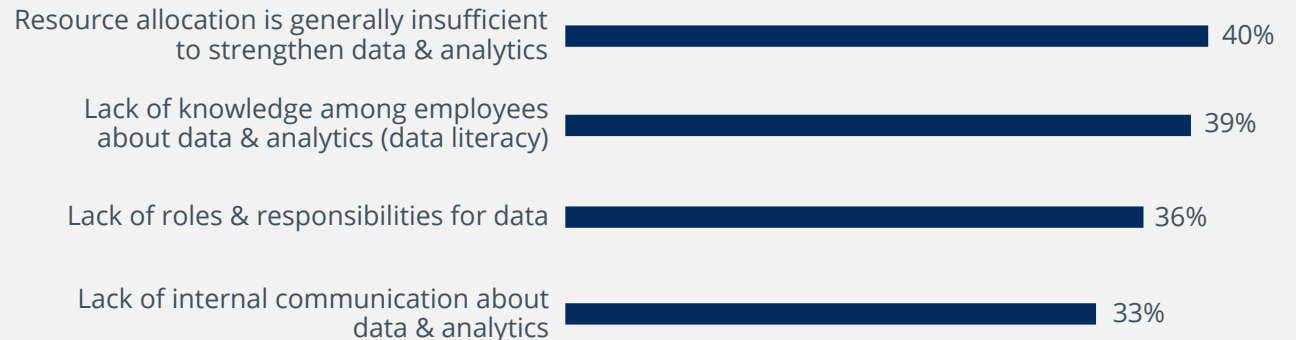
02 DATA CULTURE – ACHIEVEMENTS AND PRIORITIES

RESOURCES, SKILLS AND ORGANIZATION: THE OBSTACLES TO OVERCOME

Lack of resources, lack of knowledge, organization and communication are the top barriers to implementing a data culture. They have consistently been the biggest challenges for data and analytics leaders for a long time, and not only when it comes to data culture. As shown on , many companies have recognized the value of data. However, they often fail to create the necessary conditions for the actual use of data. Of particular concern is that many are prioritizing initiatives to improve data culture that do not directly address the biggest problems

What are the main obstacles to the implementation or initial establishment of a data culture in your company?
Top 4 challenges (n=371)

40%
of participants are not planning any initiatives in data literacy.

The lack of data literacy is particularly striking here. It is the second most frequent challenge but tackling it is not a high priority (). Unlike data strategy, data governance and data access, data literacy is one of the initiatives where a lot is planned but relatively little is done. This also includes data leadership and communication. From the beginning, the goal should be to bring everyone along, to empower them, and to set an example of data-driven action. This requires creating the necessary space, starting with the development of a data strategy. The objective should be clear goals, broad competence training and the development of a data and analytics ecosystem that efficiently contributes to the company's goals.

DATA CULTURE – ACHIEVEMENTS AND PRIORITIES

RESOURCES, SKILLS AND ORGANIZATION: THE OBSTACLES TO OVERCOME

Best-in-class companies are far more alive than laggards to the challenge that their data strategy is aligned with technology. After all, organizational challenges have to be tackled, as already shown above. In fact, the prevailing opinion is that the purchase of a technology solves the data problems. This is not the case. For example, a data catalog without any organization (roles, responsibilities, processes) and active use by data consumers

and producers will never be able to deliver the benefits it is designed for. This point is recognized by 31 percent of the companies that practise 'right to know', but only by 23 percent of the companies that follow the 'need to know' principle.

Best-in-class companies see it as far more challenging that data governance initiatives are driven exclusively by compliance requirements.

Data governance has two sides. Firstly, data must be protected and secured and a regulatory framework created. However, it is also about enabling business users to use data flexibly by providing a reliable, trustworthy, understandable foundation of data in which data and analytics artifacts can be found, understood, obtained and used.
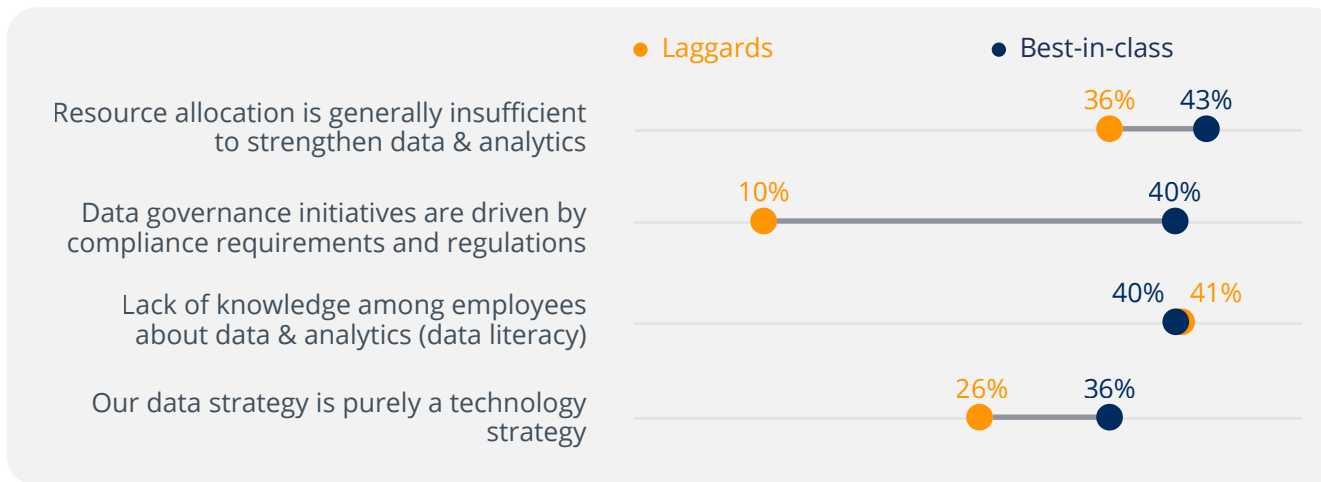

