



The race to data maturity

Is your business as far ahead as you think?

mazars



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Introduction

Foreword

Do you know how data mature your business really is?

Data is a team sport. We aren't the first to argue this point and we certainly won't be the last. Teamwork is the crux of any successful data project, not only between the various roles within a typical data team – project managers, analysts, engineers, and scientists – but between these data experts and non-expert decision-makers.

But if data is a team sport, what sport are businesses playing exactly, and at what level? Just because you can kick a football doesn't make you the next Ronaldo. You might swim, cycle, or run regularly, but when and how do you become an elite athlete?

These are the guiding questions behind our new global research, which looks to measure the data maturity – or 'fitness' – of businesses: how able are they to govern and use their data to create value? Are they barely keeping up, are they racing ahead of the pack, or are they running further behind the competition than they think?

Many businesses overestimate their data maturity

Based on a survey of over 1,000 leaders responsible for data governance in businesses across 21 countries worldwide, our findings show that many businesses aren't as data mature as they think.

In fact, our results show that data isn't just a team sport. It's a multidisciplinary event where 'winning' demands excellence in multiple arenas, as well as stamina to go the distance in each. Like a triathlon, there's no winning in data without mastering every stage of the journey over the long haul.

But it's not just a triathlon, either. Data is a relay requiring meticulous coordination and cooperation between multiple business areas. While analysts extract insights from their data, top leadership must also have the courage to leverage these insights and transform business models. And while a business may invest in the most advanced data technologies, employees at every level must play a role to ensure that investment yields maximum value.

Data maturity is the key to growth

Our findings show that most businesses play the data game at some level. But the fastest-growing companies are also the ones furthest ahead in the race to data maturity. In other words, businesses that are excelling at every stage of their data journey and passing the baton from insight to action are also unlocking a competitive advantage.

On the one hand, if you know your business still has ground to make up, we hope this study will help you identify your business' data maturity gaps. On the other hand, if you're convinced your business is a front-runner, this study may reveal that you're not as far ahead of the crowd as you think, and help you guard against the pitfalls of overconfidence.

In any event, we are delighted to have been able to access data leaders worldwide and across a broad spectrum of industries with this survey, and hope that you will take inspiration from the findings on your own journey to best data practice.



Nicolas Quairel
Partner
Mazars



How is reaching data maturity like the triathlon mixed relay?

The triathlon mixed relay is an innovative event that made its Olympic debut in Tokyo. Teams are comprised of four athletes: two men and two women. Each athlete must complete a triathlon – swim for 300m, cycle for 6.8km and run for 2km – before tapping the hand of their teammate to pass the relay.

Like data, it demands speed, stamina, and strategy, as well as the ability to combine individual excellence with pure team spirit.

Introduction

Executive summary

Businesses understand they need to leverage data to stay competitive and unlock future growth. All over the world, they're devoting significant executive time and betting big on new technologies to gain a competitive advantage. But do they have the data maturity to reach their objectives?

Businesses are devoting significant resources to data

Big data is seen as businesses' most important source of growth for the next ten years. They are already devoting significant time, money and effort to data: it's high on leaders' agendas, draws in significant numbers of employees and forms a major part of businesses' technology roadmaps.

Major investments are in the pipeline, especially in AI

Businesses are going to keep on investing: a huge majority will spend more on data (governance, architecture, tools, etc.) in 2022 than this year. Their biggest priorities are data quality and data strategy, while the field receiving most investment is artificial intelligence.

But, businesses are overconfident in their data maturity

A strong majority of businesses have begun putting data tools in place, but too many think they already have a competitive advantage in data. The reality is that the majority are failing to meet the best practices that underpin data maturity.

Most still fall short of best practice on data quality

A majority of businesses risk undermining their investments in data because they fall short of best practice on data quality. Poor data quality is a major issue, negatively affecting important investments, and investments in AI in particular. Data quality issues arise from incomplete data mapping and a lack of data training across a range of key roles.

Majority lack best practice on data access

Although businesses have made efforts to share data resources internally, there are important gaps in their architecture for both centralisation and universal access. This applies particularly to middle management, who are less likely than top decision-makers and frontline analysts to access and use data. Most businesses also have ground to make up on data knowledge repositories and data governance.

Data maturity best practices are associated with growth

Across multiple factors, including data centralisation, data governance, data quality and data mapping, the fastest-growing companies are those most likely to have adopted best practice on data.

Two in five expect a "significant" data breach within 12 months

Cyber security risks are seen to be increasing by a majority of businesses. Despite most businesses saying their data is "completely protected", a large portion (40%) expect to experience a "significant" data breach within the next 12 months. There are important gaps for many businesses to fill in their cyber security plans: employee training and awareness (only 39% of companies make sure that all employees are formally, regularly trained) and the rigorous, timed testing of incident recovery plans (around one-third of businesses do not do this).

Our experts

Véronique Beaupère

Partner, Mazars

Véronique has 30 years of experience advising CIOs and CEOs in IT strategy, IT efficiency, data management and data privacy. A Certified Information Systems Auditor (CISA) and Safe Agilist, she specialises in digital strategy and transformation.

Robert Kastenschmidt

Partner, Mazars

Robert has over 20 years of experience providing accounting and management consulting services both in the US and internationally. He specialises in business transformation, data protection, regulatory compliance, data analytics, internal audit, and system-based controls.

Kevin Le Denic

Partner, Mazars

Kevin has over 12 years of experience advising businesses on their data strategy, developing their data operating models and delivering data management & analytical products.

Jan Matto

Partner, Mazars

Jan has over 20 years of experience in IT advisory, specialising in IT governance, information security, privacy protection and data breaches. He is heavily involved in third party IT assurance services, and privacy and data protection certification.

Nicolas Quairel

Partner, Mazars

Nicolas has 20 years of experience in IT advisory including technology and digital strategy, data protection programmes, transformation projects and data analytics. He is a Certified Information Systems Security Professional (CISSP), Certified Information Systems Auditor (CISA), and is Certified in Risk and Information System Control (CRISC).

Patrick Zerbib

Partner, Mazars

Patrick has more than 30 years of consulting experience with leading businesses across the US, Europe and Asia. His specific areas of in-depth expertise include complex data and analytics programs, spanning from strategy to transformation, to the delivery of data solutions.

Our research partner

Lazhar Sellami

Co-founder, DataGalaxy

Lazhar has more than 15 years of cross-industry consulting experience in IT transformation and change management. He has led numerous digital transformation programmes and has in-depth expertise in data product solutions design and delivery.

Sébastien Thomas

Co-founder, DataGalaxy

Sébastien has more than 20 years of cross-industry consulting experience in data and analytics. He has led many datawarehouses and business intelligence programmes. He specialises in data-driven transformation and data product solutions design and delivery.

About DataGalaxy

Founded in 2015 in Lyon, DataGalaxy is an innovative startup specialising in collaborative data governance. Focused on user experience, we help organisations empower their teams toward data centricity. DataGalaxy offers the first integrated data knowledge platform bridging the gap between all data stakeholders.



Introduction

Key takeaways

While a large proportion (82%) of business leaders say they are more data mature than their competitors, most don't meet the best practices that underpin data maturity.

The more data mature your business, the better able it will be to leverage data to create value. This study identifies seven best practices to help businesses reach data maturity, drive growth, and unlock a competitive advantage through data.

Data governance	1. Operationalise a data governance programme <ul style="list-style-type: none">• 54% of businesses have a functioning data governance programme.• A data governance programme defines the policies and processes used to manage your data assets. It's critical to ensuring data is usable, accessible and protected.	
Data quality	2. Enforce organisation-wide data mapping <ul style="list-style-type: none">• 51% of businesses enforce organisation-wide data mapping.• Data mapping allows you to homogenise multiple data sets to increase the overall accuracy and useability of your data.	5. Fully centralise data in a shared location <ul style="list-style-type: none">• 25% of organisations have their data fully centralised in a shared location.• Centralising your data not only helps ensure its integrity, it also encourages collaboration for better data-driven decision-making.
Data quality	3. Monitor data quality using a shared dashboard <ul style="list-style-type: none">• 43% of businesses use a shared dashboard to monitor data quality.• A shared dashboard will help your Data Owners track and gain real-time insights into the quality of your data and help them take action to fix issues.	6. Make data available to anyone who needs it <ul style="list-style-type: none">• 33% of businesses make data available to anyone who needs it.• Easily accessible data helps teams move more quickly to test and operationalise use cases.
Data quality	4. Fix data at the source <ul style="list-style-type: none">• 40% of businesses have the processes in place to fix data quality issues at the production/gathering stage.• Creating high-quality data the first time saves your teams from the time-consuming task of cleaning up errors and trying to make poor-quality data useable.	7. Share data knowledge with everyone in your organisation <ul style="list-style-type: none">• 38% of businesses have a comprehensive data knowledge repository that is shared by all.• By aggregating dispersed data knowledge into a shared repository, your teams will be better equipped to leverage insights and deliver results quickly.

“Countless businesses are racing towards the same objective: to be data-driven. However, our findings underscore the inherent difficulty of this journey. The path to data maturity is often longer, more complex, and more fraught with challenges than business leaders anticipate – or even realise.”

Nicolas Quairel
Partner, Mazars



Chapter 1

The data race: keeping up, or in it to win it?

Is your business ready for the race to data maturity? It's a crowded field and it won't be easy to get the edge on the competition.

Most businesses understand being data-driven is no longer optional; it's required. The overwhelming majority of respondents to our survey have invested in tools, built teams, and declared data to be a top priority. But what's their objective? Do they just want to avoid falling behind, or do they aim to unlock a competitive advantage?

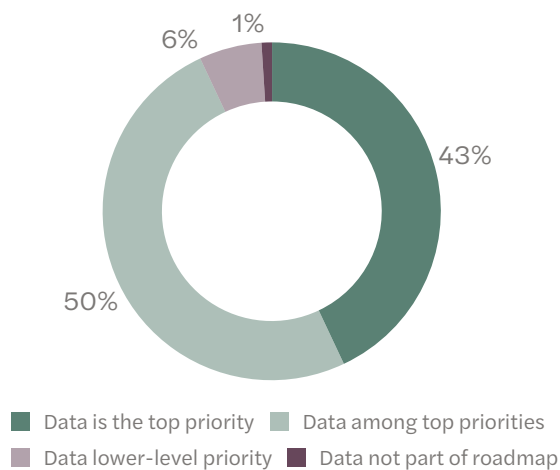
Today, the real dilemma for businesses isn't whether to invest in data; it's the extent to which they'll let their data drive important business decisions. But, becoming data-driven requires hard work and tough decisions that can make the difference between just keeping up and taking the lead.

Data is an obvious priority

Our results show that businesses across the board are investing effort, money, and executive time on data: it's the top priority, or among the top priorities, in the technology roadmap of 93% of companies surveyed (figure 1); and top executives and board members address data management and governance issues quarterly, or even more frequently, in 80% of companies (figure 2).

Figure 1 - Prioritisation of data in the technology roadmap

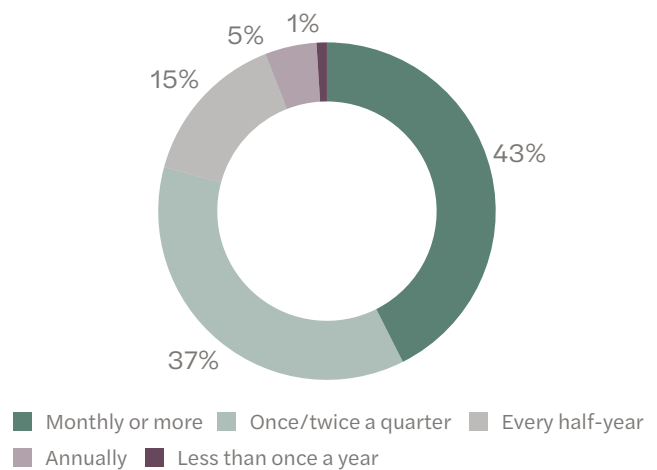
Percent of respondents



To what extent is data, including data sharing, collaboration and responsible data governance, a priority in your organisation's technology roadmap? Total, n=1,111

Figure 2 - How often top executives/board address data

Percent of respondents



How often is your organisation's approach to data management and governance addressed by your top executives or Board? Total, n=1,111

Ready to race?

