

PREDICTIONS 2021: HOW TO MAKE THE MOST OF THE YEAR AHEAD >X

Predictions 2021

Five data and analytics
trends to watch

Exasol
The analytics database

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Looking back: 2020 the year of resilience and adaptability

Hindsight is a wonderful thing. And we don't need to tell you 2020 hasn't exactly panned out as expected for anyone – let alone the tech industry. But one undeniable trend this year is how being able to make critical decisions at lightning pace, stay agile and summon vast amounts of resilience are crucial for your organization's long-term survival.

With that in mind, we take a look back at where the smart investments in both data technology and culture have been this year – and uncover the five trends we think will continue to be safe bets for your strategy in 2021. The ability to act quickly and adapt proved crucial as organizations around the world faced severe restrictions and a series of lockdowns. For organizations in hard hit industries, such as travel, tourism and hospitality, the goal was simply to stabilize the business. While others, such as gaming and e-commerce, took the opportunity to accelerate online capacity and improve digital products and services.

This became a perfect storm of market conditions for some fundamental business changes with one consideration proving critical - the ability to harness digital technology effectively. Indeed, it has pushed businesses to an inflection point where embracing modern technology is no longer an option but an absolute necessity.



WHAT WERE THE KEY TRENDS OF 2020?

Looking back: 2020 the year of resilience and adaptability

Among the disruption, three key trends stand out:

#1 The acceleration of digital transformation

The pandemic forced all of us to go digital in a massive way. Recent data [from Gartner reveals](#) we fast-forwarded around five years in consumer and business digital adoption in a couple of months during the early stages of the crisis. This has laid the foundation for further investments as organizations secure their ability to conduct business over the internet and bake resilience into the business for any further lockdowns.

#2 The changing nature of work

Our reliance on technology during the pandemic has helped normalize remote work and caused many organizations to consider a 'hybrid' way of operating. This shift is expected to go hand-in-hand with a change in how technology, and in particular AI, is used. It will allow new working processes and patterns that optimize the relationship between humans, data and AI, delivering improved productivity and better, faster, more informed data-driven decisions.

#3 Societal change influencing consumer values

2020 was punctuated by wide-ranging health and economic impacts, but it also saw social unrest and concerns about climate change grow. These wider societal impacts are hard to ignore especially when combined with the influence of public values on customer choice and perception. The net effect saw certain businesses take greater responsibility for [delivering social value](#) and elevating its role within wider decision making.

Data and analytics take center stage

Amid all this uncertainty, the use of data and analytics emerged as a powerful tool for resilience, allowing businesses to:

- Account for fluctuations in demand – as supply chains became disrupted data was used to trace supply networks and gain visibility into supplier performance
- Forecast the pandemic's impact – data provided a valuable resource helping organizations understand how to adapt operations, forecast demand, re-assign staff and redesign business models
- Understand new customer behavior patterns – data revealed new patterns of consumer behavior around demand, spending, product mix and digital journeys

The crisis delivered a shock that few organizations were prepared for. Yet for those who managed to navigate these uncharted waters, data and analytics proved to be an essential tool. What's more, these capabilities were delivered in a matter of weeks in some cases rather than months or years as has become customary.

This progress puts leaders in a better position to embed data and analytics more deeply across the organization and tap the inherent value waiting to be unlocked. No organization wants to go back to previous ways of working.

Predictions for 2021 – the five trends that are here to stay

The pandemic's most enduring impact will be as an accelerant. While it definitely will change the dynamics of how businesses operate and the direction of certain trends, the pandemic's primary effect has been to accelerate existing dynamics in the data and analytics market.

So, where is all this leading – and is it pointless trying to guess? Well, despite being firmly rooted in the stark reality of the present, we can clearly see five trends which will take hold in 2021:

#1 Diversity and ethics will challenge the role of the Chief Data Officer (CDO)

In 2021 we predict CDOs won't just bear responsibility for managing and securing data, they'll also play a vital role in setting the data ethics strategy. This is a move that will be driven by increased concerns from consumers, regulators and legislators over the misuse of data; but also because it makes good business sense especially when retaining customers' trust post-crisis, remains paramount.

With CDO appointments on the increase there's a far stronger case for these rising stars to take center stage for influencing and shaping ethical standards too. One of their most important responsibilities will be to tread

the line between trust and data innovation, a role that will come under greater scrutiny with the increasing use of AI and machine learning.

What will this look like?

Apart from overseeing how data is collected, safe-guarded or shared – the CDO is likely to play a bigger role in defining how a company's values and culture, beyond its legal obligations, are reflected in data's collection and use. One example where this will be evident is where greater attention will be paid to collection and use of diversity data used in AI models, as

organizations work towards their own aims on equality. High profile examples of unintended bias in AI models has shone a spotlight on the lack of transparency in certain data and analytics practices and CDOs have taken note.

In the year ahead, we expect CDOs to be challenged with a growing list of priorities that require attention, each demanding a unique blend of skills. Some may struggle with this in the short term. But in the long run we predict this may lead to the creation of Chief Ethics Officers especially in High Tech and regulated industries given the increasing prevalence of data-driven business models.

#2 Cloud expansion increases opportunities for data democracy

In the year ahead we expect greater investment around data democratization as organizations tap into the potential of faster than predicted cloud adoption as a direct consequence of the pandemic. Indeed, research we released shortly before the COVID-19 crisis fully took hold, saw 58% of organizations wanting to increase access to data across their workforce. And this shows no signs of slowing down.

With rapid cloud adoption becoming a catalyst for data democratization we can expect to see organizations do three things:

- **Increase access to consistent and secure data**
- **Incentivize data sharing**
- **Make a more concerted effort to put insights in the hands of everyone – rather than just senior decision makers**

What will this look like?