What are the main obstacles to the implementation or initial establishment of a data culture in your company?
Top 4 challenges of best-in-class vs. laggards (n=115)

03 DATA ACCESS

THE 'RIGHT TO KNOW' PRINCIPLE IS MORE BENEFICIAL THAN 'NEED TO KNOW'

Two basic principles can be observed in data access. We refer to the more restrictive approach as 'need to know'. Here, users must ask for authorization to access data. Data access is thus the exception to the rule of locking everything up. In contrast, data democracy propagates free data access for all employees, limited only by intentionally restricted data (e.g., secret, personal or similar data). We refer to this data access model as 'right to know'.

39%
63%
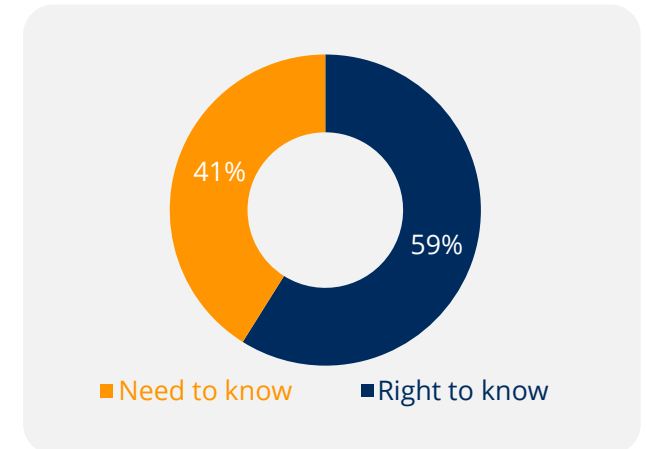
■ Need to know   ■ Right to know
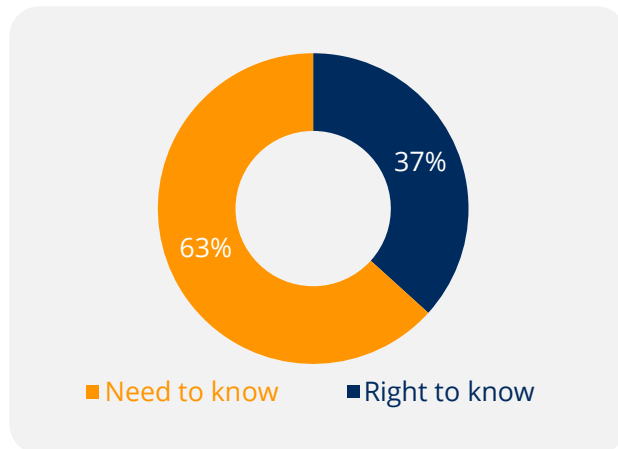
Which data access principle is prevalent in your organization? (n=365)

'Need to know' has always been the predominant principle for data access, with 63 percent of participants confirming that this approach prevails in their organization. However, significantly more than half of our sample consider 'right to know' to be the most beneficial model.

We also support this point of view. The flexibility required today coupled with a stronger data orientation in general are leading to the call for a shift towards 'right to know'. However, this shift goes hand in hand with a change to the organizational mindset and is therefore no small matter. Currently, only 37 percent of respondents live by the 'right to know' principle. For many respondents, however, there is still a significant gap between their wishes and reality.

'Right to know' is practiced mainly by small companies. This is not surprising due to their mostly simple and flat organizational structures and straightforward communication channels. As the size of a company increases, so does its organizational complexity and the demands on data governance. The 'need to know' principle tends to prevail here. Regionally, we see a higher

41%
59%

■ Need to know   ■ Right to know

Which approach do you consider most beneficial for your company? (n=365)

