LEVERAGE YOUR DATA

A data strategy checklist for the journey to the data-driven enterprise

TOPICAL SURVEY

BARC

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cubeware denodo DATA VIRTUALIZATION +ableau talend

Foreword

Digitalization is on the agenda of almost every company, and data is the foundation of digitalization. Its availability and quality are crucial for digital success, making it an important economic asset for the business. It is therefore obvious that this asset should be carefully and farsightedly maintained and developed. But is it?

Data management is unfortunately considered to be a thankless task. Data experts know all too well that their company data is usually not in such good shape. They have been pointing this out for many years and often drive initiatives to address it, but with moderate success. The problem is that data is abstract and therefore difficult for non-experts to understand.

Business users often think that data is something technical that it is not their concern. They believe the IT department should take care of it. While IT is happy to look after the technical storage and backup of data, they refer to line of business experts when it comes to quality and usability. Managers see data as relevant in the context of digitalization, but often think of data-related problems as minor details that have little strategic importance.

Thus, it is taken for granted that companies should have a data strategy.

But what is the scope of an effective strategy and who is affected by it? Why is it so difficult to create added value from data? Which business-related, technical and organizational challenges need to be resolved? What approaches are companies taking and what benefits have been achieved so far? Which conceptual, architectural and technological approaches can support these efforts? This market survey explores these questions.

Participants around the world were polled, with the majority of responses coming from Europe. We examined the current approaches of companies of different sizes from various industries. For deeper insight, we also analyzed the answers according to "data maturity". Participants were asked to rate the skills and competencies in the handling of data in their company compared to their main competitors. This allowed us to gain a better understanding of what "best-in-class" companies are doing to benefit more from their data in comparison to "laggards" (see demographics).

We hope this survey contributes to your company's efforts to leverage its data. Please do not hesitate to contact us if you have any questions.

Jacqueline Bloemen and Timm Grosser, June 2020

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01 Many declarations of intent regarding data, but serious investment lacking

In principle, everyone agrees that data is important, and its targeted use can make a decisive contribution to improved company results. But the fact is that data use is far too difficult today. However, investing in improvements is not usually a real priority. Decision-makers in particular have little insight into their data-related problems and the benefits of potential investment. Best-in-class companies, however, are pioneers in this respect: they have already created transparency about the value of data and what can be drawn from it. They have thus created the basis for convincing decision-makers to invest.

🏆 RECOMMENDATION

Create transparency regarding the value of data, but also regarding the damage caused by insufficient and missing data. There must be a motivation for investments in the area of data. It must be made transparent to decision-makers why such measures are worthwhile.

02 A data catalog creates transparency, but requires buy-in from business users

First and foremost, leveraging data requires transparency: finding, understanding and utilizing the right data for individual needs. In this respect, simplicity is king – for data consumers from both business and IT. Providing an easily accessible description of individual data sources and their dependencies and processing flows is an important step. Data catalog platforms are ideal for this purpose. The usability of data documentation for business users stands and falls with an overarching business glossary. In most cases, however, this will not be possible without the active contribution of business data experts.

🏆 RECOMMENDATION

Implementing a data catalog is an important and effective step towards data transparency. Do not underestimate the complexity of the initiative. Follow a "think big, start small" approach that enables "quick wins". Make sure that you have positive and active colleagues from the lines of business on board.

Management summary

RECOMMENDATION

Data is an asset. The line of business must be made accountable for both the maintenance and use of data. Make data producers responsible for delivering high quality and usable data. Make data consumers responsible for delivering transparency on data requirements, usage and value. This insight is an essential element on the path to becoming a data-driven company.

RECOMMENDATION

Plan for a comprehensive data and analytics platform. Take into account the requirements of classical BI, advanced analytics and, above all, smart processes. Maintaining openness and interoperability as well as data governance are essential. Be inspired by the technological advances of best-in-class companies.

03 Data democratization requires a NEW DEAL on how data is handled across the enterprise

Insufficient quality and availability of data are drivers for self-service analytics. However, this promotes a proliferation of varying data interpretations and has a negative impact on efficiency. Usability of data starts where the data is produced. Data producers need to understand and take into account which data-related needs data consumers have. At the same time, data consumers must understand the requirements and restrictions of data production processes. Enterprises need a "NEW DEAL" between data producers and data consumers that effectively addresses the top three challenges to improving data handling – time spent, a lack of transparency of data value and insufficient data quality. The goal is to optimize company data in terms of a common vision in a cooperative and iterative way and thus to accelerate the digital transformation on the basis of data.

04 Architecture and technology play an important role in the transition to a data-driven enterprise

Architecture and technology for data and analytics is frequently associated solely with data warehouse and data lake environments. However, successfully leveraging data does not just begin with local data consumption. On the one hand, systems supporting smart processes must have a stronger focus on high-quality data generation. In addition, their architecture must be made fit for digitalization. This implies both functional and data management requirements. The design approach must be holistic and aligned with the requirements of classic BI and data & analytics labs. End-user-friendly technologies must ensure that business users are actually empowered in terms of data democratization.

Management summary

05 **Enabling a data-driven enterprise requires a fundamental cultural change driven by the executive level**

Technology is an enabler but not the driver for data-driven working. Individuals adapt to the corporate system. Corporate culture and organization must therefore be realigned. In this respect, the widely adopted bottom-up approaches to digital transformation are very limited in their impact. Measures such as establishing clear responsibilities for data in the line of business, investing in data literacy by carrying out targeted staff development and training, and developing the corporate data culture from "need to know" to "right to know" require strategic orientation and active support by the executive level. You will also need a cross-functional team of mid-level directors and managers who have a vested interest in becoming a data-driven organization.

RECOMMENDATION

Secure strong sponsorship from senior executives and functional leaders for the inevitable cultural and organizational change. Establish strategic steering (i.e., vision, goals, plans) and a program (i.e., organization, roles, processes) for the transformation from siloed thinking to data democracy and multidisciplinary data & analytics collaboration.

31%

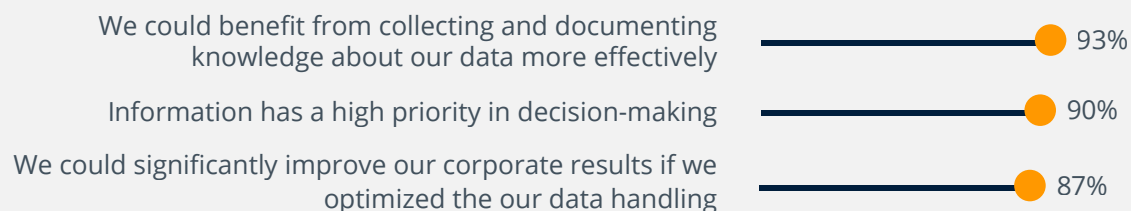experience a **lack of active support** and strategic orientation by managers.

" *Enabling a data-driven enterprise affects every employee and requires a fundamental cultural change. Executives must want, initiate and actively promote this change.* "

01 Many declarations of intent regarding data, but serious investment lacking

Majority believes data deserves significantly higher attention

We could benefit from collecting and documenting knowledge about our data more effectively — 93%

Information has a high priority in decision-making — 90%

We could significantly improve our corporate results if we optimized the our data handling — 87%

To what extent do you agree with the following statements in relation to the handling/use of data in your company? (n=414), aggregate of "strongly agree" and "mostly agree"

It's not really surprising that the great majority of survey respondents (90 percent) indicate that information has a high priority in enterprise decision-making. At the same time, only 25 percent state that decisions are predominantly or purely made based on data. Indeed, the list of issues that enterprises have to deal with when working with data is very long. These challenges appear to be rather difficult to tackle too. Even those who regard the skills and competencies in the handling of data in their company to be much better compared to their main competitors are still struggling in various data-related areas.