Not many companies can avoid making investments in data governance and security. But the reality is, they don't all aim to unlock a competitive advantage.

Some businesses focus on the essentials: they want to comply with growing regulations and meet evolving stakeholder expectations. But focusing on this alone is the equivalent of jogging three times a week: it's a great way to maintain good cardiovascular health and stave off a heart attack, but far from the kind of hard work and intensive training it would take to get to the Olympics.

Other businesses have set more ambitious goals: they want to make data a differentiator. This requires more serious preparation. To gain a competitive advantage through data, most businesses need to make big organisational changes to get to the level where data is truly enhancing their business operations.

However, any data journey can be longer and more challenging than expected. Even reaching the minimum bar means heading towards a finish line that is perpetually moving further down the track, as regulations and expectations evolve. Maintaining a competitive advantage also involves aiming for a moving target that shifts depending on the activities and investments of other organisations.

Stepping-up your data game will likely require lots of time and energy, whether you're training just to stay healthy or you want to reach the level of an elite athlete.

Robert Kastenschmidt
Partner, Mazars



Chapter 1

The data race: keeping up, or in it to win it?

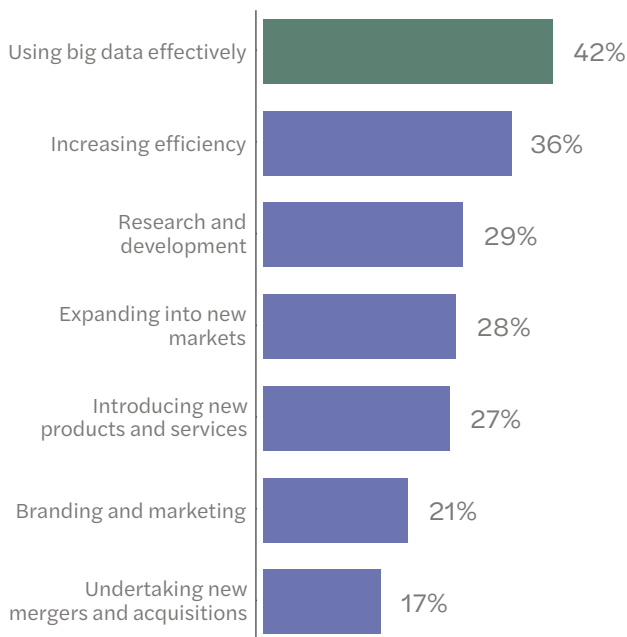
Data leaders strongly expect their companies' investments in data resourcing to grow. According to our findings, some 81% of businesses expect to see an increase in their financial or human resourcing over the next 12 months, with over one-third (34%) of businesses expecting it to increase significantly. The larger the company, the more likely it is to boost investment: 46% of businesses with revenues of EUR 5bn+ forecast a "significant" increase, compared to 30% of businesses with revenues of less than EUR 500m.

Data is seen as key to growth

The reason behind this push to invest is clear: using data effectively is seen as a major factor in both driving growth and enabling effective operations over the next ten years. Some 42% of senior data leaders say that big data will be key to their business growth (figure 3), rating it as more important than any other business factor, while 37% say big data will be key to effective operations, behind only effective IT systems (41%) (figure 4).

Figure 3 - Most important to business growth over next 10 years

Percent of respondents



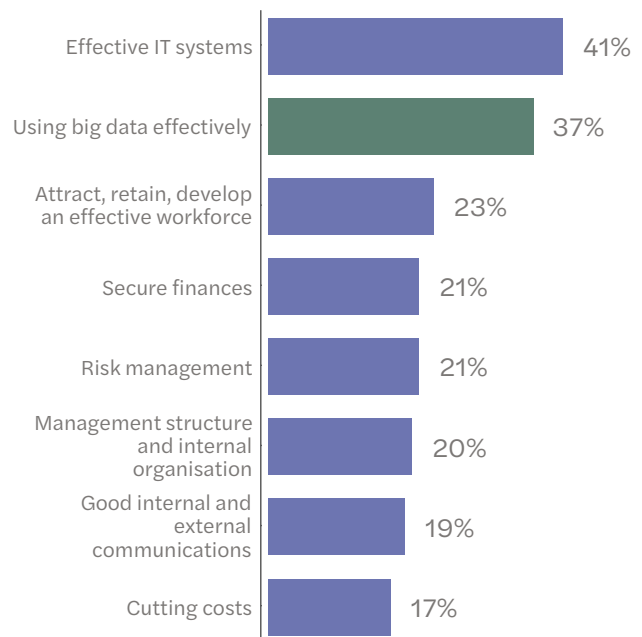
Which two of the following will be most important to your business's growth over the next 10 years? Total, n=1,111

“Leaders want their businesses to be data-driven, but most will need to start their transformation further up-stream than they realise, prioritising a use case and accessing the relevant high-quality data.”

Kevin Le Denic
Partner, Mazars

Figure 4 - Most important to effective operations over next 10 years

Percent of respondents



Which two of the following will be most important to your business's effective operations over the next 10 years? Total, n=1,111

Many businesses are likely in the early stages of their data journey

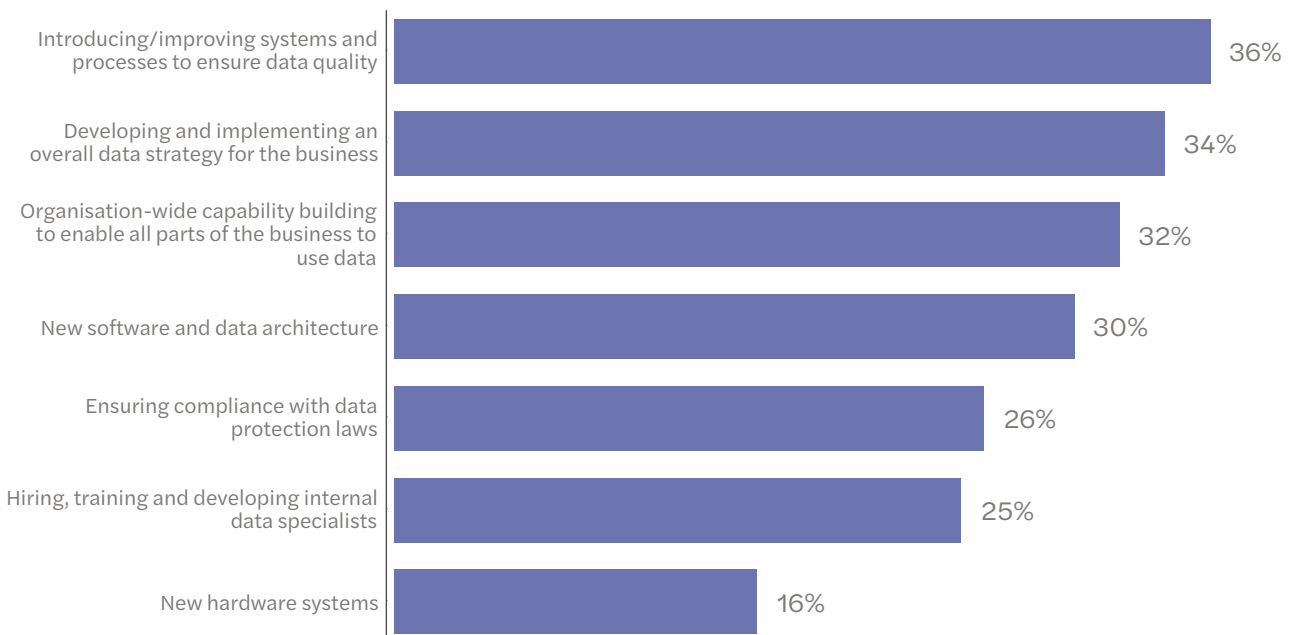
However, while our findings show most leaders are prioritising data, they also show many businesses are at the beginning of their journey to data maturity: over one-third of respondents are still focusing on developing and implementing their overall data strategy (34%), and more still (36%) are focusing on their data quality systems and processes (figure 5). Not only is having an overall data strategy a minimum requirement for any business looking to reach data maturity, quality issues are one of the most significant obstacles to extracting value from data.

Most leaders believe that by investing in data they'll be able to make better business decisions based on more accurate insights. These findings reveal, however, that even as leaders invest significant time and money into data, firms are continuing to struggle to become data-driven organisations.

“Even amongst businesses sitting on significant amounts of data, many won't know what's truly needed to extract maximum value from it.”

Nicolas Quairel
Partner, Mazars

Figure 5 - Priorities for data management/governance investment over next 12 months
Percent of respondents



Which two of the following will be your business's biggest priorities for data management and governance investment over the next twelve months? Total, n=1,111

Chapter 1

The data race: keeping up, or in it to win it?

Do you have the team to win?

It's also unsurprising that the vast majority (96%) of organisations have a dedicated department for data management. These departments can be sizeable: some 68% of them include more than 20 team members (figure 6).

Key data jobs exist in most companies. Almost nine in ten have a Data Manager (89%), a Chief Data Officer (86%), and a Chief Information Security Officer (83%).

However, fewer companies have some of the more sophisticated roles, like Data Owner and Data Steward (figure 7).

A Data Owner is accountable for who has access to information assets within their functional areas. A Data Steward is responsible for ensuring the quality and fitness for purpose of the organisation's data assets, including the metadata for those data assets.

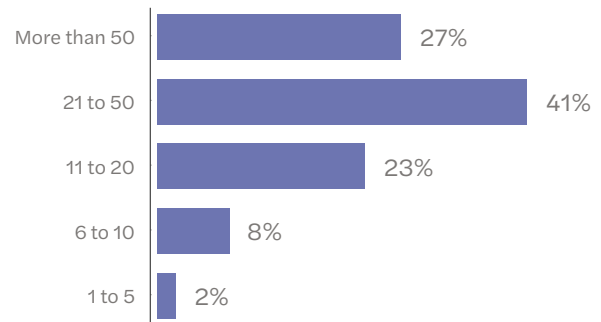
This could be another signal that these companies have not yet reached data maturity. Both roles are critical to the success of data projects. Without them, some employees may hold a wealth of information about data, but only a few will know who these employees are or how to reach them.

“To capitalise on data, bring together business, data and technical experts and give them access to high-quality, well-governed data.”

Kevin Le Denic
Partner, Mazars

Figure 6 - Number of employees in data management

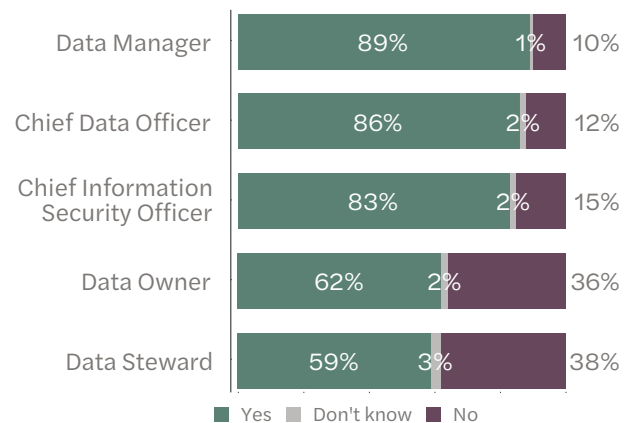
Percent of respondents (in companies with a data dept.)