level of adoption of 'right to know' in North America (46 percent of respondents) and APAC (43 percent) compared to Europe (34 percent).
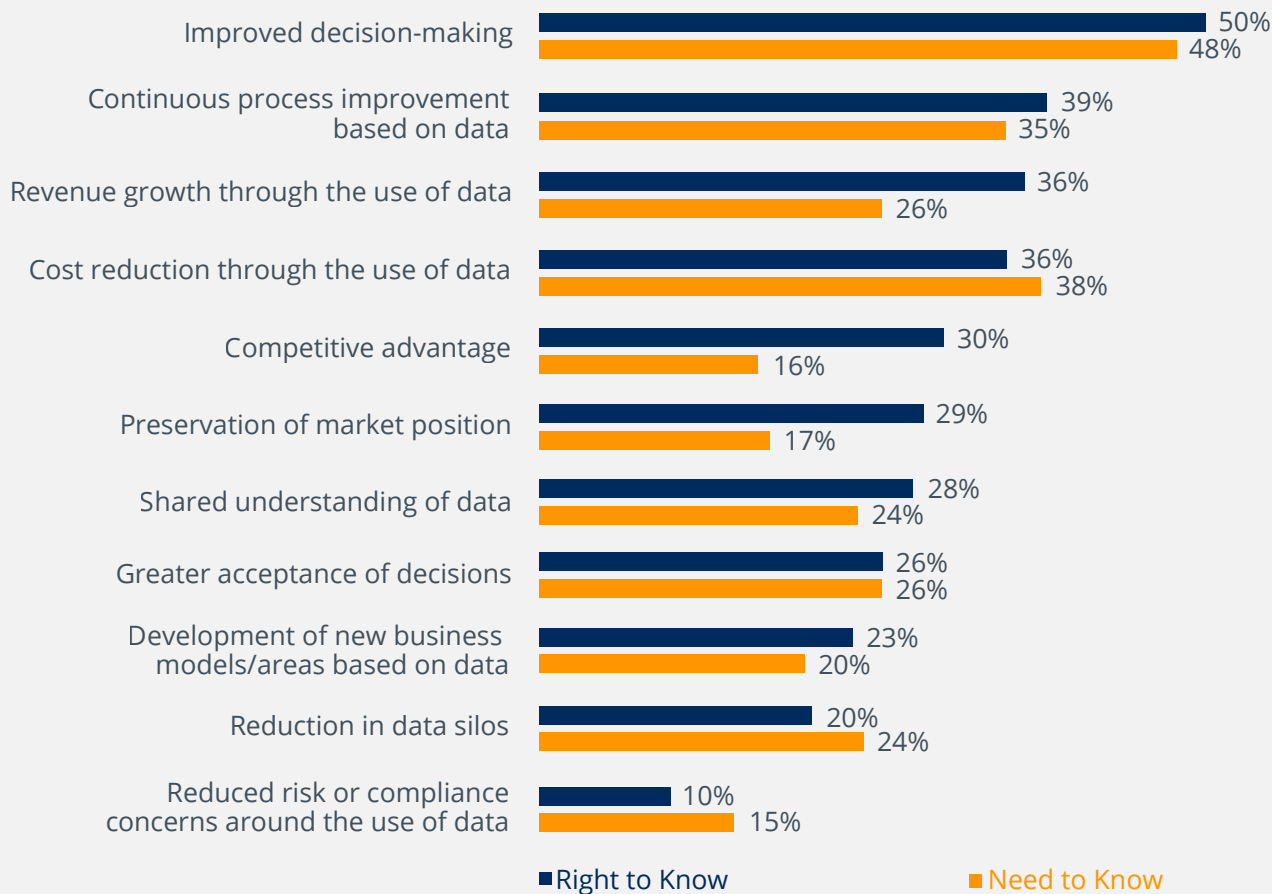
It should be emphasized that the majority of best-in-class companies (53 percent) rely on 'right to know' and see the benefits of greater freedom in the use of data. By contrast, only 24 percent of laggards concur.

This is also confirmed in our analysis of the benefits achieved (see page 20).

03 DATA ACCESS

THE 'RIGHT TO KNOW' PRINCIPLE IS MORE BENEFICIAL THAN 'NEED TO KNOW'

Benefit	Right to Know	Need to Know
Improved decision-making	50%	48%
Continuous process improvement based on data	39%	35%
Revenue growth through the use of data	36%	26%
Cost reduction through the use of data	36%	38%
Competitive advantage	30%	16%
Preservation of market position	29%	17%
Shared understanding of data	28%	24%
Greater acceptance of decisions	26%	26%
Development of new business models/areas based on data	23%	20%
Reduction in data silos	20%	24%
Reduced risk or compliance concerns around the use of data	10%	15%

■ Right to Know   ■ Need to Know

Which positive effects of a data culture have you already achieved? Benefits achieved by data access principle (n=358)

Companies that predominantly practise the 'right to know' principle believe that they generate greater benefits from data than companies adopting 'need to know'. This applies to almost all the benefit categories surveyed. They report a much higher rate of achievement when it comes to gaining competitive advantage, preserving market position and growing revenue. Companies adopting the 'need to know' principle only outperform their counterparts in three areas: 'reduction in data silos', 'reduced risk and compliance concerns' and 'cost reduction through the use of data'.

53%
of best-in-class companies rely on the 'right to know' principle.

But only **24%** of laggards concur.
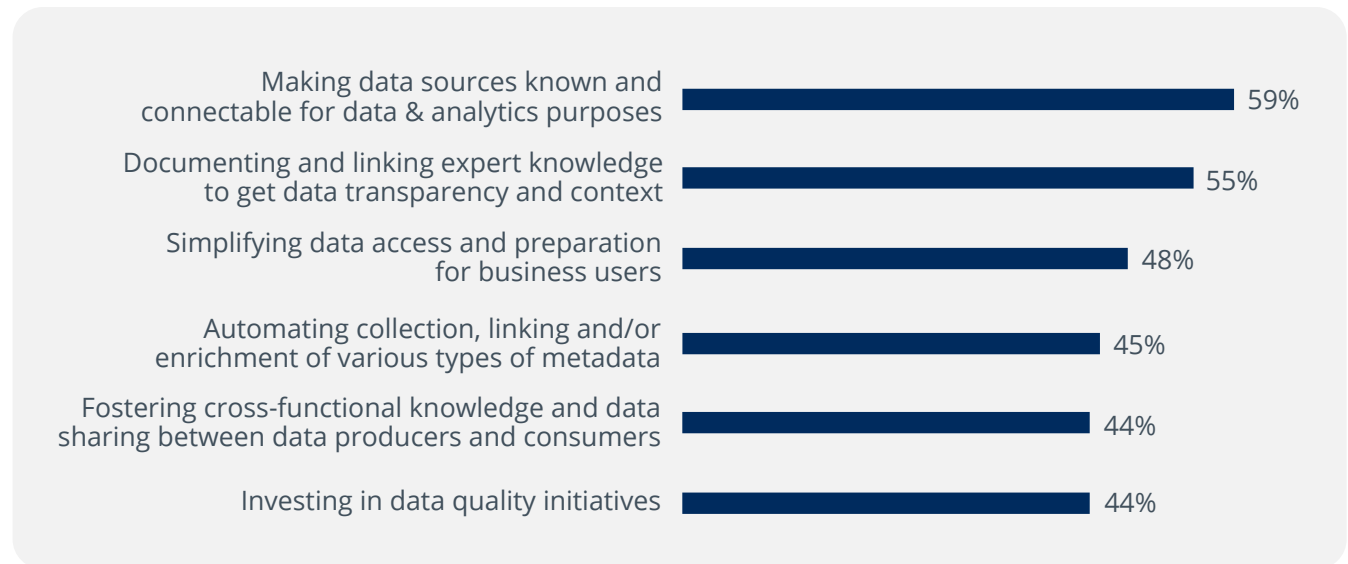
03 DATA ACCESS