It seems that solving the data problem is a kind of chicken and egg issue. An overwhelming 93 percent of participants are convinced they could benefit from more effective means of collecting and documenting the expert knowledge about their data. 61 percent state that many reconciliations are necessary to gain access to and understand data. Their analysts spend a lot of time searching for the right data/analyses and repeating work that has already been done, which hampers their productivity (65 percent). There is general agreement (87 percent) that corporate results could be significantly improved if the way data is handled were optimized. 80 percent indicate that the enterprise is striving for a higher degree of data-driven decision automation. So the problem and the goal appear to be clear.
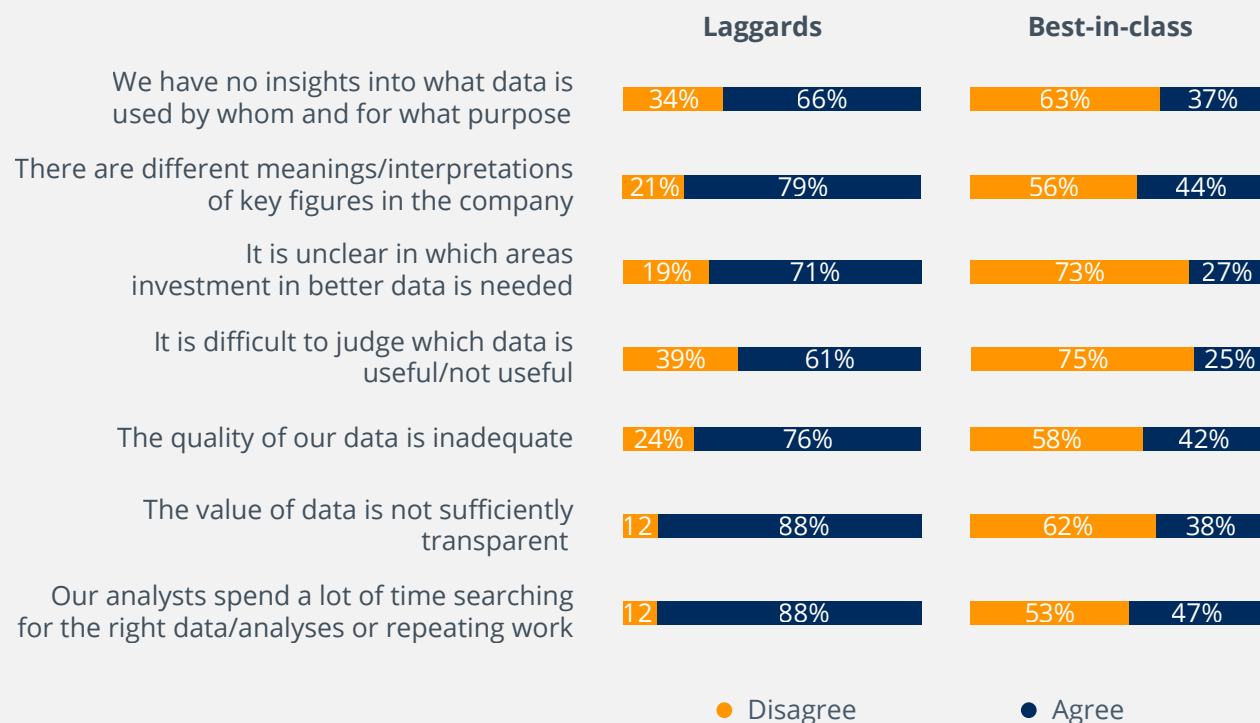
At the same time, 72 percent state that business users lack the time to develop new ways to use data. It could very well be that the lacking transparency of the value of data (65 percent) is the reason why investments in this area are not prioritized. Therefore, it is astonishing that only 23 percent actually take specific measures to create more transparency about the value of data and the benefits arising from the knowledge gained from data. But where no value is seen, there is no investment. So, it is not surprising that data-driven work is not very high on the agenda for many enterprises: 43 percent report that the operational business enjoys a higher priority than driving innovation through data. The data-driven company threatens to pay lip service, and promising digital use cases may fall by the wayside.

Only **16%** of participants believe that there is no need for more data-driven work in their company.

01 Many declarations of intent regarding data, but serious investment lacking

Best-in-class companies do a better job of addressing the business-related data challenges

	Laggards		Best-in-class	
We have no insights into what data is used by whom and for what purpose	34%	66%	63%	37%
There are different meanings/interpretations of key figures in the company	21%	79%	56%	44%
It is unclear in which areas investment in better data is needed	19%	71%	73%	27%
It is difficult to judge which data is useful/not useful	39%	61%	75%	25%
The quality of our data is inadequate	24%	76%	58%	42%
The value of data is not sufficiently transparent	12	88%	62%	38%
Our analysts spend a lot of time searching for the right data/analyses or repeating work	12	88%	53%	47%

● Disagree   ● Agree

To what extent do the following business-related challenges apply to the handling of data in your company? (n=416)

A differentiated analysis of best-in-class companies compared to laggards shows that these pioneers in terms of data are obviously doing some things better. For example, only 38 percent of participants from best-in-class enterprises agree that "the value of data is not sufficiently transparent" compared to 88 percent of laggards. Only 27 percent of best-in-class respondents find it is unclear in which areas to invest in better data. Accordingly, 63 percent of best-in-class respondents already have insight into who in the company works with which data and for what purpose.

Having transparency about the value of data is a key success factor to achieve more effective use of data. This can also be concluded from the fact that none of the business-related challenges apply to the majority of best-in-class companies. Nevertheless, some of these companies still struggle with typical issues. 44 percent agree that there are different meanings and/or interpretations of key figures in the company (laggards: 79 percent). Even 47 percent still struggle with a lack of efficiency when working with data (laggards: 88 percent) and 42 percent are still dealing with inadequate data quality (laggards 76 percent).

02 A data catalog creates transparency, but requires buy-in from business users

Regardless of industry and company size, study participants consistently report that more information about data is needed above all. In fact, there is not only a requirement for basic data descriptions, although having these available would already be a great help. Users would also benefit from being able to find out who has worked with certain data before and which questions have already been answered. Which reports and analyses can actually be trusted?

61%

of participants say they **lack insights** into who is using what data and for what purpose.

Not having a central data and analysis inventory available makes working with data not only a time-intensive process. In fact, it can even fail. 50 percent of respondents claim that they don't always understand what the data means because

it is often not properly documented. Not understanding the data, however, carries immense risks for the validity of conclusions from analyses.

66%

of companies state that they **waste a lot of time** asking the same questions about data or repeating work.

If finding the right data is the first barrier to data-driven insights, accessing it is apparently the next challenge. In addition, if there are several data sources for my research question, I would like to be able to see at a glance what distinguishes them and how they should be classified. 47 percent agree that there is so much duplication of data and evaluations in their organization that they don't know what to rely on. 51 percent agree that data access is too complicated for business analysts / citizen data scientists or data consumers, making data-driven decision-making difficult for business

users. The same applies for data scientists, data engineers and BI/DWH developers, which reduces agility when developing new analytical solutions (47 percent).