How many employees work in your data management department?
Total, n=1,111; Companies who have a DM department, n=1,065

Figure 7 - Data-related job titles

Percent reporting role exists in their business



Has your organisation appointed a Chief Data Officer, or an equivalent C-suite level role? Do the following job titles exist in your organisation? Total, n=1,111

Where does your journey to data maturity start?

Organisations today have the technological means to accumulate and store incredible amounts of data. But it's not how much data you have, it's what you do with it that counts. That's what data maturity is all about: the more mature your business, the better able you'll be to make sound, data-driven decisions, succeed in your digital transformation, and unlock a competitive advantage.

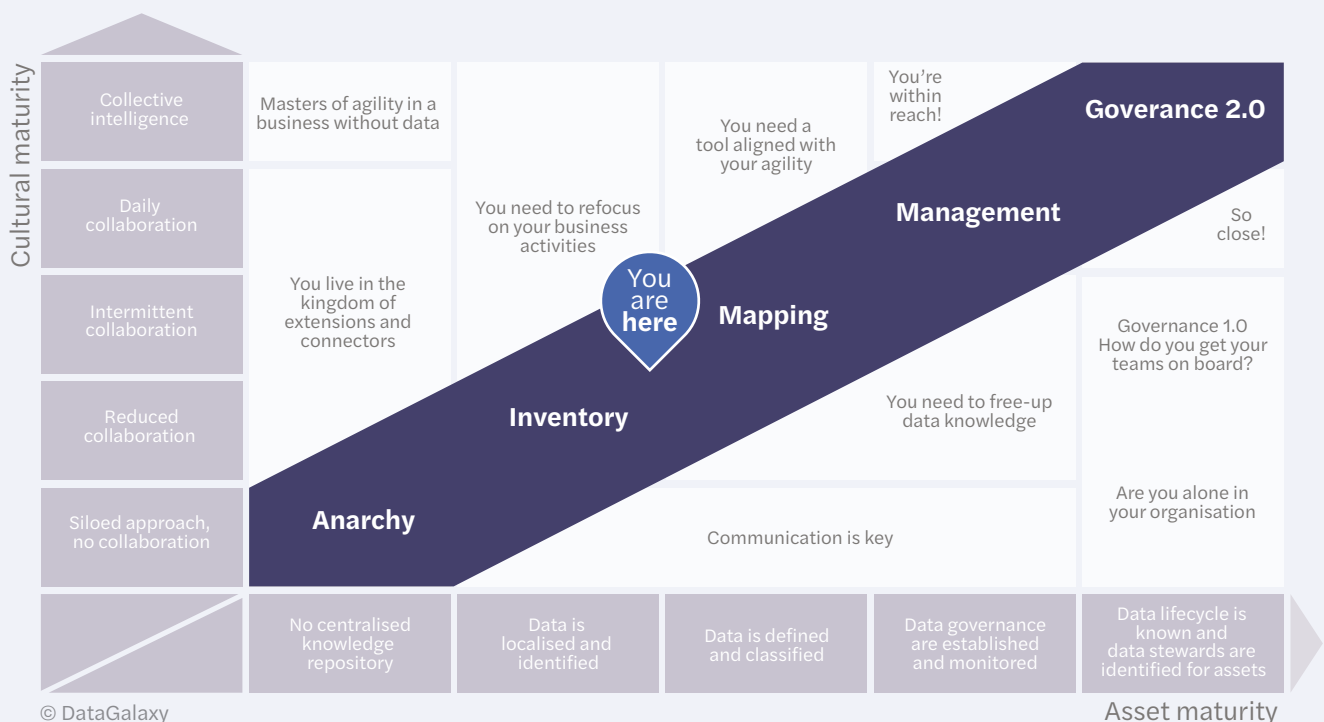
Great data governance is the cornerstone of maturity: it's how you adopt the tools, processes and cultural mindsets to ensure your data is usable, accessible and protected. But great data governance can't be built in a day, nor can it be bought off a shelf. It demands a long-term cultural change that must be built collectively and involve all of your teams.

To get started, first you need to know where you are. The DataGalaxy data maturity matrix (figure 8) is designed to help organisations gauge their progress so far, identify gaps and prioritise the actions to be carried out.

“The democratisation of data access and storage means there's no longer an advantage to building a smarter company. A competitive advantage comes with the ability to rely on data to act, test, and learn faster than your competitors. Good data governance helps reduce this ‘time to action’.”

Sébastien Thomas
Co-founder, DataGalaxy

Figure 8 - DataGalaxy's route to data governance 2.0



Chapter 2

Check your overconfidence: your business might be running further behind than you think

Self-confidence is an essential part of leadership. A business backed by confident leadership is more likely to seize opportunities and take the risks necessary to achieve their goals.

Self-confident athletes, too, are better equipped to face challenges and perform at their best when under pressure.

Overconfidence, however, poses a significant risk, in business as in sport. Sooner or later, overconfidence meets reality and a correction occurs.

Many leaders believe their business is more mature than the competition

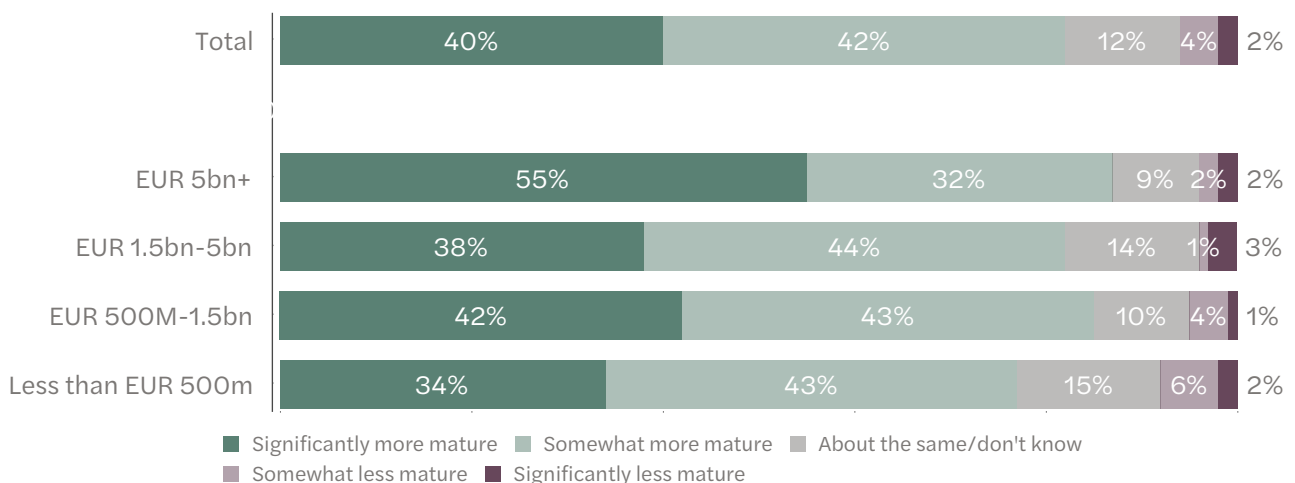
When we asked our respondents if their business was more mature than the competition, the overwhelming response was “yes”: more than four in five (82%) say their company is more “data mature” than its peers. This seems bullish: clearly not all those claiming to be ahead of the competition actually are. This applies to companies of all sizes, although

larger companies are notably more confident than others: 55% of data leaders at EUR 5bn+ companies consider themselves “significantly” more mature than competitors (figure 9).

Companies in Europe express the least confidence they are ahead of their peers (although still a strong majority, 79%, say they’re more mature than competitors). Retail/consumer, financial services, technology & telecoms and healthcare/pharma businesses are most likely to rate themselves relatively mature: over two in five data leaders from each sector say they’re “significantly” ahead of their peers.

Figure 9 - Organisation’s data maturity vs competitors

Percent of respondents



How would you evaluate your organisation's level of data maturity, compared to that of your competitors?
Total, n=1,111; <500m, n=450; 500m-1.5bn, n=306; 1.5bn-5bn, n=209; >5bn, n=146

Most businesses fail to meet the best practices that underpin data maturity

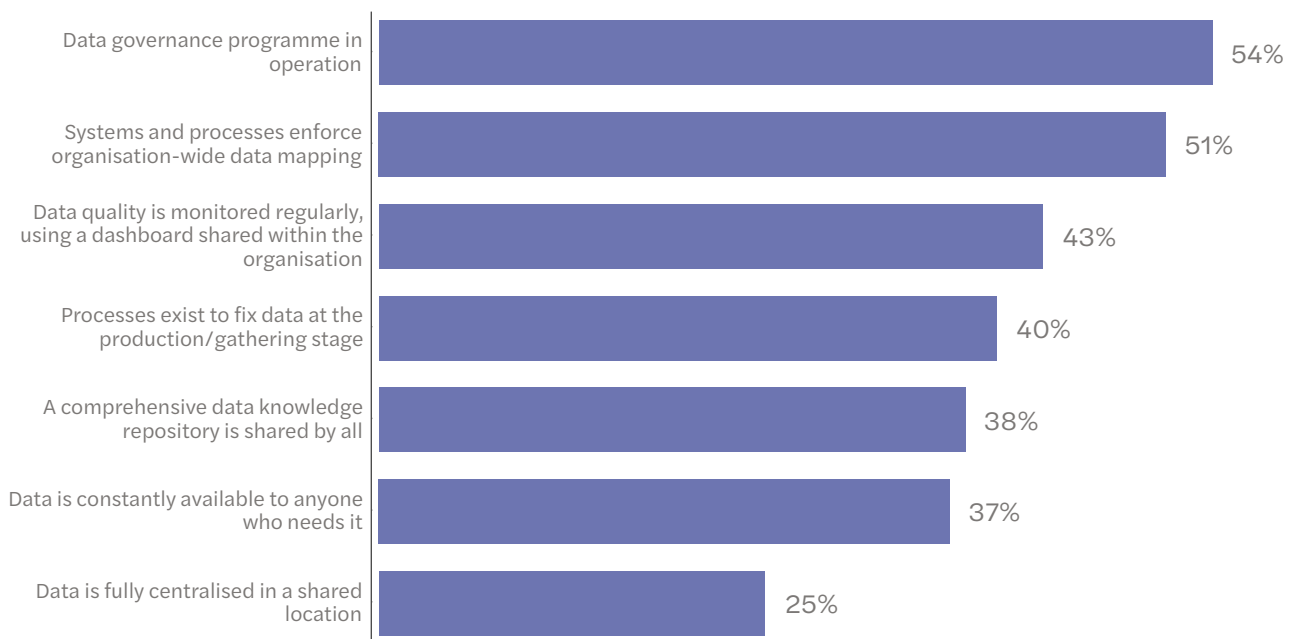
While a strong majority of businesses have begun getting data tools in place, too many think they already have a competitive advantage in data. The reality is that a majority fail to meet the best practices that underpin data maturity.

Most businesses aspire to good data practices and have acquired a wide range of data tools to facilitate this goal. However, these aspirations and tools aren't always complemented with the programmes, policies and processes businesses need to take full advantage of them.

For example, while some 85% of organisations say they've operationalised a data quality programme, most fail to meet best data quality practices: only half (51%) enforce organisation-wide data mapping, and less than half monitor data quality regularly using a shared dashboard (43%) or fix data issues at the production/gathering stage (40%). The same is true when it comes to data access: while 82% say they have a data repository, only 38% ensure it's shared with everyone in the organisation (figure 10).