LACK OF DATA KNOWLEDGE IS THE BIGGEST CHALLENGE IN DATA ACCESS

Data access is a cornerstone of data-driven companies. It is essential to be able to use data from complex and distributed data landscapes and generate value from it. The biggest challenges to achieving this lie in empowering business users. Often, they don't even know what data exists (59 percent). Alternatively, they may not understand the data and its context (55 percent), or technical access to the data and options for data processing are too complicated (48 percent).

Transparency of data is essential here, and data knowledge is crucial too. Information about data is available in the form of metadata. Collecting, integrating, linking, enriching and evaluating this data is complex and time-consuming.

Automation must provide support here to create a comprehensible, trustworthy database. Automation is seen by 45 percent of respondents as a major challenge, especially for the integration and preparation of metadata. This is partly due to the fact that there is no established standard for describing and exchanging metadata, so a reassessment of how metadata can be integrated

Challenge	%
Making data sources known and connectable for data & analytics purposes	59%
Documenting and linking expert knowledge to get data transparency and context	55%
Simplifying data access and preparation for business users	48%
Automating collection, linking and/or enrichment of various types of metadata	45%
Fostering cross-functional knowledge and data sharing between data producers and consumers	44%
Investing in data quality initiatives	44%

What do you see as the biggest challenges in data access? Top 6 (n=369)

and understood must be made for each software tool and provider in use. AI/ML algorithms can also play a supporting role in integration and description. Self-learning is a laborious and tedious process to get up and running (training time, explainability) and is therefore rarely used. Instead, many rely on proven automation techniques such as partial automation of process control through scheduling and monitoring.

Nevertheless, data knowledge thrives on knowledge sharing through communication and collaboration. With reference to the importance of data culture initiatives, it should be noted that those related to data communication, data literacy and data leadership (see page 15) take a back seat compared to some other topics. Nevertheless, they are essential in order to implement data access efficiently and correctly.
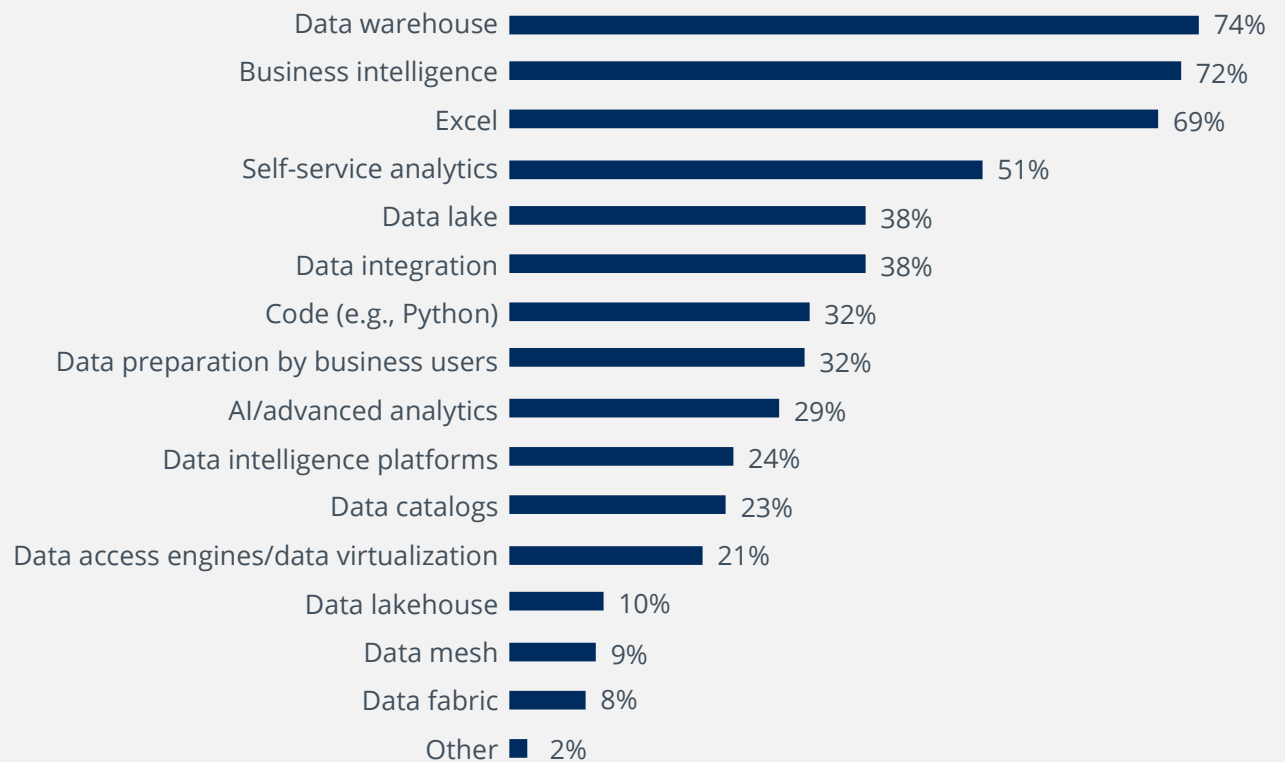
03 DATA ACCESS