Data access is too complicated

For business analysts	51%
For data scientists	47%
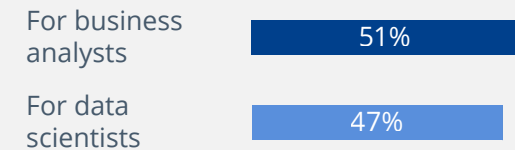
To what extent does the following technical challenge apply to the handling of data in your company? (n=414), aggregate of "strongly agree" and "mostly agree"

02 A data catalog creates transparency, but requires buy-in from business users

Accordingly, the most important approach to improving the handling of data is to provide more information about data (59 percent) and 39 percent are actually doing this.
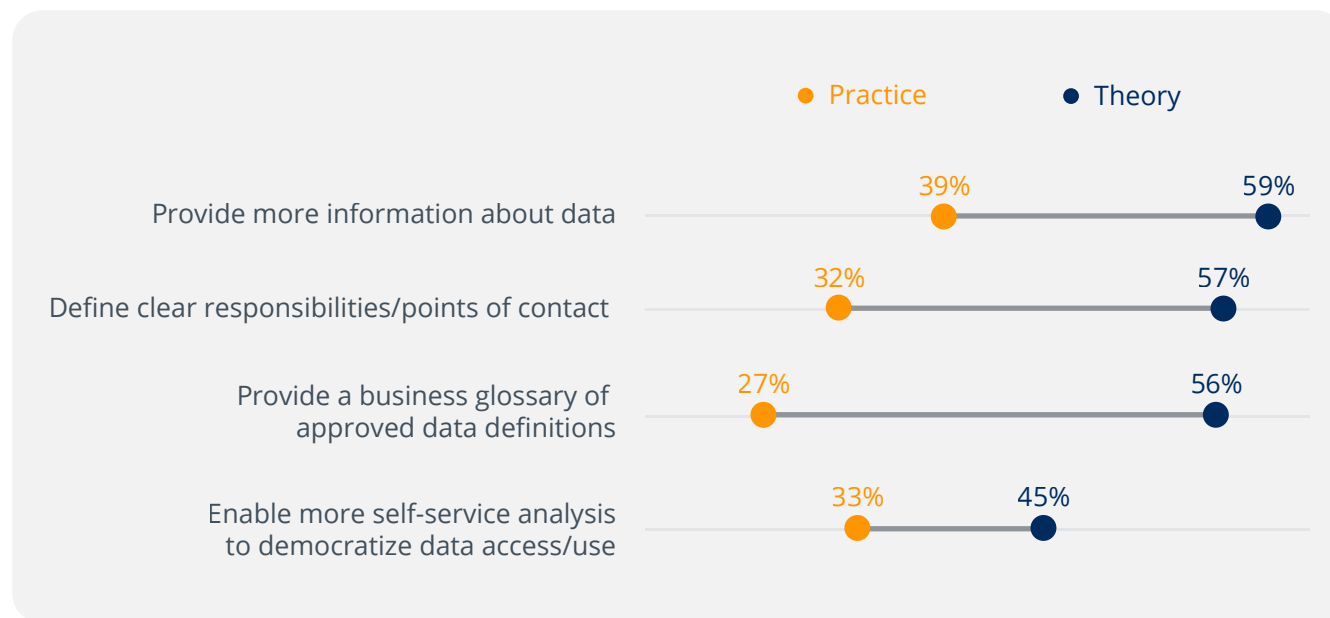The top three measures also include providing a business glossary that facilitates cross-departmental access to approved data definitions. However, only 27 percent have actually implemented a business glossary (37 percent for best-in-class).

Meeting these needs is the raison d'être of a technology class that has only recently become very popular: data catalogs. They can also help to create transparency about the value of data and a logical data integration and access layer for company-wide data access. Accordingly, data catalog technology is in use or planned by 72 percent of survey participants. In fact, 57 percent of best-in-class participants already have a data catalog in use. Data governance, data quality and business glossary tools are similarly popular. The growing adoption of data preparation and data discovery tools also promotes the development of a data catalog.
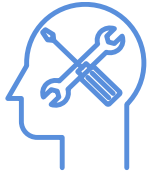
Ultimately, however, these tools can only be useful if they are filled with content. This is not as problematic for technical metadata as it is for domain-oriented metadata. To build a business glossary, you need data experts from the line of business who are willing to share their knowledge with others and invest time to populate the catalog. In practice, this is often the main limiting factor when building a data catalog. Automatic generation and documentation of knowledge about data is not an overly popular approach. Only 32 percent find it to be viable, and only 14 percent are actually doing it.

Effective approaches are known, but rarely applied

● Practice   ● Theory

Approach	Practice	Theory
Provide more information about data	39%	59%
Define clear responsibilities/points of contact	32%	57%
Provide a business glossary of approved data definitions	27%	56%
Enable more self-service analysis to democratize data access/use	33%	45%

TOP 4 approaches to improving the handling of data (n=419/418)

03 Data democratization requires a NEW DEAL on how data is handled across the enterprise

Data governance programs fail to deliver required results

● Best-in-class   ● Average   ● Laggards

Our data governance program is not delivering the required results
48% 58% **69%**

The nature and quality of data hinders our digital transformation
53% 63% **79%**

We analyze a lot of data, but don't use this knowledge in real-time in business processes yet
62% 74%**77%**

To what extent do you agree with the following statements in relation to the handling/use of data in your company? (n=412), aggregate of "strongly agree" and "mostly agree"
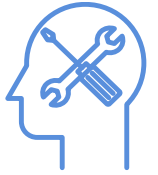
Despite the general consensus regarding the importance of data, companies apparently have not yet found the right approach for the turnaround. Even though data governance programs have begun to deliver results, 58 percent agree that the outcome of these programs has not been satisfactory. Overall, 55 percent (76 percent of laggards) identify data quality as a major challenge when handling data. The ongoing insufficient nature and quality of data is even hindering digital transformation according to 63 percent of participants.
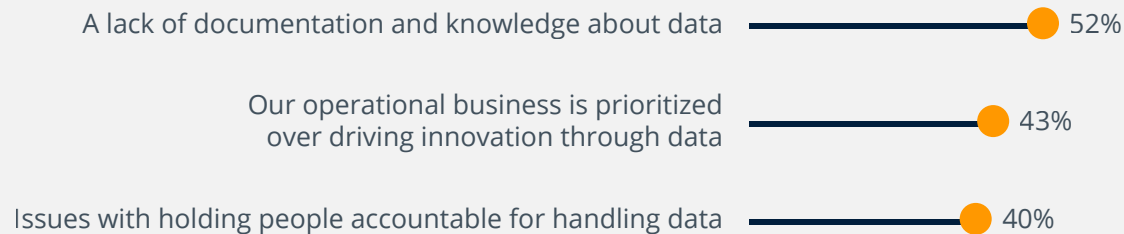
With the increasing level of self-service analytics, the already huge problem of inadequate data quality continues to grow. However, data governance and stewardship are often associated exclusively with the data warehouse. But this does not go far enough. To ensure data quality only at the point of data consumption puts the cart before the horse. In addition, the opportunity is missed to make the operational data landscape fit for digitalization.This is evidently also the conclusion of the participants in this study. 74 percent state that they already analyze a lot of data, but conditions are not in place to use this knowledge in real-time in business processes.

> *Insufficient data quality drives the need for individual data preparation, inevitably leads to an inflation of data silos and undermines any governance efforts.*

03 Data democratization requires a NEW DEAL on how data is handled across the enterprise

The usability of data is primarily determined where data is produced

A lack of documentation and knowledge about data — 52%

Our operational business is prioritized over driving innovation through data — 43%

Issues with holding people accountable for handling data — 40%

What challenges do you experience in implementing approaches to improve the handling of data? (n=417)

Only data producers can effectively enforce data governance. However, they must have insight into the requirements of the data consumers. These must be taken into account in the operational data policies to enable innovation from data. We need a "NEW DEAL" between data producers and data consumers that effectively addresses the top three challenges to improving data handling that are identified in this survey.