Figure 10 - Data maturity best practices

Percent of respondents



Which of the following best describes your organisation's programme for data governance? Which of the following best describes the extent of data mapping in your organization? What are your organisation's procedures for assessing the quality of your data? How does your organisation usually fix any data quality issues? What is the level of data centralisation in your organisation? How would you describe your organisation's approach to using and controlling data? Does your organisation use any documents/tools that guide users on how to manage its data? Total, n= 1,111

Chapter 2

Check your overconfidence: your business might be running further behind than you think

Major investments at risk in overconfident firms

Some of these gaps risk undermining planned investments. For example, one of the most common avenues for planned investment is in artificial intelligence (AI). More than two in five data leaders (43%) report their organisation intends to make “major” new investments in AI in the coming 12 months, and 70% of organisations forecast some new investment (figure 11). AI is, however, the least likely area for a company to have engaged in an initiative in over the past month, indicating a possible disconnect between the level of prior knowledge and planned investment.

The risks of overconfidence

1. Lack of preparation

Reaching data maturity requires a lot of preparation: systems need to be put in place, teams need to be trained, and channels for collaboration need to be established. Overconfidence can lead businesses to try and skip to the end of their data journey and skimp on all the difficult work that would be necessary for success.

2. Reduced performance

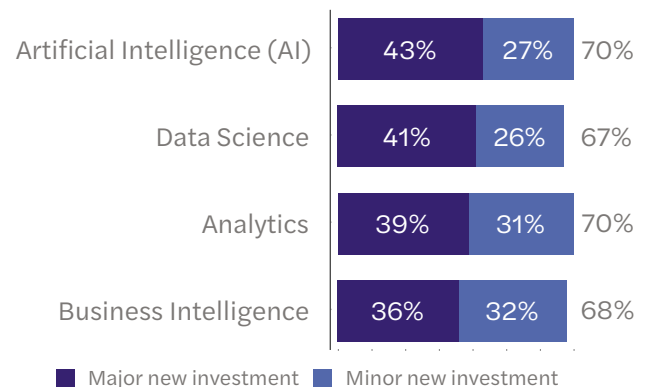
When systems aren't properly in place or teams aren't mentally prepared to use them, organisations tend to go through the data governance motions without achieving their goals. This can hurt rather than help business performance.

3. Clash with reality

When an overconfident leader is confronted with a difficult reality – that a lot of hard work still lays ahead – it can put the organisation at a disadvantage vis-à-vis the competition. This has a similar effect amongst athletes where a reversal in attitudes can take place: a favorite loses momentum and the opponent gains confidence in their place.

Figure 11 - Planned investment in data initiatives over next 12 months

Percent of respondents



How does your organisation intend to invest in each of the following over the next 12 months? Total, n=1,111

“The journey to data maturity is a trilogy: bring together in parallel a priority use case, the right architecture, and the appropriate data governance framework.”

Kevin Le Denic
Partner, Mazars

Closing the confidence gap

Business leaders want their businesses to be data-driven, they want to invest in AI and in large cloud data infrastructure, and they want to be compliant. But, they need to rely on their core data teams to achieve all of these goals. Meanwhile, these teams are often focused on far more operational matters because their data is not adequately governed.

When teams are dealing with legacy systems, for example, it can take them a long time to even find the data they need. We call this the 'time to answer'. Leadership might feel confident that they're investing in the right technologies or prioritising the right actions, but if the 'time to answer' of their data team is too long, so too will be their 'time to action'.

A sound approach is to equip your data team with a collaborative tool that supports their day to day discovery, understanding and access to the data. Solutions such as Data Catalogs are helping to build solid foundations for data centricity.

Data maturity happens when you close the confidence gap, when the expectations of top leadership align with the data culture and capabilities of their organisation. To close that gap, first we need to help operational teams scale their activities so that they can meet the expectations of leadership. Then, we need to ensure that decision-makers expectations are totally data-driven.

From a leadership perspective, it's important to first recognise that this gap exists, then engage in data governance projects to effectively close it.

Lazhar Sellami

Co-founder. DataGalaxy



Chapter 3

Sink or swim: don't let poor quality data drag you down

To master the swimming leg of the data race, make sure you map your data so that your teams can find what they need; fix quality issues impacting business-critical data as you go; and when you decide which data to store, focus on quality, not quantity.

Many businesses are swimming in a sea of data. The problem is: data is only useful when it's high-quality. Your data should be accurate, complete, consistent, reliable, and up to date. Unfortunately, this can be a tall order to fill.

Quality is critical

Bad data can cost companies a lot of money, not only because insights derived from bad data can lead to expensive mistakes, but also because employees have to spend time dealing with poor-quality data and correcting the mistakes it causes.

Companies that engage in data quality monitoring verify their data meets set criteria when it's created, used, and stored. Data leaders responding to our survey described some of the benefits of good data quality monitoring.

“Poor quality data can lead to lost revenue in many ways.”

Study respondent, Belgium

“Improved data quality leads to better decision-making across an organisation”

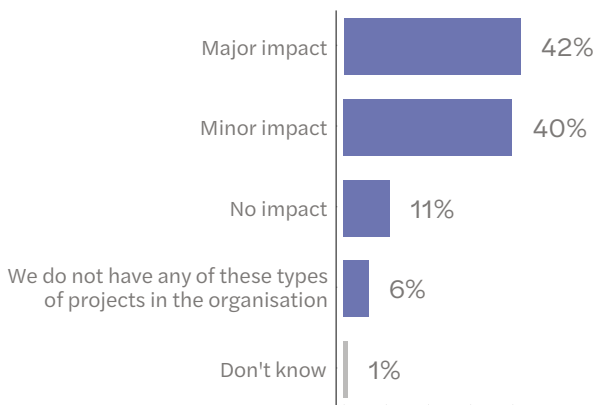
Study respondent, India



Data quality is crucial to making the most of investments in data – especially when that investment is in AI. Data quality issues have an impact on AI, machine learning and advanced analytics projects in 82% of organisations (figure 12). Given that 43% of companies plan “major” new investment in AI (more than in any other area), data quality may be the biggest obstacle to companies realising returns on their data investments.

Figure 12 - Impact of data quality issues on AI, machine learning and advanced analytics projects

Percent of respondents



In your organisation, how much impact do data quality issues have on Artificial Intelligence, machine learning and advanced analytics projects? Total, n=1,111

“It’s a bit surprising that more than 50% of respondents think data quality will have, at most, a minor impact on AI and machine learning performance. A significant proportion of executives might be underestimating the importance of data quality.”

Patrick Zerbib
Partner, Mazars



Chapter 3

Sink or swim: don't let poor quality data drag you down

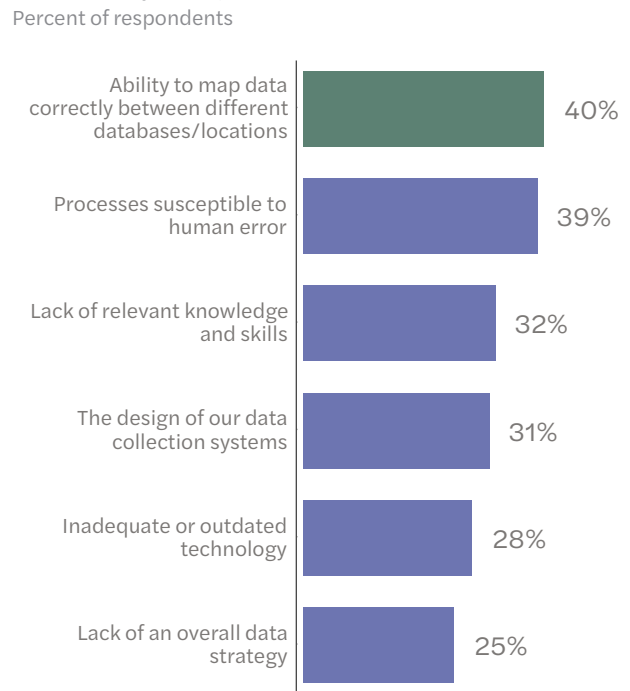
Most businesses don't meet data mapping best practice

Data mapping is the process of matching fields from one database to another to facilitate data migration and integration. One misstep in data mapping can lead to replicated errors and inaccurate analysis. Internal data mapping is the biggest obstacle to data quality that most organisations face: 40% of data leaders – more than for any other factor – cite the inability to map data correctly between databases/locations as a challenge their organisation faces (figure 13). This may be due to the fact that almost half of companies (49%) do not have systems and processes to enforce organisation-wide data mapping (figure 14).

“Poor quality data can be ‘scrubbed’ when it’s needed. But this kind of approach isn’t sustainable. If you want an investment in something like AI to pay off, you need consistent business processes to manage and govern that data.”

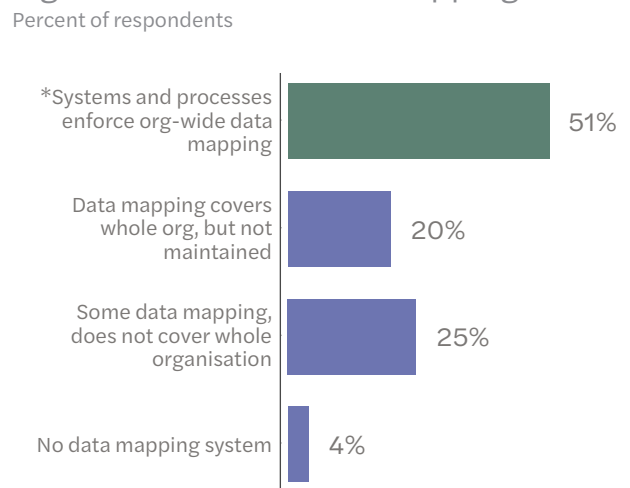
Robert Kastenschmidt
Partner, Mazars

Figure 13 - Biggest obstacles to data quality



Which of the following are the biggest obstacles to data quality in your organisation? Please select the two that are most important. Total, n=1,111

Figure 14 - Level of data mapping



Which of the following best describes the extent of data mapping in your organisation? Total, n=1,111

* Best practice

Most businesses leave the end user to deal with data quality issues

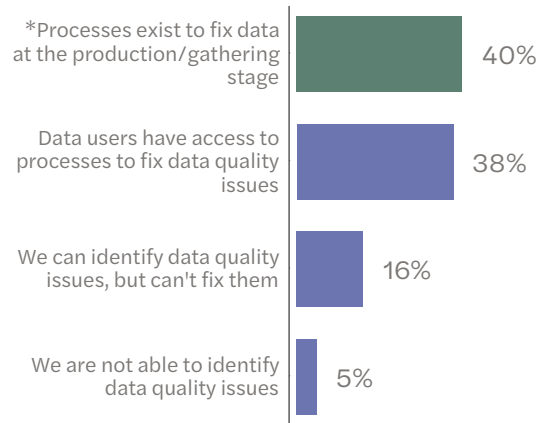
The importance of data quality is underscored by the fact most businesses fall short of best practice on data quality systems and processes. Only two in five (40%) have processes in place to fix data quality at the production/gathering stage, before the data reaches users (figure 15), and only 43% monitor their data quality regularly using a shared dashboard (figure 16).

“You’re always going to be a more efficient organisation if you are more consistent and more collaborative. And for a variety of reasons, companies often aren’t that.”