DATA ACCESS IS MAINLY IMPLEMENTED IN BI/DWH TOOLS AND EXCEL

Data access requires technology support. About two thirds of the companies surveyed use traditional data warehousing and BI technologies. 69 percent use Excel and 51 percent use self-service analytics tools. If the aim is to solve challenges with existing tools for the time being, these figures are not surprising, but there are better options available.

It is worth mentioning that 32 percent use code to manage data access, which corresponds to our general market perception that languages such as Python are gaining a stronger foothold in the enterprise data landscape. This is happening primarily via exploratory use cases and concerns data engineering, data pipelining and the design of models. In turn, the need for transparency to be able to find data, features and algorithms in an uncomplicated manner and to integrate them securely is also increasing, thus providing the breeding ground for software providers to offer new solutions that help to manage and monitor code in order to have a controlled and monitored process.

Technology/Concept	%
Data warehouse	74%
Business intelligence	72%
Excel	69%
Self-service analytics	51%
Data lake	38%
Data integration	38%
Code (e.g., Python)	32%
Data preparation by business users	32%
AI/advanced analytics	29%
Data intelligence platforms	24%
Data catalogs	23%
Data access engines/data virtualization	21%
Data lakehouse	10%
Data mesh	9%
Data fabric	8%
Other	2%

Which technologies/concepts are used in your organization for data access? (n=368)
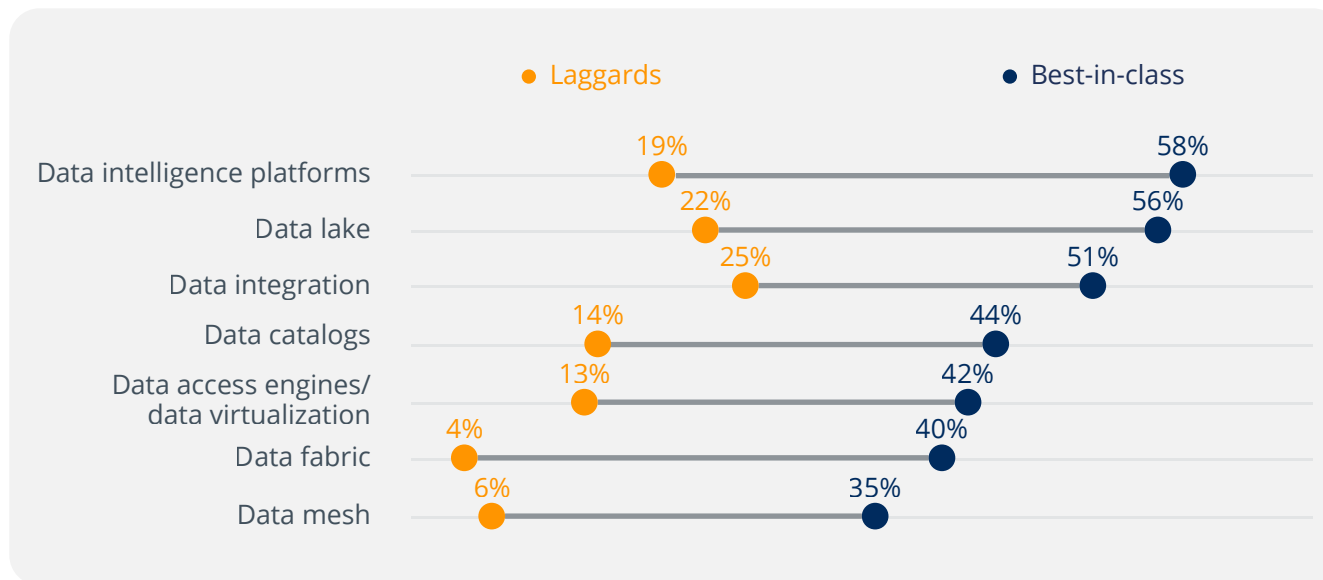
03 DATA ACCESS
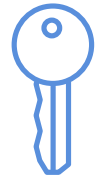
BEST-IN-CLASS COMPANIES RELY ON MODERN TECHNOLOGIES AND CONCEPTS

There is a great deal of catching up to do in terms of technologies that help to increase transparency around data.

Fewer than 25 percent of the companies surveyed use data intelligence platforms or data catalogs. However, it is precisely these types of tools that help to compile knowledge about data outside of the BI context, across systems, and make it analyzable, thus addressing the main challenges to data access head on.