Ultimately, data producers must be made responsible for providing the information about the data that is necessary for data consumption. This information can then be enriched with feedback from data consumers concerning the data's value and benefits. This collaborative information exchange creates a holistic view of corporate data. Such a view is an essential element on the path to becoming a data-driven company.

DATA PRODUCER

Data Producers work with a user interface, system or device that generate data that is relevant to the business. Examples could be owners and users of an ERP or CRM System. In many cases, multiple systems will produce data for the same data entity.
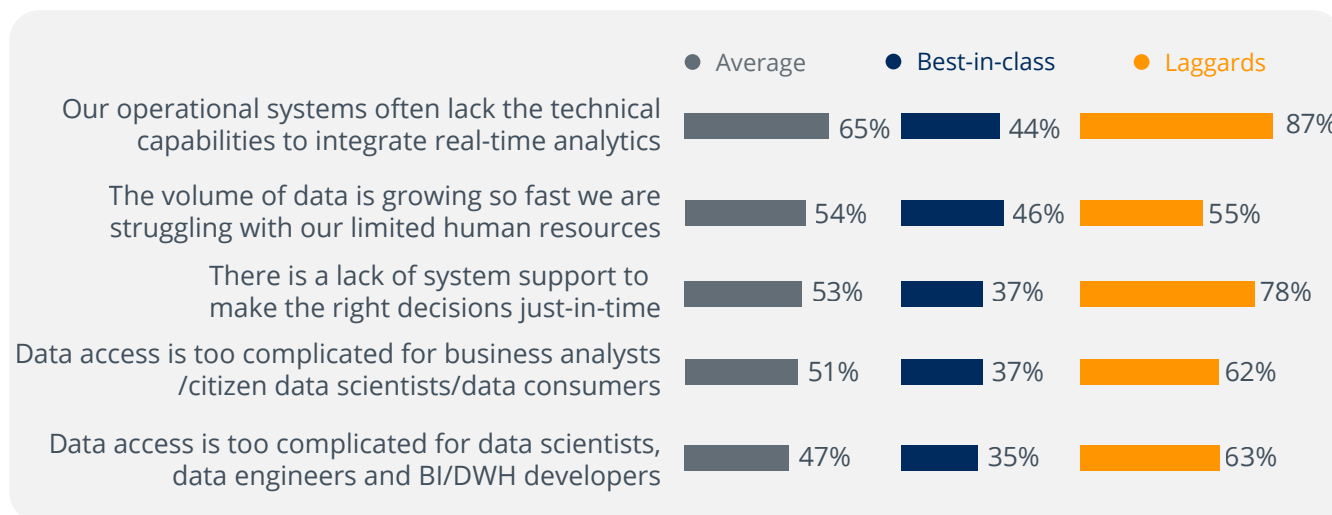
DATA CONSUMER

Data Consumers work with a user interface, system or device that uses data, mostly delivered from other data sources. Examples could be owners and users of dashboards and reports or individual analyses. Consumers may create copies of the data, transform it and pass it along to other data consumers.

04 Architecture and technology play an important role in the transition to a data-driven enterprise

Lacking support for real-time analytics is a pressing technical challenge

● Average ● Best-in-class ● Laggards

	Average	Best-in-class	Laggards
Our operational systems often lack the technical capabilities to integrate real-time analytics	65%	44%	87%
The volume of data is growing so fast we are struggling with our limited human resources	54%	46%	55%
There is a lack of system support to make the right decisions just-in-time	53%	37%	78%
Data access is too complicated for business analysts /citizen data scientists/data consumers	51%	37%	62%
Data access is too complicated for data scientists, data engineers and BI/DWH developers	47%	35%	63%

To what extent do the following technical challenges apply to the handling of data in your company? (n=413), aggregate of "strongly agree" and "mostly agree"

There are not only business-related and organizational challenges that apply to the handling of data. There are also considerable technical problems within organizations that need to be mastered.

Significant limiting factors can be found mainly in operational systems, but also in overall approaches to architecture and supporting technologies. 65 percent say that the integration of real-time analytics in existing systems is not possible. 54 percent are struggling to cope with the growing volume of data that is being generated. A further 53 percent say that their systems are not capable of providing "just-in-time" decision support.

Survey participants were also asked about the conceptual and architectural measures and supporting technologies that have been implemented (or are planned) to improve data handling. The top measures and technologies are well aligned with each other:

🔵 Self-service data and analytics for business users (the top-ranked measure) supported by a collaborative data and analytics platform, data catalogs and data preparation for business users (technologies ranked 2, 3 and 7)
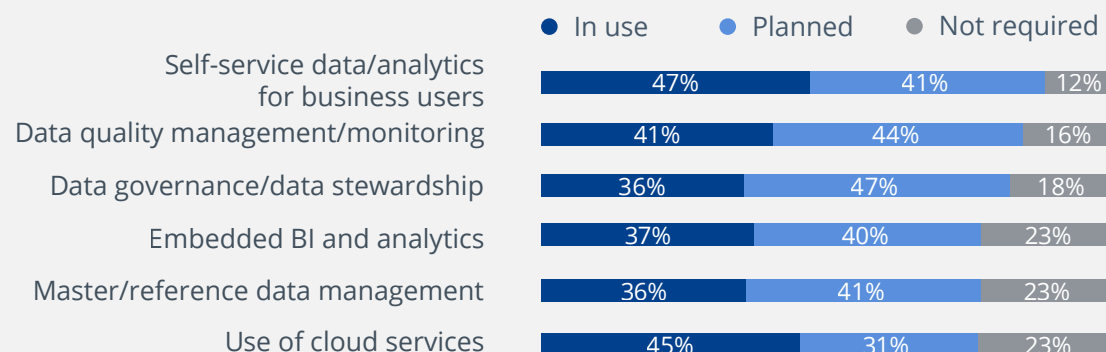
🔵 Data quality management and monitoring and data governance / data stewardship (measures ranked 2 and 3), supported by data catalogs, business glossaries and data governance tools (technologies ranked 2, 5 and 6)

🔵 Master/reference data management (the 5th ranked measure), which is also an aspect of data governance and stewardship, supported by the same type of technology (ranked 4)
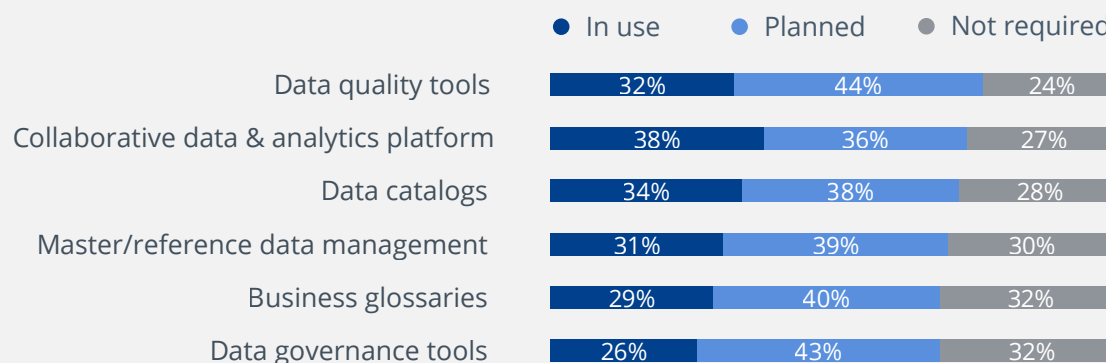
04 Architecture and technology play an important role in the transition to a data-driven enterprise

Enabling self-service without neglecting data governance is key

In use   **Planned**   **Not required**

Self-service data/analytics for business users	47%	41%	12%
Data quality management/monitoring	41%	44%	16%
Data governance/data stewardship	36%	47%	18%
Embedded BI and analytics	37%	40%	23%
Master/reference data management	36%	41%	23%
Use of cloud services	45%	31%	23%

Which conceptual and architectural measures have you implemented or do you plan to implement to improve data handling? (n=385)

In use   **Planned**   **Not required**

Data quality tools	32%	44%	24%
Collaborative data & analytics platform	38%	36%	27%
Data catalogs	34%	38%	28%
Master/reference data management	31%	39%	30%
Business glossaries	29%	40%	32%
Data governance tools	26%	43%	32%

Which technologies do you currently use or plan to use in the future to improve the handling of data? (n=354)

This clearly illustrates that both the empowerment of users for data and analytics and the preservation of data governance are at the heart of what is being done to improve the handling of data. In other words, enabling self-service is a declared goal, without neglecting data quality and data protection requirements.