Sébastien Thomas
Co founder Datagalaxy

Figure 15 - Approach to fixing data quality issues

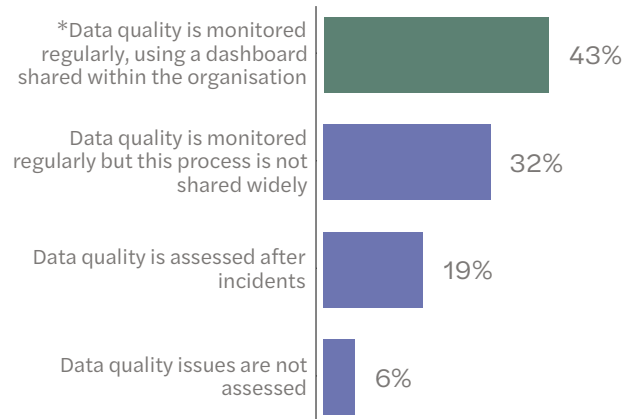
Percent of respondents



How does your organisation usually fix any data quality issues? Total, n=1,111

Figure 16 - Procedures for assessing data quality

Percent of respondents



What are your organisation's procedures for assessing the quality of your data? Total, n=1,111

* Best practice

Chapter 3

Sink or swim: don't let poor quality data drag you down

Train your teams

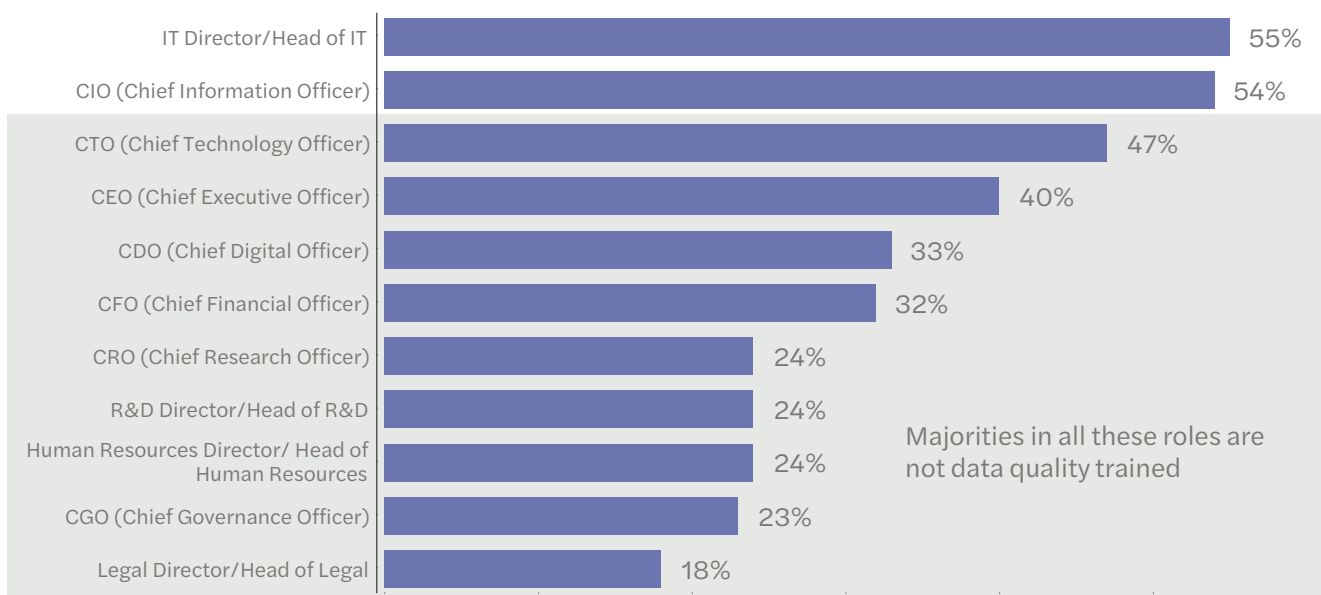
Although organisations have invested in some data quality training for some roles, there is work to be done on making sure that this training covers all key data roles. Only 47% of Chief Technology Officers are data-trained – the majority are not. The same applies to a slew of significant data-relevant roles outside IT, including Chief Digital Officers (only 33% are trained) and Chief Governance Officers (23% trained)(figure 17).

“Over the past few years, we’ve seen data-related initiatives evolve beyond the IT/CIO scope. Every function of the organisation must play its role in order to become truly ‘data-driven’.”

Patrick Zerbib
Partner, Mazars

Figure 17 - Positions trained in, and with oversight on, data quality

Percent of respondents



Today, within your organisation, which position(s) are trained in, and have oversight on, data quality? Please select ALL that apply.
Total, n=1,111

Overcoming your data quality challenges

It's not surprising that almost all businesses are correctly gauging the importance of data. Beyond a huge source of business value, today's enterprise data is mission-critical: data-driven decision-making is becoming prevalent and, while valuable, business instinct cannot be relied on in isolation.

Interestingly enough, most businesses overestimate the overall reliability and quality of their data. Meanwhile, when attempting to design and deploy business applications, most companies run into data accessibility, reliability, and/or quality issues sooner or later.

To be leverageable, data needs to be easily accessible, accurate and complete enough: too often, organisations with no or inadequate data governance processes will not realise the full potential value their data could unlock.

To begin the journey, we suggest that organisations follow these key steps:

1. **Take stock of all your data sources:** start with a base-line holistic inventory (internal and external);
2. **Implement robust data governance:** combine processes, technology, and people;
3. **Build your infrastructure:** implement an architecture capable of centralising, storing, and organising the data you need;
4. **Ensure data usability:** enable access, perform data mapping, and build processes to routinely find and fix data issues (quality, reliability, completeness);
5. **Visualise results:** give business users the tools they need to run their applications and see the results.

Keep in mind, however, that these steps can be challenging for any business, even the most data mature: as the volume, complexity, velocity and diversity of enterprise data skyrocket, successfully completing these steps will require focus, effort and discipline.

Patrick Zerbib
Partner, Mazars



Chapter 4

Like riding a bike: data maturity is all about mindset

Learning how to ride a bike can be nerve-racking: you have to launch yourself into the unknown before you can figure out how to keep your balance.

Being data-driven can feel similarly precarious until you get the hang of it. But, once data is integrated into every part of your business, and once your teams understand its value and know where to find it, making data-driven decisions comes naturally. To adopt a data mindset, teams at every level should feel comfortable accessing and using data.

Centralise your data

Although businesses have made efforts to share data resources internally, there are important gaps in their infrastructure for both centralisation and

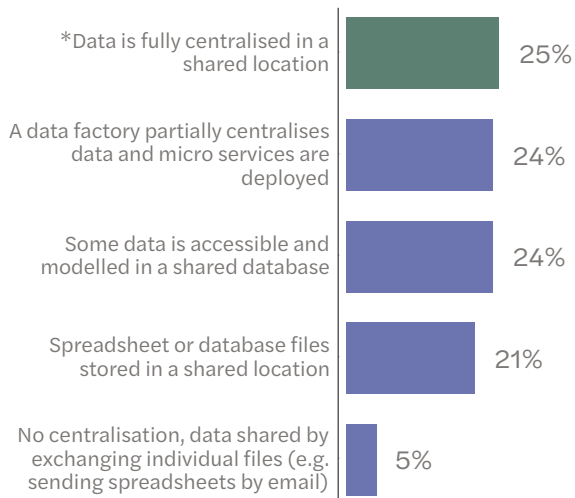
universal access. This applies particularly to middle management, who are less likely than top decision-makers and frontline analysts to access and use data. Most businesses also have ground to make up on data knowledge repositories and data governance.

Businesses have begun making data available to all users on centralised systems, and are trying to advance good data governance practice. But only a quarter of organisations have their data fully centralised in a shared location (figure 18). Less than two in five (37%) make data constantly available to anyone who needs it (figure 19).



Figure 18 - Level of data centralisation

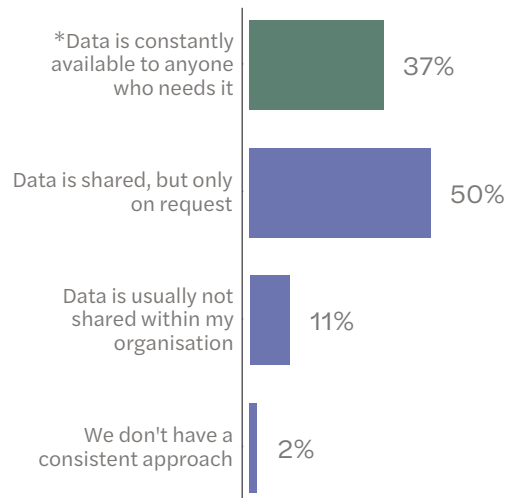
Percent of respondents



What is the level of data centralisation in your organisation?
Total, n=1,111

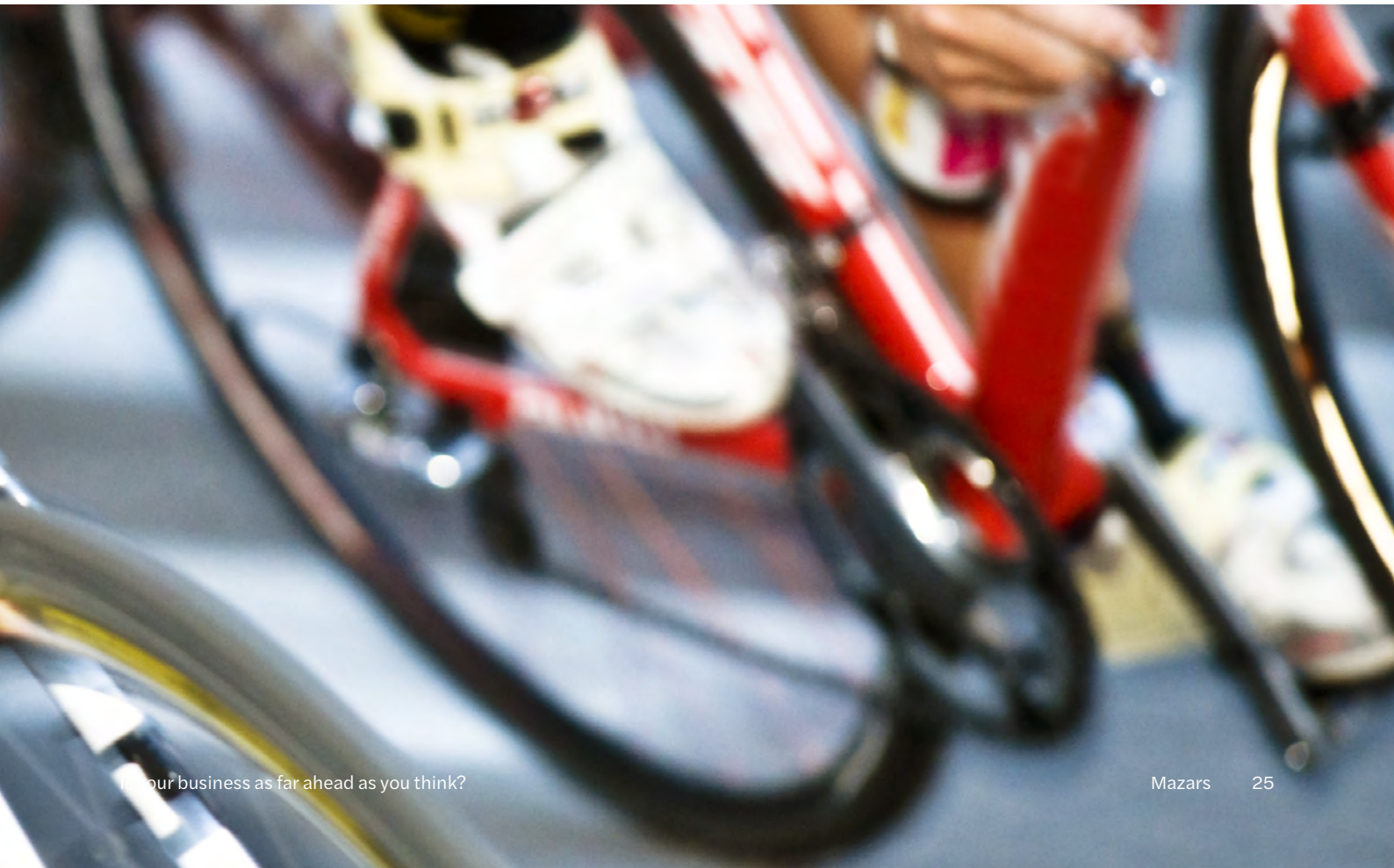
Figure 19 - Organisation's approach to data sharing

Percent of respondents



How would you describe your organisation's approach to using and controlling data? Total, n=1,111

* Best practice



Chapter 4

Like riding a bike: data maturity is all about mindset

Financial services leads the maturity pack

Large companies, North American companies and financial services firms are most likely to have reached best practice on data centralisation. Almost half (46%) of organisations with EUR 5bn+ annual revenues have their data fully centralised in a shared location, compared to only 19% of businesses with revenues of less than EUR 500m. Some 36% of North American data leaders say their company has reached best practice, higher than in any other region. Financial services firms are more likely (31%) than other industry sectors to have fully centralised data (figure 20).