Which technologies/concepts are used in your organization for data access? Largest deviations in tool usage between best-in-class and laggards (n=115)

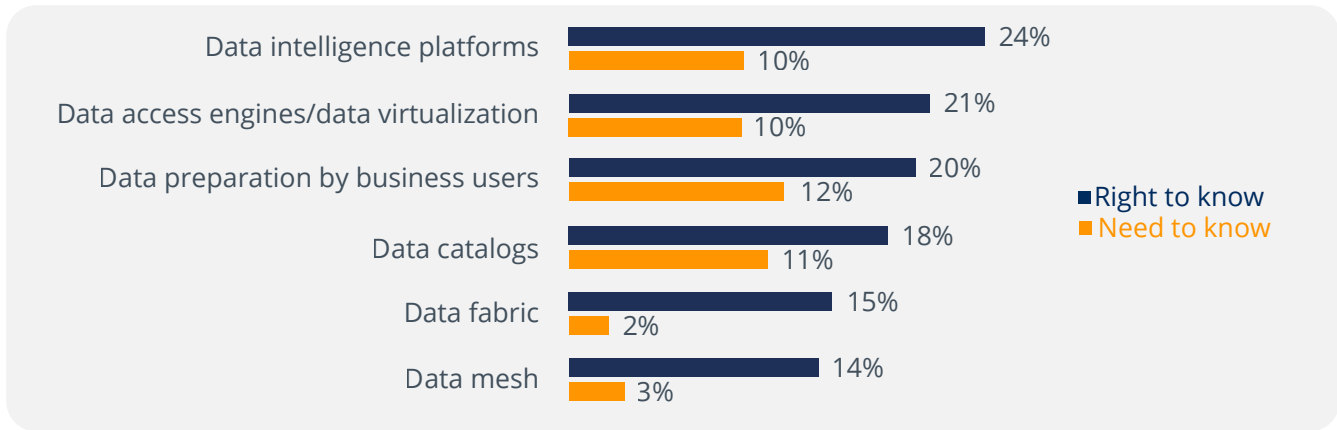Best-in-class companies are **3x** more likely to use data intelligence platforms than laggards

The importance of data knowledge has been recognized above all by best-in-class companies. 58 percent use data intelligence platforms, compared with only 19 percent of laggards. Data virtualization and data cataloging technologies, the data mesh organizational concept and the data fabric architectural principle are also used much more frequently by best-in-class companies.

03 DATA ACCESS

THERE IS A LACK OF COMPETENCE IN THE USE OF NEW TECHNOLOGIES

Technology is only half the solution to data access problems. Many challenges have their origin in a lack of strategy or organization (see page 17). The added value of technologies for increasing data access is limited. Only just over half succeed in improving data access through BI and data warehouse technologies, and only one in three companies manage it with self-service analytics tools. This is surprising, since one of the main promises of self-service tools is to make access to data significantly easier for business users.

|	Right to know	Need to know
Data intelligence platforms	24%	10%
Data access engines/data virtualization	21%	10%
Data preparation by business users	20%	12%
Data catalogs	18%	11%
Data fabric	15%	2%
Data mesh	14%	3%

Which technology has helped to improve data access in your organization? By access principle (n=343)

Data virtualization tools, data intelligence platforms and data catalogs play a special role in the technical support of data access. These tools can clearly add value, but there is probably a lack

of knowledge and training to be able to use them extensively. 39 percent of respondents complain about a lack of skills as the second most common obstacle to data access.

Best-in-class companies and organizations that have adopted the 'right to know' principle report a significantly lower lack of data literacy than other companies in general. At the same time, we see a significantly higher level of benefits achieved through the use of 'new' technologies, concepts and principles.

Business intelligence	54%
Data warehouse	53%
Self-service analytics	34%
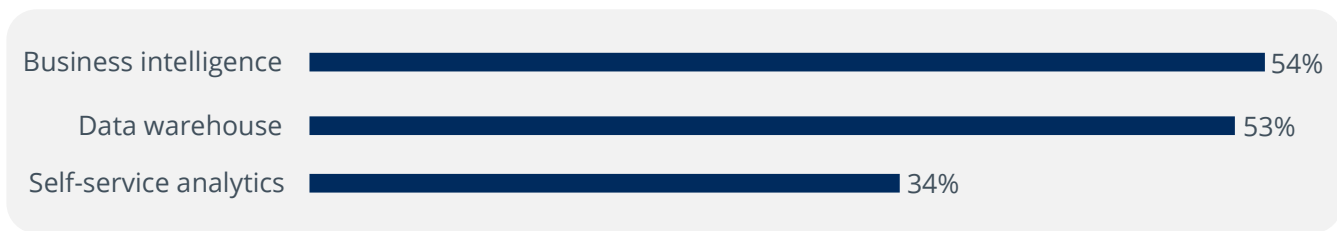
Which technology has helped to improve data access in your organization? Top 3 (n=352)

DEMOGRAPHICS

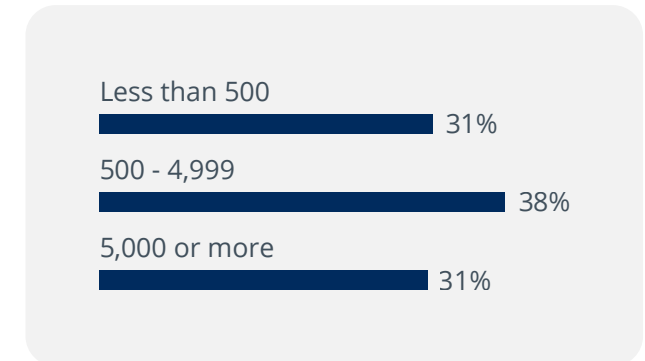## BROAD SPECTRUM OF INDUSTRIES AND COMPANY SIZES