On the other hand, there is only one measure that does not receive widespread support among best-in-class companies. 42 percent claim that a "data lake as a replacement for the data warehouse" is not planned (as opposed to 24 percent "in use" and 33 percent "planned"). This reinforces the assumption that the data warehouse will still be needed in the future.

Concerning technology adoption, the results are even clearer. There are only three technology types that are currently relevant (i.e., "in use" or "planned") to the majority of laggards: data catalogs, data quality tools and master/reference data management tools.

04 Architecture and technology play an important role in the transition to a data-driven enterprise

Notable technology approaches of best-in-class companies
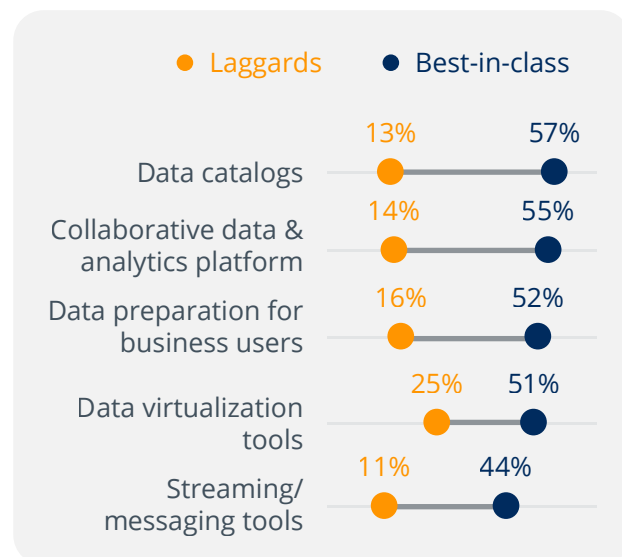
Which technologies do you currently use or plan to use in the future to improve the handling of data? (excerpt, n=354)

There are several more notable patterns in the best-in-class group:

Collaborative data and analytics platforms are already in use by 55 percent (compared to 53

percent of laggards who have "no plans" for this type of technology).

Data catalogs have already been implemented by 57 percent, while 38 percent of companies in the survey sample as a whole are still in the planning stage. 46 percent of laggards have not planned a data catalog at all.

Data preparation for business users is in use at 52 percent of best-in-class sites. 51 percent of laggards have not planned this type of technology at all.

Data virtualization tools can help to make data easier and faster to access and support the building of a leaner architecture (51 percent "in use", a further 20 percent "planned"). 56 percent of laggards do not plan to utilize data virtualization at all.

Streaming/messaging tools are in use by 44 percent (and "planned" by a further 27 percent), which may indicate advances concerning the topmost technical challenge identified, as these tools help to enable the integration of real-time analytics in operational systems.

Another interesting observation concerns (partially) automated data management using machine learning. Just over half of the participants in the study (51 percent, and 64 percent of laggards) have no plans to use such a technology. Among the best-in-class companies, however, 30 percent have already taken this kind of approach, and another 43 percent are planning to do so. Data management is clearly a complex and time-intensive task. Making this task leaner and more agile with machine learning technologies is a welcome opportunity. Apparently, a number of best-in-class companies have tested this approach and found it to be successful. This may also be an effective route for other companies to take and should be considered.
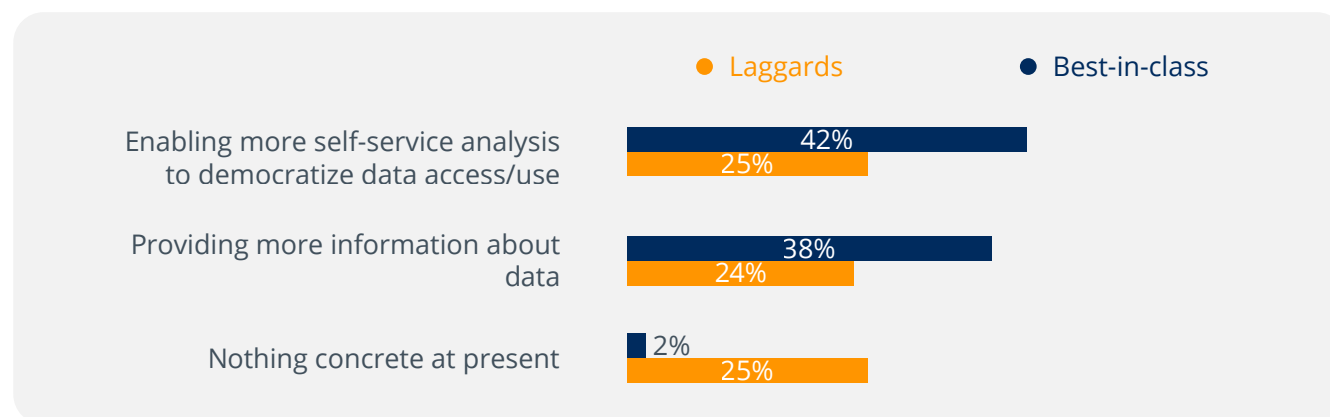
> **Best-in-class adoption of automated data management using machine learning indicates a potential benefit.**

05 Enabling a data-driven enterprise requires a funda-mental cultural change driven by the executive level

Laggards are not yet addressing their data problems in a targeted manner

Initiatives to improve data handling provide a benefit. However, it appears that in many companies those benefits have not yet been achieved.

● Laggards   ● Best-in-class

Enabling more self-service analysis to democratize data access/use — Best-in-class 42%, Laggards 25%

Providing more information about data — Best-in-class 38%, Laggards 24%

Nothing concrete at present — Best-in-class 2%, Laggards 25%

TOP 3 approaches of laggards to improve the handling of data (excerpt, n=131)
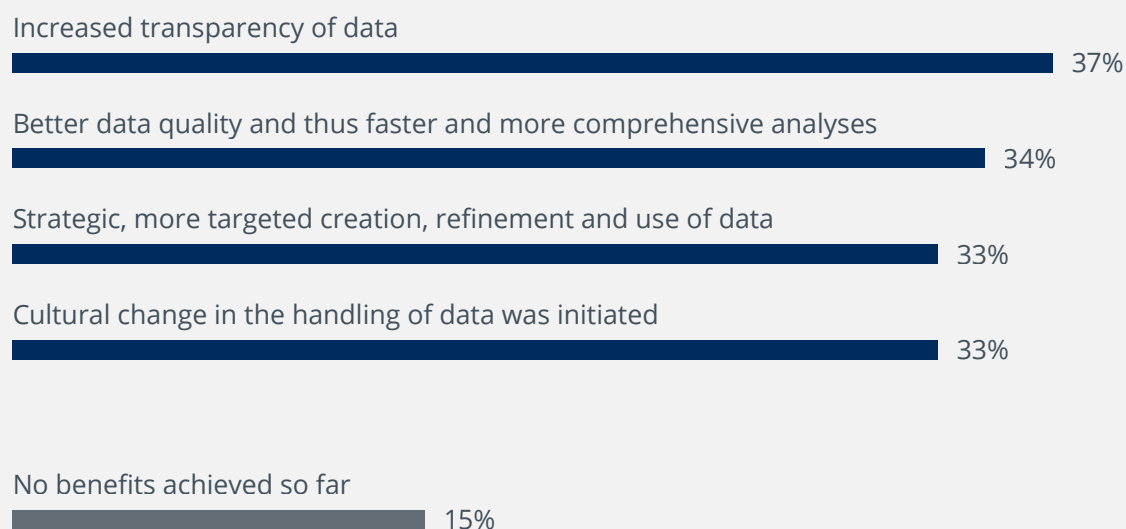
> " *61 percent of respondents are convinced their business model could be revolutionized by data-driven work, but are not in a position to do this yet.* "

Clearly there is a strategic driver for working more intensively with data. 61 percent of respondents are convinced their business model could be revolutionized by data-driven work, but they state that they are not in a position to do this yet.