The largest companies and financial services firms are also most likely to have reached best practice on making data consistently available to users. Over half (51%) of companies with revenue of EUR 5bn+ say that their data is constantly available to anyone who needs it, compared to just one-third (33%) of the smallest companies. Two in five (41%) of financial services firms have reached the same stage, a higher proportion than in other industry sectors (figure 21).

Most business don't sufficiently share data knowledge

Businesses have significant progress to make in other areas of data maturity too. Almost two-thirds (62%) of organisations do not have a comprehensive data knowledge repository that is shared by all employees (figure 22). Just over half (54%) have a data governance programme currently in operation, and about one in five (18%) lack any firm plans for a data governance programme (figure 23).

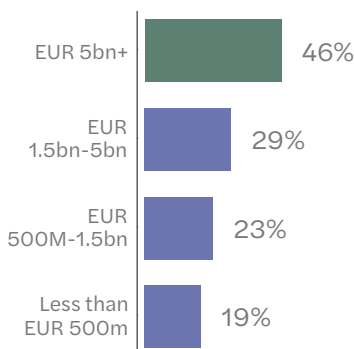
“Unsurprisingly, financial services and retail show the highest levels of maturity. It’s the nature of their business: they generate a ton of data and realised the importance of data analysis years ago.”

Patrick Zerbib
Partner, Mazars

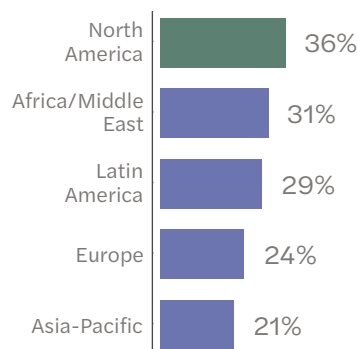
Figure 20 - Respondents that say their data is ‘fully centralised’

Percent of respondents

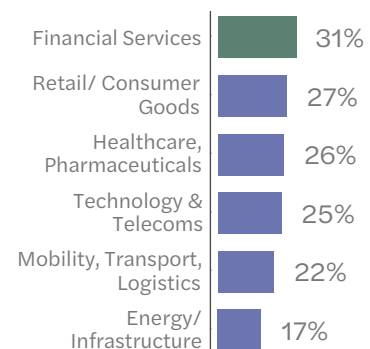
Annual revenue



Global region



Industry sector

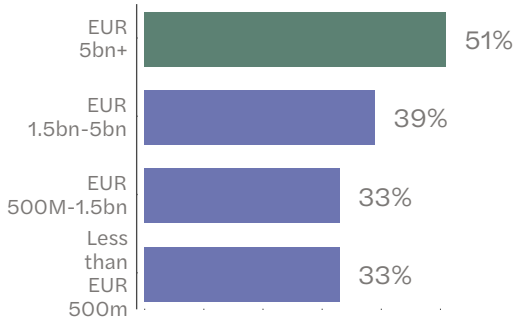


What is the level of data centralisation in your organisation? Revenue: <500m, n=450; 500m-1.5bn, n=306; 1.5bn-5bn, n=209; >5bn, n=146; Region: Africa/ME, n=65; LatAm, n=106; APAC, n=203; Europe, n=611; N. America, n=126; Sector: Energy/Infra, n=41; Mob/Logistics, n=65; Healthcare/Pharma, n=43; FinServ, n=253; Retail/Consumer, n=125; Tech/Telco, n=251

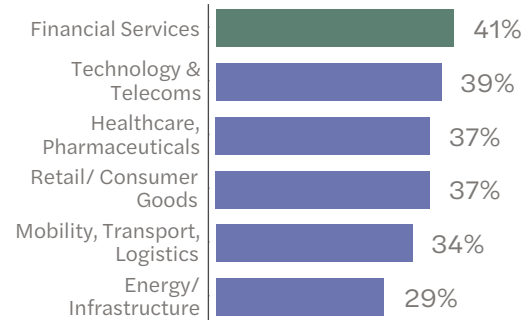
Figure 21 - Respondents that say 'Data is constantly available to anyone who needs it'

Percent of respondents

Revenue band



Industry sector



How would you describe your organisation's approach to using and controlling data? Revenue: <500m, n=450; 500m-1.5bn, n=306; 1.5bn-5bn, n=209; >5bn, n=146; Sector: Energy/Infra, n=41; Mob/Logistics, n=65; Healthcare/Pharma, n=43; FinServ, n=253; Retail/-Consumer, n=125; Tech/Telco, n=251

Figure 22 - Documents/tools for data management

Percent of respondents

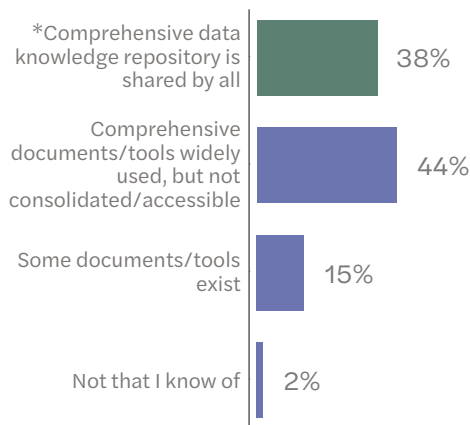
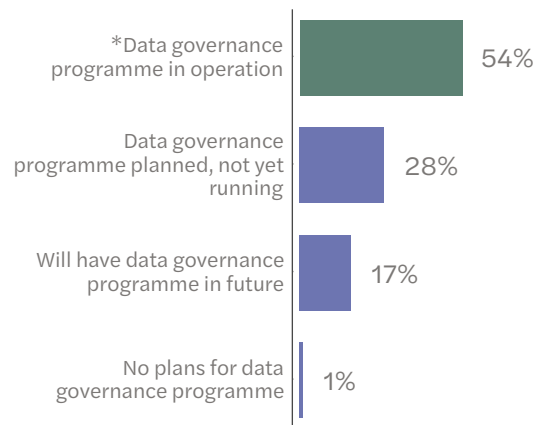


Figure 23 - Data governance programme

Percent of respondents



Does your organisation use any documents/tools that guide users on how to manage its data? Total, n=1,111

Which of the following best describes your organisation's programme for data governance? Total, n=1,111

* Best practice

Chapter 4

Like riding a bike: data maturity is all about mindset

Bridge the mid-management gap

Middle/senior management are less in touch with company data insights than top management or analysts. Just over half (56%) of middle managers have full access to company data and data insights, compared to 78% of their company’s top management/Board, and 68% of analysts and subject-matter experts (figure 24). This gap in the middle of the organisation chart also applies to using big data and analytics to inform decisions. Only 43% of middle/senior managers “always” use big data to feed into their decisions, lower than the 55% of top management and 53% of analysts who do so (figure 25).

The largest companies (with EUR 5bn+ revenues) are most likely to give their top management/Board access to data to inform their decision-making: 86% of their top leaders enjoy “full” access to insights. Companies in this revenue band are also most likely to have their decision-makers, at every level, “always” using data to inform their decisions; this statement describes 58% of top management, 51% of middle management, and 63% of analysts at the largest companies.

“To build a data-driven culture, a critical step is ensuring that all teams, at every level of the organisation, are data literate. But it’s more important still to ensure that senior leadership as well as middle management are truly engaged in the transformation.”

Véronique Beaupère
Partner, Mazars

Figure 24 - Level of access to organisation’s data insights

Percent of respondents

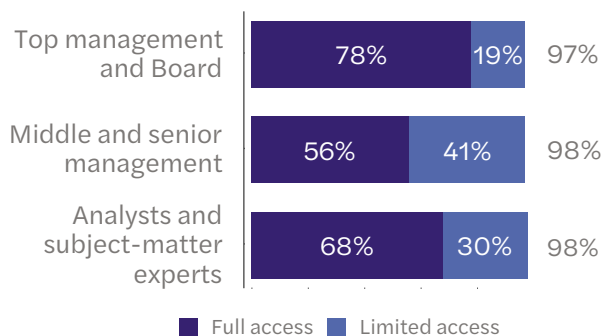
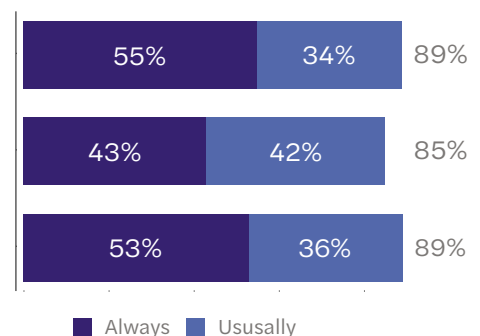


Figure 25- Big data and analytics inform decisions

Percent of respondents



How much access to your organisation's data and data insights do each of the following have? Total, n=1,111

To what extent do big data and analytics inform decisions made by the following groups of people? Total, n=1,111

Get all your heads in the game

The most valuable data projects don't owe their success to a CEO's strategy or an analyst's number crunching alone. Data projects are inherently complex: all kinds of employees from every department play a role to ensure or hinder their success – sometimes without even realising it.

No matter the leader's optimism about the data strategy they want to implement, if their teams don't see their vision or share their optimism, even the best laid strategy will be a long way from delivering value. A great data culture can help companies bridge this disconnect.

But a great data culture can't be built in a day. To get all of your teams thinking in terms of data – and get all of their heads in the game, so to speak – think in the long term and implement in incremental steps:

Ensure every member of your organisation is aware of the role they play in the data relay

Data quality is almost always the weakest link in a data project. This is often simply because the ones imputing the data aren't the ones using it to create value. An internal communications or training campaign can help everyone understand the important role they play.

Build on the human resources you already have

Training current staff and giving them new skillsets can help strengthen both your employer brand and your data culture.

Store the data that matters all in one place

Centralising your data will not only give you clearer oversight of compliance and privacy, it will also help you gain insight into how your data is being used so you can improve the experience. However, minimise your data to focus on quality, reduce your carbon footprint, and cut your overheads.

Make sure everyone can find and use the data they need

Make sure the same data accessible and available to everyone.

Véronique Beaupère
Partner, Mazars



Chapter 5

Run with it: data maturity is the key to growth

Data maturity means your teams have the tools and processes they need to leverage their collective intelligence, pass the relay from insight to action, and drive growth.

Growing companies are more data mature

Across multiple factors – including data centralisation, governance, quality and mapping – growing companies (those expecting higher revenues in 2021 than in 2020) are most likely to exhibit best practice. The more growth companies expect this year, the more likely they are to be data mature.

Companies expecting 20%+ growth are most likely (37%) to say that their data is “fully centralised in a shared location” (figure 26). There is also a strong correlation between organisations forecasting growth and having a comprehensive, shared data knowledge repository: almost half (48%) of 20%+ growth organisations say they have this, compared to only 26% of those with flat or falling revenues (figure 27).