This study was based on the findings of a world-wide online survey conducted in July and August 2022. The survey was promoted within the BARC panel, as well as via websites and newsletter distribution lists. A total of 384 people took part, representing a variety of different roles, industries and company sizes.
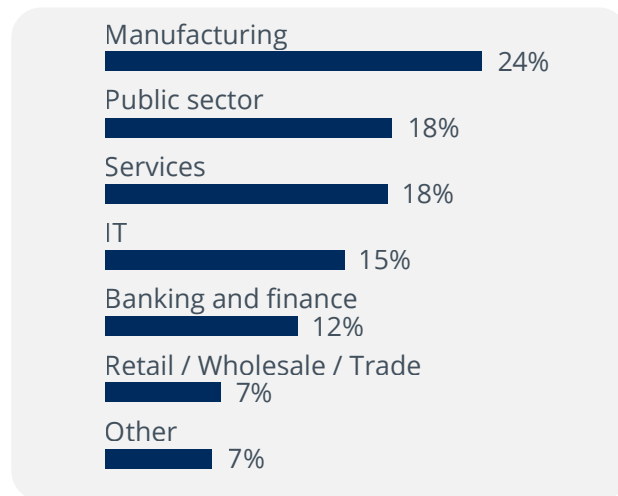
REGION

Europe — 69%
North America — 22%
Asia and Pacific — 6%
South America — 2%
Africa — 1%
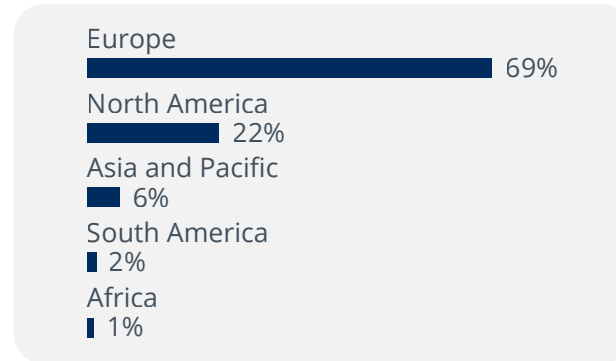
In which region are you located? (n=374)

COMPANY SIZE

Less than 500 — 31%
500 - 4,999 — 38%
5,000 or more — 31%

How many employees does your company have? (n=374)

INDUSTRY SECTOR

Manufacturing — 24%
Public sector — 18%
Services — 18%
IT — 15%
Banking and finance — 12%
Retail / Wholesale / Trade — 7%
Other — 7%

Which of the following best describes your organization's industry sector? (n=374)

POSITION IN THE COMPANY

Manager for data/BI/analytics from IT department — 16%
Member of a cross-departmental data/BI/analytics team — 11%
Head of department — 10%
IT employee — 10%
Head of a cross-departmental data/BI/analytics team — 9%
CIO/Head of IT — 9%
External consultant or vendor — 9%
Manager for departmental data/BI/analytics — 8%
CEO — 5%
Line of business employee — 4%
Other — 3%
In-house consultant — 3%
CDO — 2%
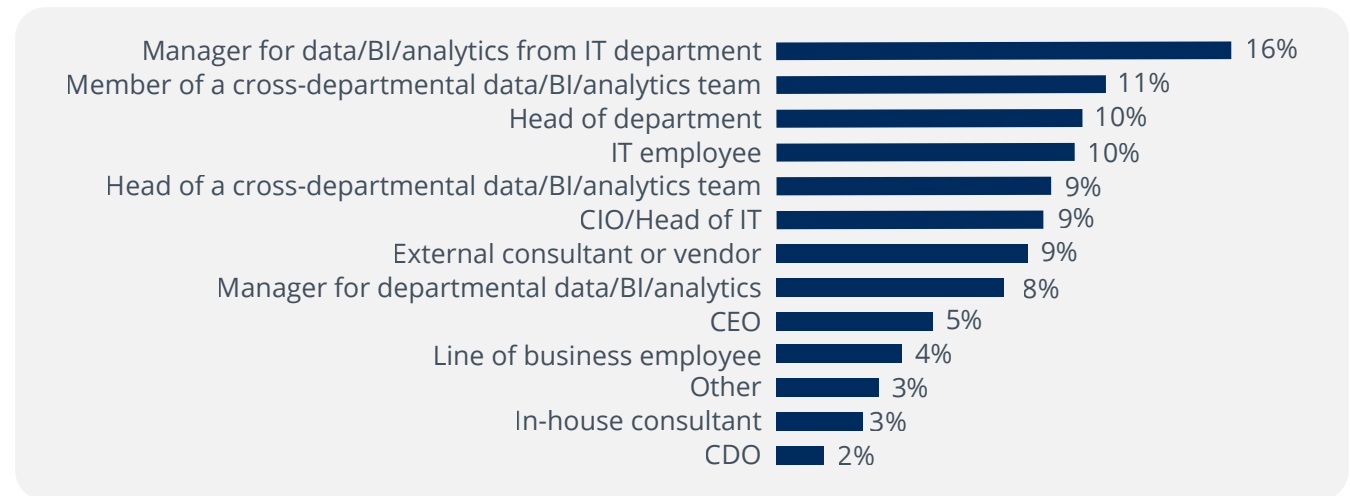
What is your role in the company? (n=374)