It is above all best-in-class companies that undertake specific measures. While the most popular measure – democratizing data access/use by enabling more self-service analysis – is common to both best-in-class companies (42 percent) and laggards (25 percent), the extent to which these measures are deployed differs markedly.

It is particularly noticeable that laggards frequently (25 percent – the same rating as the top measure) do not pursue any concrete approaches at all. For best-in-class enterprises, the corresponding figure is only 2 percent.

05 Enabling a data-driven enterprise requires a fundamental cultural change driven by the executive level

Benefits are only gradually emerging

Increased transparency of data

37%

Better data quality and thus faster and more comprehensive analyses

34%

Strategic, more targeted creation, refinement and use of data

33%

Cultural change in the handling of data was initiated

33%

No benefits achieved so far

15%

TOP 4 benefits achieved through company's approaches to improve the handling of data (n=418)

None of the benefits listed were achieved by the majority of study participants (the highest rating is 37 percent). For best-in-class companies, the highest rated benefit is a higher prioritization of data-driven work (50 percent), which is basically good news.

However, across the whole sample this benefit does not even appear in the top five. So, what is the limiting factor here? Let's take a step back and compare the specific investments being made by best-in-class companies in contrast to laggards. While both groups are investing in enabling more self-service analysis and providing more information about data, best-in-class companies are doing this more intensively (42 and 38 percent respectively, versus 25 and 24 percent for laggards).

> *Areas of focused investment include defining clear responsibilities/points of contact for data utilization and providing a business glossary that facilitates cross-departmental access to approved data definitions.*
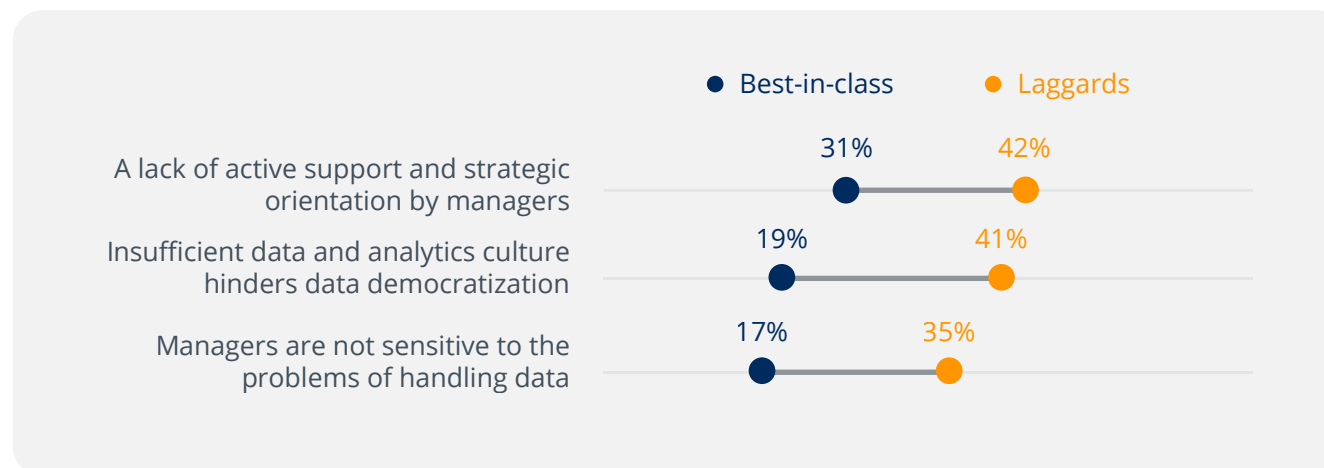
05 Enabling a data-driven enterprise requires a funda-mental cultural change driven by the executive level

For best-in-class companies, further areas of focused investment include defining clear responsibilities/points of contact for data utilization and providing a business glossary. These measures also foster multidisciplinary collaboration in the utilization of data.

While both groups achieve the same ratings for "development of the corporate data culture from "need to know" to "right to know"" (23 percent), from a relative perspective this point is more important for laggards (third highest rating). In contrast, best-in-class companies invest more in targeting definition and priority steering by senior management (21 percent) than laggards (10 percent). Best-in-class companies are also more likely to invest in data literacy by carrying out targeted staff development and training to promote data and analytics skills (31 percent versus 10 percent for laggards).

Data democratization begins in the organization

● Best-in-class   ● Laggards

A lack of active support and strategic orientation by managers — 31% / 42%

Insufficient data and analytics culture hinders data democratization — 19% / 41%

Managers are not sensitive to the problems of handling data — 17% / 35%

What challenges do you experience in implementing your company's approaches to improve the handling of data? (excerpt, n=131)

This corresponds to the fact that laggards have more challenges in terms of management support and insufficient data and analytics culture than best-in-class companies, even if they sometimes still struggle in these areas as well.

On the bottom line, the message is clear. Treating data as an asset and collaborating on a multidisciplinary basis requires targeted steering and corresponding processes. This cannot be achieved with a bottom-up approach only. Enabling a data-driven enterprise affects every employee and requires a fundamental cultural change. Executives must want, initiate and actively promote this change.
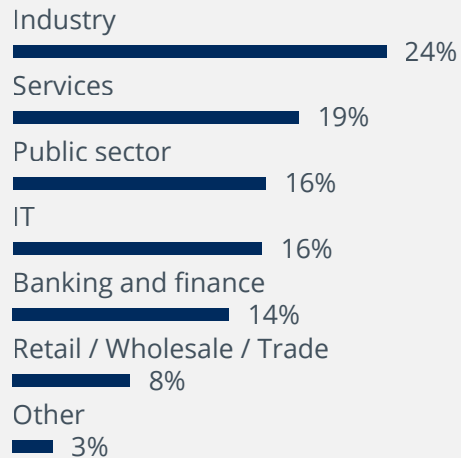
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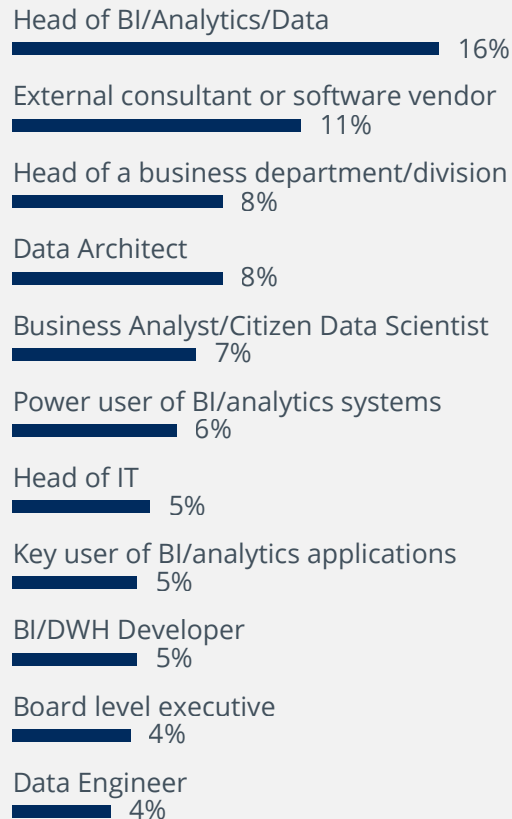
WIDE RANGE OF INDUSTRIES AND COMPANY SIZES