Figure 26 - Businesses meeting best practice: Data ‘fully centralised’

Percent of respondents

Revenue expectations for 2021:

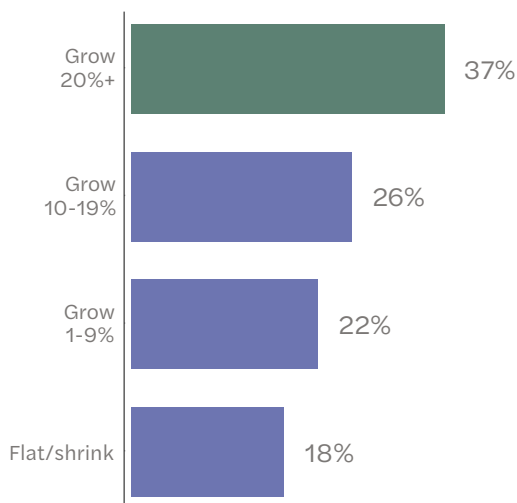
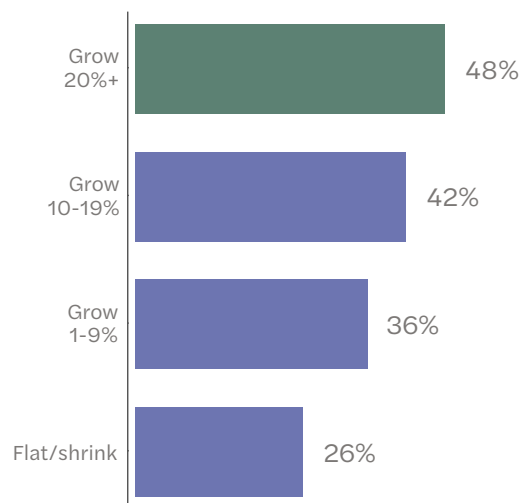


Figure 27- Businesses meeting best practice: ‘Comprehensive data knowledge repository is shared by all’

Percent of respondents

Revenue expectations for 2021:



What is the level of data centralisation in your organisation? 2021 revenue: Flat/shrink, n=252; +1% to +9%, n=332; +10% to +19%, n=239; +20% or more, n=277

Does your organisation use any documents/tools that guide users on how to manage its data? 2021 revenue: Flat/shrink, n=252; +1% to +9%, n=332; +10% to +19%, n=239; +20% or more, n=277

A data governance programme is key to growth

The same trend applies to data availability and data governance programmes: higher predicted 2021 revenue growth correlates with higher data maturity. Over half (54%) of data leaders from the fastest-growing businesses say that data is “constantly available to anyone who needs it” at their organisation (figure 28). Likewise, two-thirds (66%) of the fastest-growing businesses are currently running a data governance programme, compared to just 43% of businesses who expect their revenues to remain flat or shrink (figure 29).

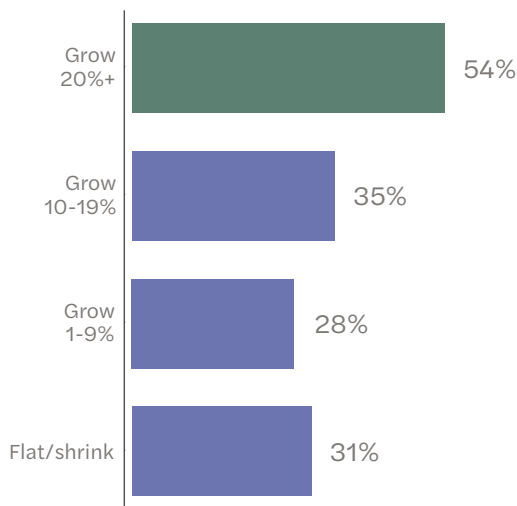
“Good data governance lets you catalogue your data and link it to use cases so that you can prioritise projects that will create the most value.”

Nicolas Quairel
Partner, Mazars

Figure 28 - Businesses meeting best practice: ‘Data is constantly available to anyone who needs it’

Percent of respondents

Revenue expectations for 2021:

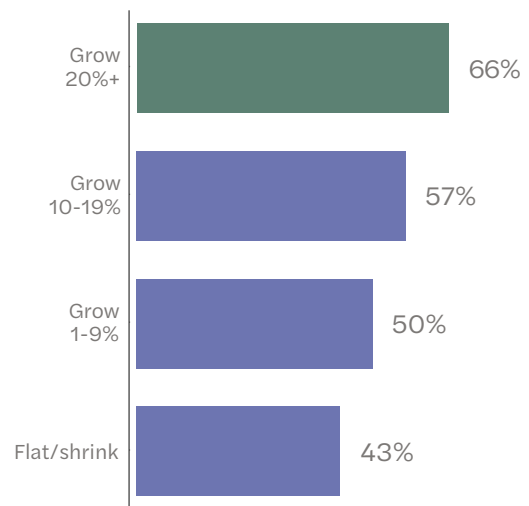


How would you describe your organisation's approach to using and controlling data? 2021 revenue: Flat/shrink, n=252; +1% to +9%, n=332; +10% to +19%, n=239; +20% or more, n=277

Figure 29 - Businesses meeting best practice: Data governance programme is ‘currently in operation’

Percent of respondents

Revenue expectations for 2021:



Which of the following best describes your organisation's programme for data governance? 2021 revenue: Flat/shrink, n=252; +1% to +9%, n=332; +10% to +19%, n=239; +20% or more, n=277

Chapter 5

Run with it: data maturity is the key to growth

Growing companies are also most proactive on monitoring and managing data quality. Among businesses predicting high revenue growth, over half (52%) say that their data is “monitored regularly, using a dashboard shared within the organisation” – compared to just 29% of those with flat or falling revenue (figure 30). Over half (51%) of fast-growing businesses have processes to fix data at the production/gathering stage, before it reaches users. This compares to only 27% of businesses expecting 2021 revenues to shrink/remain flat (figure 31).

“What’s the difference between Amazon and any other marketplace? They’re able to offer the highest speed and efficiency in terms of delivery and basket experience because everything is very precisely data-driven.”

Lazhar Sellami
Co-founder, DataGalaxy

Figure 30 - Businesses meeting best practice: ‘Data quality is monitored regularly using a shared dashboard’
Percent of respondents

Revenue expectations for 2021:

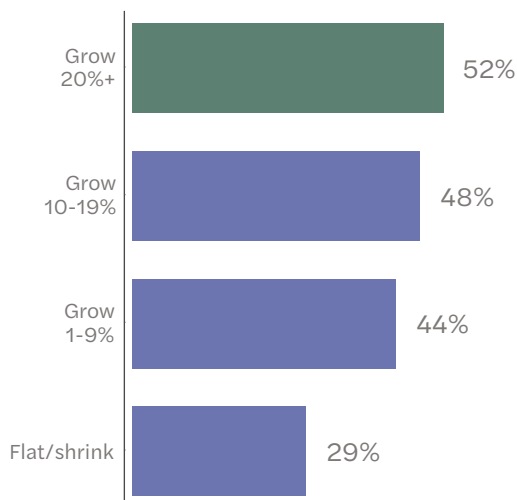
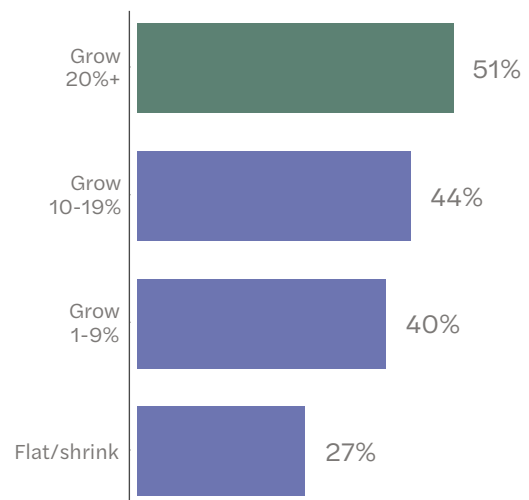


Figure 31 - Businesses meeting best practice: ‘Processes exist to fix data at the production/gathering stage’
Percent of respondents

Revenue expectations for 2021:



What are your organisation's procedures for assessing the quality of your data? 2021 revenue: Flat/shrink, n=252; +1% to +9%, n=332; +10% to +19%, n=239; +20% or more, n=277

How does your organisation usually fix any data quality issues? 2021 revenue: Flat/shrink, n=252; +1% to +9%, n=332; +10% to +19%, n=239; +20% or more, n=277

Data mesh to start with your finish line

What organisational objective do you want to achieve through data? Start by answering this question before identifying the use cases you want to develop or looking for the data you need to operationalise it. This kind of business-facing approach will help you use data strategically and drive greater value.

Data mesh is a new approach that will help you do just that. Its distributed model helps operationalised business data by linking each business line with the data that concerns it, and by giving business users the same access to that data.

What makes data-mesh different?

- Its distributed architecture lets all users access data where it lives, saving on the time it would take to transport it to a data lake or warehouse.
- Its federated governance means governance standards are defined centrally while delegating local domain execution.
- It ensures connectivity by giving technical and non-technical users alike easy access to data sets, avoiding costly data transfers.
- It's data-as-a-product approach gives domain-specific Data Owners the responsibility of handling and ensuring the quality of their own data pipelines, increasing agility.

More than ever, mature data governance will accelerate a paradigm shift.

Data mesh lets teams be more autonomous, more agile, and more efficient.

Nicolas Quairel
Partner, Mazars



Spotlight

Security check: your data might not be as well-protected as you think

Executives know that data protection is a critical issue. However, they overestimate their preparedness because they fail to grasp the complexity of the challenge.

Data protection and cyber security risks are seen to be increasing by a majority of businesses. Most say their data is completely protected, but a large number (40%) think it more likely than not that they will experience a significant data breach within the next 12 months. The survey shows some gaps in their data protection plans that they can fill, including employee training and awareness, and the rigorous, timed testing of incident recovery plans.

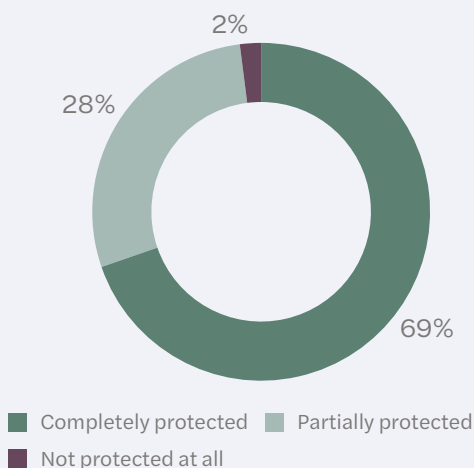
Over two-thirds (69%) of businesses say that their data is completely protected (figure 32), but two in five (40%) expect a significant breach to occur,

somewhere in their organisation, in the next 12 months (figure 33). This indicates that, as with data maturity relative to competitors, there are some companies whose perception of their own preparedness doesn't fully match reality.

One possible explanation is that data leaders feel that a "completely" protected company can still suffer data breaches, because the data protection risk environment is growing so quickly. Over half (55%) of data professionals say their cyber security risk has increased in the last year, vs. only 23% who feel their risks have reduced (figure 34).