BEST-IN-CLASS

Much better

12%

Slightly better

32%

Similar

34%

Slightly worse

17%

Much worse

5%
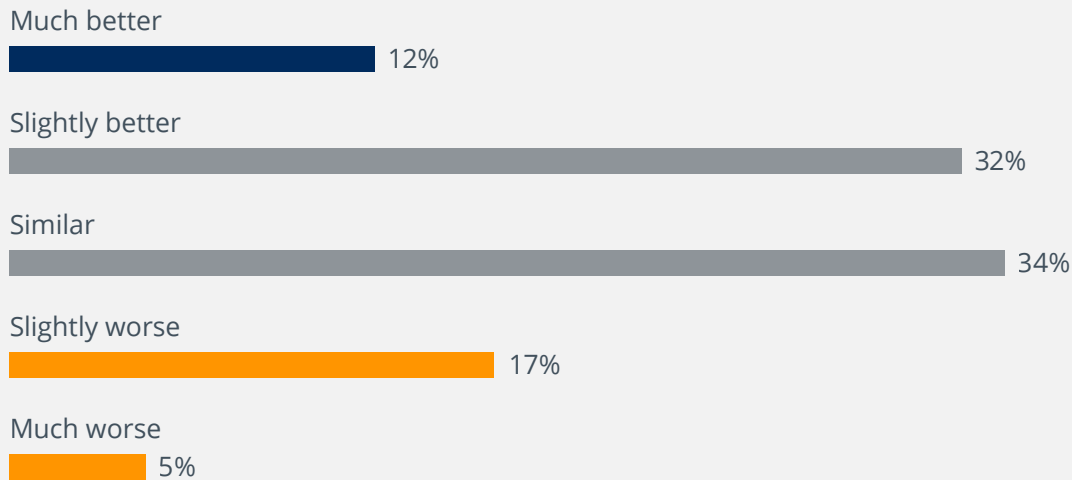
How would you rate your company's data culture compared to your main competitors? (n=345)

We divided the sample into 'best-in-class' and 'laggards' in order to identify differences in terms of the current data culture within organizations, the hurdles companies are facing and the initiatives that are underway . This division was made based on the question "How would you rate your company's data culture compared to your main competitors?". Companies that have a much better data culture than their competitors are referred to as 'best-in-class' (12 percent) while those who have a slightly or much worse data culture than their competitors are classed as 'laggards' (22 percent).

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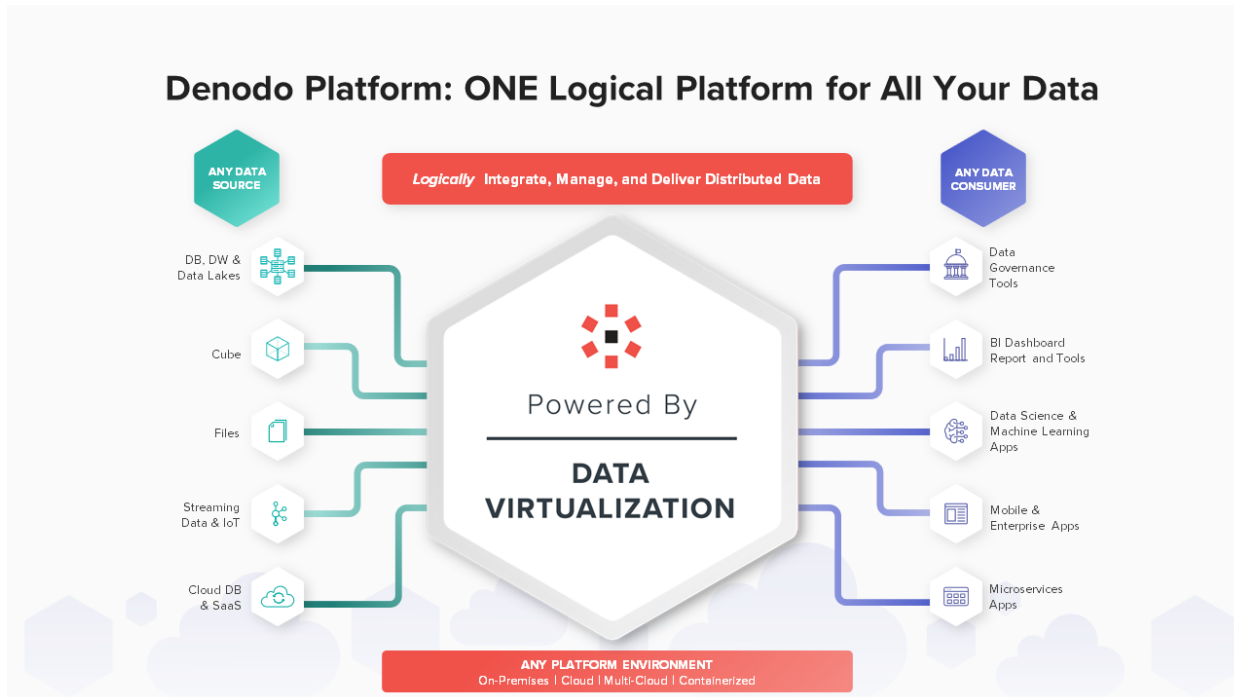
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Zeenea is the Data Discovery Platform built for everyone to find, trust, and unlock the value of enterprise data. The cloud platform features two modern user experiences, accessible from anywhere: Zeenea Studio is the application designed for data experts to save time managing, documenting, and governing data with maximum automation; while Zeenea Explorer enables business users to gain productivity by finding the data assets they need across all enterprise information.

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