The online survey was carried out in March and April 2020. It was publicized via websites, events and BARC's email newsletter with more than 400 participants from a wide range of company sizes and industries taking part.
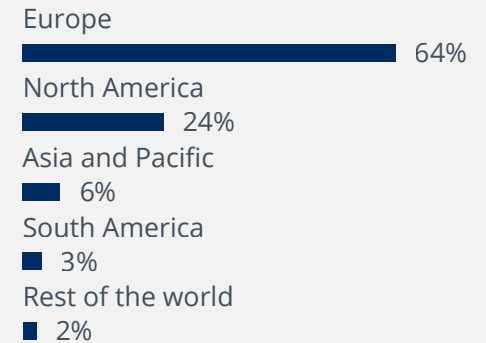
INDUSTRY SECTOR

Industry — 24%
Services — 19%
Public sector — 16%
IT — 16%
Banking and finance — 14%
Retail / Wholesale / Trade — 8%
Other — 3%

Which of the following best describes your organization's industry sector? (n=419)

POSITION IN THE COMPANY

Head of BI/Analytics/Data — 16%
External consultant or software vendor — 11%
Head of a business department/division — 8%
Data Architect — 8%
Business Analyst/Citizen Data Scientist — 7%
Power user of BI/analytics systems — 6%
Head of IT — 5%
Key user of BI/analytics applications — 5%
BI/DWH Developer — 5%
Board level executive — 4%
Data Engineer — 4%

What is your role in the company? (n=419)

REGION

Europe — 64%
North America — 24%
Asia and Pacific — 6%
South America — 3%
Rest of the world — 2%

In which region are you located? (n=419)

COMPANY SIZE

Less than 500 — 31%
500 - 4,999 — 32%
More than 5,000 — 37%
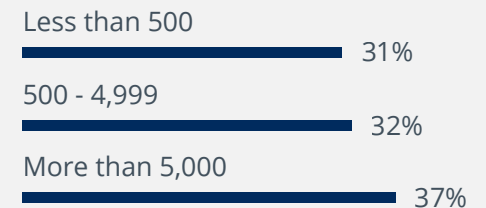
How many employees does your company have? (n=419)

Best-in-class

Much better

13%

Slightly better

29%

Similar

38%

Slightly worse

15%

Much worse

5%

How do you rate the skills and competencies in the handling of data in your company compared to your main competitors? (n=389)
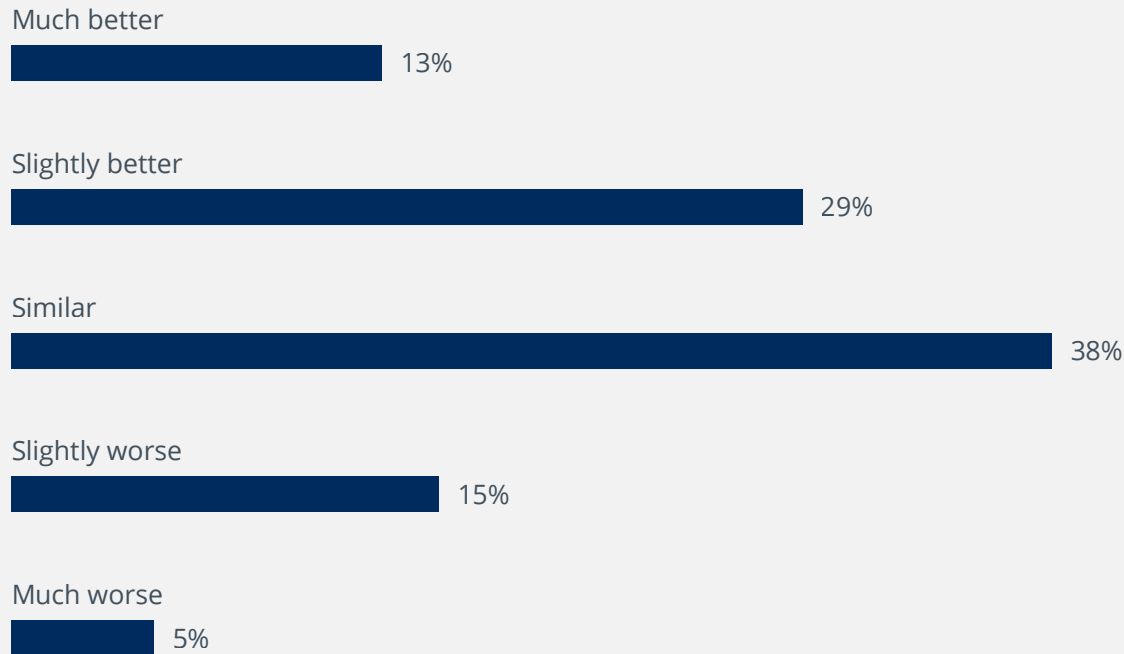
We divided the sample into "best-in-class" and "laggards" in order to identify differences in terms of distribution channels, approaches and challenges in reporting. This division was made based on the question "How do you rate the skills and competencies in the handling of data in your company compared to your main competitors?". Companies that are much better in handling their data than their competitors are referred to as "best-in-class" (13 percent) while those who are slightly or much worse at data handling than their competitors are classed as "laggards" (20 percent).

Sponsor profile Ab Initio

ABOUT AB INITIO

For over 25 years, Ab Initio has focused on processing and managing corporate data. Many of the largest companies in the world work with Ab Initio to solve the challenges of turning big data into meaningful data. Ab Initio offers a complete solution for reading, writing, processing, and querying data no matter whether it is located in the latest cloud database or in legacy mainframe data stores or anywhere else in the corporate ecosystem.

You can run your operations on the cloud, on premises, or in any combination. Whether you want to run across mainframes, Unix/Linux boxes, or containers with Kubernetes, Ab Initio does it all. You develop your code once and deploy it where you need it.

Ab Initio's innovative visual development paradigm and fully integrated product suite eliminate the most pernicious obstacles to building high-quality software. Ab Initio's visual approach makes it easy to see the flow of logic and data through the system. We eliminate the process of trans-lating logic diagrams into programs; the diagrams are the programs. Ab Initio's powerful semantic discovery capabilities accelerate data enrichment and automate adding business meaning to physical data sets. Ab Initio data catalog capabilities enable data virtualization, so you can easily find the data you need when you need it.

Ab Initio software plays well with other software packages, including statistical analysis and machine learning modules. Ab Initio's extensive debugging and automated testing capabilities, combined with Ab Initio's unparalleled ability to rapidly make major changes to the software, helps users get systems into production quickly and enables continuous integration and continuous deployment pipelines. It is no surprise that working with Ab Initio reduces software development time by as much as 75% compared with traditional software development approaches.