Figure 32 - Self-assessment of organisation's data protection level

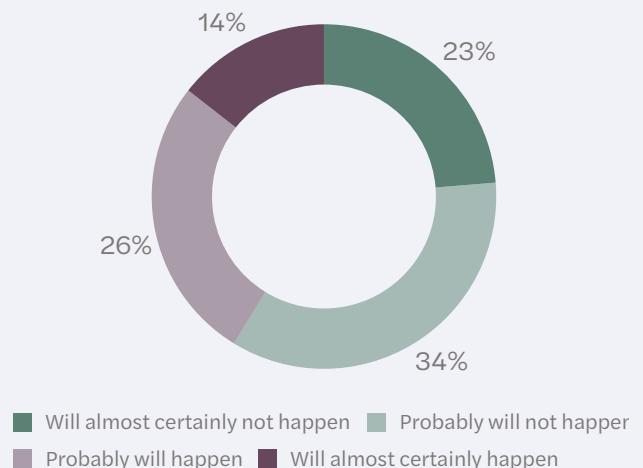
Percent of respondents



How well protected would you say your organisation's data is?
Total, n=1,111

Figure 33 - Likelihood of significant data breach in next 12 months

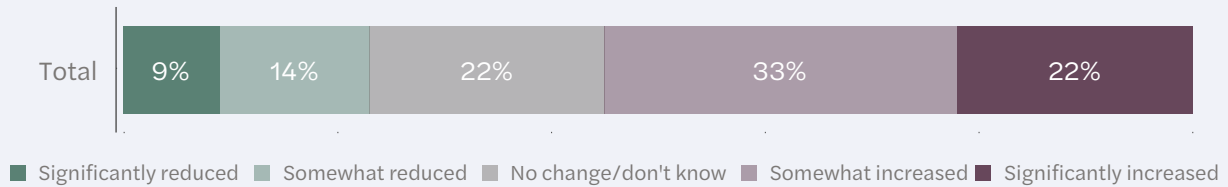
Percent of respondents



Roughly what is the likelihood of a significant data breach at your organisation in the next 12 months? Total, n=1,111

Figure 34 - Change in cyber security risk over last 12 months

Percent of respondents



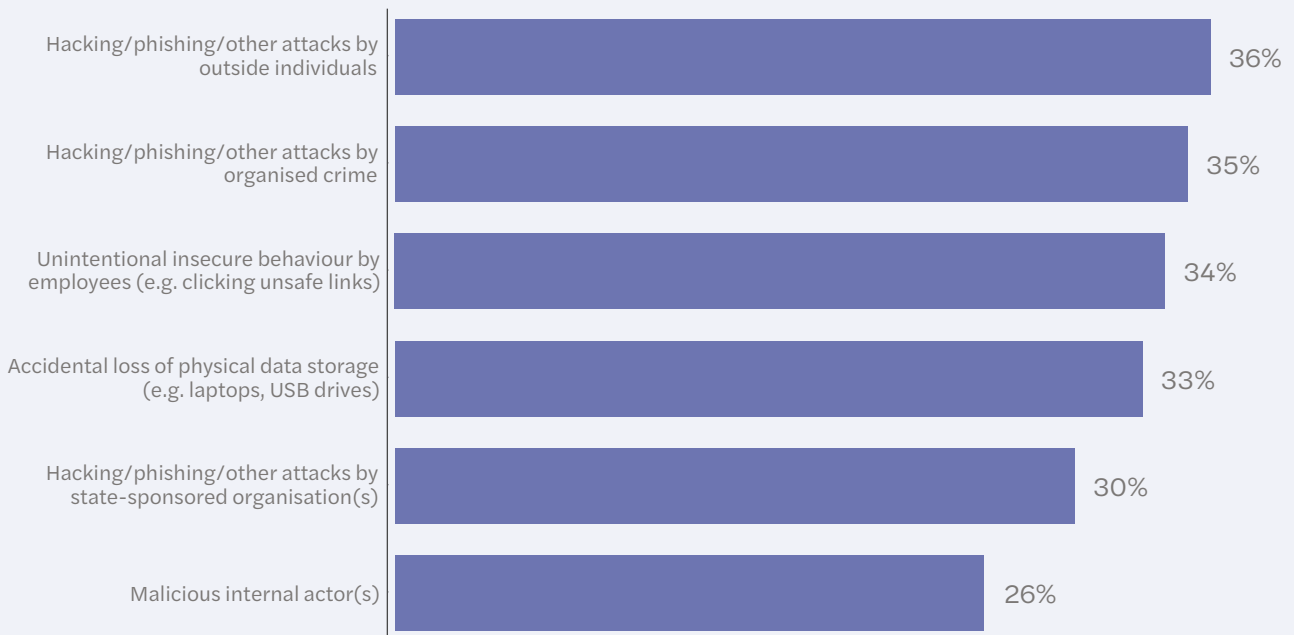
How has the cyber security risk to your organisation changed over the past 12 months? Total, n=1,111

Organisations know data breaches can be caused by a range of factors, most of which are assessed by data leaders as roughly equally likely to happen. Hacking, phishing or other attacks – either by outside individuals, organised crime or state-sponsored organisations – are perceived as likely by 36%, 35%

and 30% of data leaders respectively. Unintentionally insecure employee behaviour, such as clicking unsafe links, is perceived as likely to cause a breach by 34% of companies. One-third (33%) feel that employees accidentally losing physical data storage, like laptops or USB drives, is a risk (figure 35).

Figure 35 - Most likely causes of significant data breach

Percent of respondents



Which of the following are most likely to lead to a significant data breach at your organisation in the next 12 months? Please select two. Total, n=1,111

Spotlight

Security check: your data might not be as well-protected as you think

Better employee training and rigorous testing of recovery plans can plug gaps in cyber security

Most organisations still have some gaps to plug to fully protect themselves from data breaches. Less than two in five (39%) companies make sure all employees are formally, regularly trained in cyber security and data protection awareness – other businesses either train employees partially/ sporadically (56%) or have no formal programme at all (3%)(figure 36). Around two-thirds (68%) of businesses have tested, timed data incident recovery plans – meaning that around one-third are not fully prepared for this eventuality (figure 37).

“Regulations will not be limited to cyber security and privacy protection but also cover topics like data ethics, the use of algorithms, artificial intelligence, cloud services and data sovereignty. Depending on their sector or role in digital network organisations, businesses need to be prepared to show their compliance.”

Jan Matto
Partner, Mazars

Figure 36 - Data training level of employees

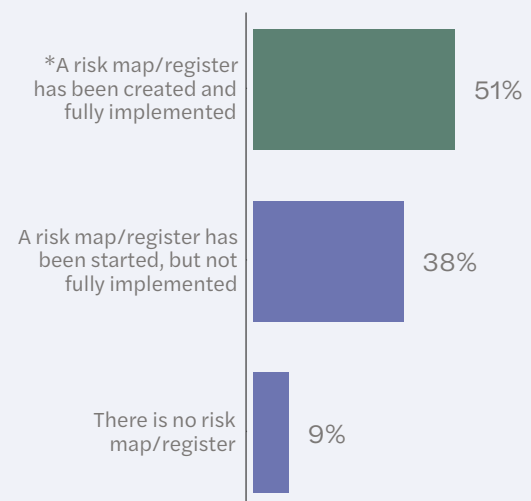
Percent of respondents



What awareness sessions and training for employees regarding cyber security and data protection does your organisation carry out, if any? Total, n=1,111

Figure 37 -Level of data-related incident recovery planning

Percent of respondents



Has your organisation created a data classification based on the sensitivity of the data processed and cyber risks (data risk map/register)? Total, n=1,111

* Best practice

Data protection in the year of digitalisation

In 2021, businesses shifted to remote work and digital systems and services faster than many of their leaders had thought possible. But, did the speed of this transformation come at the expense of security? In our increasingly complex business environment, the risks of a data breach will never be nil. But risks can be mitigated. Here are five keys to ensuring your data protection keeps pace with growing cyber risks:

Suppliers – As businesses use a host of new applications to store, explore and leverage their data, their digital ecosystems have grown. Protecting your data starts with a strong supplier management policy.

Mindset – Today, teams are also more likely to be using their personal devices and making use of multiple cloud services. Staff mistakes have long been the most likely source of data protection mishaps, and this risk has only increased. To manage these unknowns, ensure all of your teams are trained regularly on cyber-safe best practices.

Synergy – Being a digital business means that almost every decision will have an impact on data security. Meanwhile, as systems become increasingly complex, there's a growing knowledge gap between a business' leadership and its IT experts. There's an urgent need for more synergy and cooperation between IT and the business.

Responsibility – In today's complex world, one incident can impact an entire ecosystem of businesses and their suppliers. The societal and wider economical damage could be much larger than the damage to the individual business that is directly affected. Data protection is more than ever a social responsibility.

Foresight – In a sea of data, businesses need to know their actual cyber security risks and identify business-critical data so that they can segment accordingly and place the highest levels of protection around the most sensitive assets. But they should also be fully prepared for a range of incidents by not just making recovery plans, but testing them, too.

A malware attack can put an unprepared business out of commission for weeks. Be prepared and assess your risks periodically and make sure your IT, processes, and procedures are up to almost any challenge.

Jan Matto
Partner, Mazars



Conclusion

Most businesses have entered the data race by investing significant executive time, money, and staff effort in data projects. That investment will only grow in the coming year, and with good reason: data is seen as the biggest source of growth out there.

Businesses are racing towards data maturity

Businesses are investing more in data: a full 81% of businesses we surveyed are planning to increase their financial or human data resourcing over the next 12 months, while over two-thirds of businesses are planning new investments in AI, data science, analytics and business intelligence.

Their motivations are clear: some 42% of data leaders say that data will be key to growth over the next ten years, rating it as more important than any other business factor. Similarly, 37% of data professionals highlight big data as a key factor in the effectiveness of their operations over the next 10 years, behind only effective IT systems.

Many businesses are not as close to reaching data maturity as they think

Nevertheless, our results also show that many businesses aren't as prepared for this race as they think they are. While more than 80% of respondents believe they're more data mature than their competitors, less than half (43%) meet best practice when it comes to data quality. For example, around 60% of businesses rely on their data users to fix quality issues themselves – or can't fix them at all.

Failure to plug data quality gaps in particular may undermine the investments in sophisticated data tools like AI which many businesses plan to make. Such tools rely on high-quality data to create value.

Data maturity is key to growth

Meanwhile, high data maturity is likely to underpin the success of companies gaining a competitive advantage through data. Across multiple factors – including data centralisation, data governance, data quality and data mapping – best practice is associated with growing companies. This link implies that high data maturity could be a factor in their confidence and commercial success in the coming years.

In addition, the data protection environment will become even tougher for businesses to navigate. Over half (55%) of data professionals say that their data protection risk has increased in the last year. Two in five think a significant breach is likely in the next year – and threats can come from anywhere, including careless employee online or offline behaviour.

So, is your business as data mature as you thought?

While our research reveals the overwhelming confidence that business leaders have in their data maturity, it also shows that many are too confident. Indeed, most businesses fail to meet best practice on a range of topics, all critically important to data maturity. Like training for the Olympics, reaching data maturity is a long and complex journey that demands high levels of commitment – this is something that some leaders fail to anticipate or realise. That said, this research also identifies several data maturity gaps that businesses can work to bridge to better leverage their data investments and drive growth.

We hope this study has inspired you to re-focus your data journey, bridge your best practice gaps, and map a clear path towards data maturity.

Appendix

Methodology

Mazars, in partnership with GQR Research, surveyed 1,111 senior data governance, data management systems and/or data quality control professionals. Fieldwork was conducted online between 12 July and 2 August 2021.

Region		Annual revenue		Industry		Ownership structure	
Europe	611	<EUR 500m	450	Financial Services (inc. Banking, Insurance, Asset Management)	253	Privately owned	832
Asia Pacific	203	EUR 500m – 1.5bn	306	Technology & Telecoms	251	Publicly traded	279
North America	126	EUR 1.5bn – EUR 5bn	209	Retail & Consumer Products	125		
Latin America	106	EUR 5bn+	146	Mobility, Transport & Logistics	65		
Africa & Middle East	65			Healthcare, Life Sciences, Pharmaceutical	43		
				Energy, Infrastructure & Environment	41		
				Other industry	333		

Figures shown are absolute numbers of respondents.

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