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Sponsor profile Alation

ABOUT ALATION

Alation pioneered the data catalog market, leading the evolution of data management from simply managing data to driving data culture. Alation customers leverage the data catalog as a platform to drive data search & discovery, data governance, data stewardship, analytics, and cloud transformation. With its powerful behavioral and linguistic intelligence technologies, collaboration capabilities, and open interfaces, Alation provides a platform for a broad range of metadata management applications by combining machine learning with human insight to tackle the most demanding challenges in data management.

More than 180 organizations are driving their data cultures and improving their organizations' decision making with Alation, including AbbVie, DraftKings, Exelon, Finnair, Genentech, GoDaddy, Marks & Spencer, MercadoLibre, Munich Re, New Balance, New Relic, Pfizer, Scandinavian Airlines, Scout24 and US Foods. Headquartered in Silicon Valley, Alation is funded by Costanoa Ventures, Data Collective Venture Capital, Icon Ventures, Sapphire Ventures, and Salesforce Ventures. For more information, visit alation.com.

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Sponsor profile Collibra

ABOUT COLLIBRA

Collibra is the Data Intelligence company. We accelerate trusted business outcomes by connecting the right data, insights and algorithms to all data citizens. Our cloud-based platform connects IT and the business to help companies trust their data, democratize access and empower the innovation to transform their business. Global organizations choose Collibra to unlock the value of their data and turn it into a strategic, competitive asset.

Collibra acts as the system of record for data, delivering end-to-end Data Intelligence to accelerate digital business transformation and helping companies to:

• Discover, understand and access trusted data when they need it, so they can generate impactful insights that drive business outcomes

• Establish a shared business language for data assets and maintain it over time so that teams can trust data and drive digital use their data to improve their business transformation

• Map relationships between data to show how it moves from system to system and how data sets are built, sourced and used, providing complete, end-to-end lineage visualization

• Operationalize and manage data privacy policies across the privacy lifecycle, and scale compliance for multiple regulations from a single system

Collibra has a diverse global footprint, with offices in the U.S., Belgium, Australia, Czech Republic, France, Poland and the U.K. For more information, visit collibra.com.

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ABOUT CUBEWARE

Founded in 1997, Cubeware GmbH is headquartered in Rosenheim, Germany, and has additional offices throughout Germany and the DACH region. Cubeware is a leading provider of data analytics software, focusing on solutions for both SMEs and specialist departments in large companies. With an impressive client list including some of Germany's largest companies, Cubeware has a longstanding reputation as a reliable and effective data analytics provider. The Cubeware Solutions Platform C8 consists of a powerful ETL and data modelling tool, a tool for complex user management and a modern front end for analysing, visualising, planning and reporting. The portfolio is rounded off by a native app for iOS and Android, and a certified interface to SAP.

Cubeware products are easy to use, can be rapidly implemented, are highly
scalable and can be customised to virtually any application. Companies as varied as Audi, Hapag-Lloyd, and Edeka use Cubeware solutions to optimise their business in countless ways. Cubeware can be seamlessly integrated into platforms from Infor, IBM, Microsoft, Oracle and SAP. Over 4,000 customers rely on Cubeware's BI expertise and its international partner network. The versatility and robustness of Cubewares solutions are well known throughout industry in the European space and beyond.

Cubeware is convinced that the solution-oriented, secure and responsible preparation and analysis of data and information is now the non-negotiable core competence of digital change, and will remain so in the future. Also, the ability to interrelate and systematically analyse data represents the unifying factor of every economic activity, despite all the differences existing between companies and markets.

As one of the pioneers in business intelligence in the German-speaking world, it is Cubewares intention to continue to play an active role in the practical designing of the data and information processes of the future. With a global client base of over 4,000 customers cubeware has a long standing reputation as a leader in the field of data analytics and business intelligence.

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Sponsor profile Denodo

ABOUT DENODO

Denodo is the leader in data virtualization providing agile, high performance data integration, data abstraction, and real-time data services across the broadest range of enterprise, cloud, big data and unstructured data sources at half the cost of traditional approaches. Denodo's customers across every major industry have gained significant business agility and ROI by enabling faster and easier access to unified business information for agile BI, big data analytics, Web and cloud integration, single-view applications, and enterprise data services.

The Denodo Platform offers the broadest access to structured and unstructured data residing in enterprise, big data, and cloud sources, in both batch and real-time, exceeding the performance needs of data-intensive organizations for both analytical and operational use cases, delivered in a much shorter time frame than traditional data integration tools.

The Denodo Platform drives agility, faster time to market, and increased customer engagement by delivering a single view of the customer and operational efficiency from real-time business intelligence and self-serviceability.

denodo
DATA VIRTUALIZATION

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Sponsor profile Tableau

ABOUT TABLEAU

Tableau (NYSE: DATA) helps people and organizations become more data-driven as the trusted leader in analytics. The Tableau platform provides the breadth and depth of capabilities to serve the needs of even the largest global enterprises in a seamless, integrated experience. Tableau is designed to fit, not dictate your data strategy, and adapts to your environment with unmatched flexibility and choice, while meeting the toughest governance and security requirements. People love using Tableau because it is both powerful and intuitive—and offers a fundamentally different user experience by empowering people of all skill levels to explore and analyze data using visuals and natural language. Tableau has become the standard language of analytics for modern business users and continues to lead the industry with the most passionate and engaged user community in analytics, a customer base with millions of users at more than 86,000 organizations, and a deep commitment to customer-focused innovation.

Designed for the individual,
scaled for the enterprise

Tableau is the most powerful, secure, and flexible end-to-end analytics platform. Equip your people with smart, visual, and direct access to their data for every step of the analytics journey. Our flexible architecture means it will work in your environment and with your data.

Only Tableau combines a laser focus on how people see and understand data with the kind of robust, scalable platform needed to run the world's largest organizations.

See and understand your data

When you pair smart and curious people with trustworthy data, data comes to life and becomes your competitive edge.

Equip teams with powerful visual analytics from Tableau. Fuel unlimited exploration with interactive visualizations and dashboards that reveal actionable insights. Share securely and watch "a-ha moments" transform your business.

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Sponsor profile Talend

ABOUT TALEND

Talend, a leader in data integration and data integrity, enables every company to find clarity amidst the chaos.

Talend Data Fabric brings together in a single platform all the necessary capabilities that ensure enterprise data is complete, clean, compliant, and readily available to everyone who needs it throughout the organization. It simplifies all aspects of working with data for analysis and use, driving critical business outcomes.

From Domino's to L'Oréal, over 4,250 organizations across the globe rely on Talend to deliver exceptional customer experiences, make smarter decisions in the moment, drive innovation, and improve operations. Talend has been recognized as a leader in its field by leading analyst firms and industry publications including Forbes, InfoWorld and SD Times.

Talend is Nasdaq listed (TLND) and based in Redwood City, California.

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BARC – Making Digital Leaders

BARC – BUSINESS APPLICATION RESEARCH CENTER

BARC is a leading enterprise software industry analyst and consulting firm delivering information to more than 1,000 customers each year.

For over twenty years, BARC analysts have combined market, product and implementation expertise to advise companies and evaluate BI, Data Management, ECM, CRM and ERP products.

A long-running program of market analysis and product comparison studies forms the basis of BARC's comprehensive knowledge of all the leading software vendors and products, as well as the latest market developments and trends.

BARC events provide a focused overview of leading software solutions, trendsetting developments and current requirements, as well as market developments in particular enterprise application categories.

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SENIOR ANALYST

As a senior analyst, Timm Grosser advises national and international companies of various sizes and industries in the areas of BI, data management and analytics for more than 10 years. During his time as a consultant, he designed numerous solutions in BI/big data strategy, organization, architecture and tool selection with customers or in the BARC test lab. He is a frequent speaker at conferences and seminars as well as the author of numerous industry articles and market studies.

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