The move to the cloud (hybrid, public, private and multi-cloud) has been unstoppable and holds true for data and analytics organizations too, as they utilize its scale, performance, cost effectiveness, and ability to support access to distributed data stores.

That said, data democratization requires more than just technological change – it demands a shift in behavior. This means 2021 could see a wide-spread drive across industries to foster a better data culture and form new organizational behaviors, supported in part through self-service analytics and improved data literacy programs. At the same time, cloud technologies improve the economics of data availability providing a way of reducing data silos and enabling the real time analysis of billions of rows and petabytes of data. These will be important considerations for organizations needing to expand access to data and analyze it from anywhere – including on-premises and in the cloud– while bringing analytics to where it is located.

Data democratization in action – Revolut

“We wanted to ensure everyone has access to the data they need for their daily work in a simple and efficient manner, and Exasol has helped us achieve that. We are an extremely data-driven company. We maintain around 800 dashboards and run around 100,000 SQL queries on a daily basis across the organization.”

To address this problem, Revolut chose a high-performance in-memory analytics database running on Google Cloud Platform. “Queries that used to take hours are now completed in seconds.”

Demeter Sztanko,
Head of Data Engineering at Revolut.

#3 Automation will bring greater agility to data teams

In 2021, organizations will increasingly look to automation as they strive to improve the speed and agility of data teams. Many organizations currently find themselves in the 80/20 trap. This is where 80% of the data delivery effort is spent on organizing and preparing the data, with only 20% committed to analyzing and maximizing its use. Worse still, the need to manually manipulate data can lead to lower data utilization rates.

Motivated by the need to rebalance this effort, data teams will be tasked with ensuring greater efficiency and improving the ROI of investments related to data delivery. A key focus area will be the reduction of manual tasks by orchestrating mundane activities and leaving higher level work to humans. As a result, this will lower the barriers to entry for less technically adept users.

What will this look like?

Data management automation simplifies operations by utilizing advances in machine learning and AI engines to improve the speed, accuracy and performance of certain tasks. This means in 2021 we expect projects or initiatives where automation addresses the biggest pain points in the data supply chain to be prioritized. This will incorporate projects such as data ingestion, metadata management and database tuning and configuration.

While automation cannot fix poorly managed data, it brings potential benefits. Improved processing and throughput times, reduced errors, enhanced productivity – and labor savings where manual repetitive tasks are removed, can all have a positive impact on an organization. This will be especially true when organizations are dealing with large volumes of distributed data which need to be sourced, transformed and analyzed in increasingly shorter cycle times.



IN 2021, ORGANIZATIONS WILL INCREASINGLY LOOK TO AUTOMATION AS THEY STRIVE TO IMPROVE THE SPEED AND AGILITY OF DATA TEAMS.

#4 AI and collaborative intelligence for decision-making

AI is a human story as much as a technology one. And next year we predict we'll see more and more of what we term collaborative intelligence – combining human expertise and AI as we shift toward deeper data-driven decision-making.

While the concept of machines augmenting human activity has been with us for some time, a significant change in working patterns combined with increased pressure to support faster and higher quality decisions when adjusting to rapidly moving situations, means we expect to see further experimentation and investment in 2021.

It's also a notion that will gain greater credence in a tough economic environment where AI will not only alter how work gets done and who does it, but where it is used to complement and augment human capabilities, not replace them.

What will this look like?

We expect collaborative intelligence to be focused on increasing the quality of work and employee productivity by either freeing up people to focus on higher value, more human-led tasks or by finding new ways of orchestrating how tasks are performed.

As more organizations use AI and machine learning to assist human thinking, planning and other forms of data-driven decision-making, it will go beyond simply automating parts of the process. It'll be about pairing human experience and judgement with technology as a means of extracting maximum value from data – while mining the potential for human leadership, creativity and empathy. In short, organizations benefit from optimizing collaboration between humans and AI by enhancing and complementing each other's strengths.

One area where this will be pertinent is employee and customer interactions, where making the right decision can have a huge impact on the bottom line. We therefore expect to see collaborative intelligence help optimize and enhance aspects of customer communications in high value areas such as fraud detection, customer service and issue handling for example.

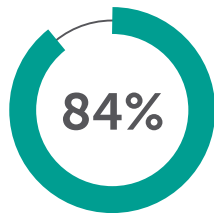
This transition will also call for better skills preparedness as employers upskill and cross-skill staff to get the most from the technology and encourage many more of our desired human traits.

#5 Data storytelling will grow as a way of elevating data literacy programs

A digital business needs to be data-driven. And that's not just about technology. It means making sure your employees understand the value of data and know how to best use it – otherwise known as data literacy.

While data literacy is gaining ground, especially in organizations with a CDO, overall literacy levels remain relatively low. This is backed up by the findings in our report, '[Accelerating data-driven decision-making: 5 ways to turn crisis mode into business as usual](#)'. In this study, the vast majority of organizations (84%) agree that it would be beneficial for their organization to improve data literacy across their workforce.

That said, training and education, issues around data culture and access to resources are common organizational barriers.



SAY THEIR BUSINESS WOULD BENEFIT FROM IMPROVING DATA LITERACY LEVELS

What will this look like?

In 2021, in an effort to plug this data literacy shortfall, committed organizations will consider introducing data storytelling projects to accelerate and improve their data literacy programs.

Storytelling involves using our innate ability to learn through narrative to uncover data insights, which spark conversations and curiosity among data communities and bring data to the forefront of more decisions.

Beyond just communicating insights more effectively, data storytellers will help evangelize the importance of data across an organization, by actively demonstrating how it can significantly influence a business decision or action.

The desired effect is that these activities help ensure data and its importance become more deeply ingrained in ways of working and a regular topic of conversation. Importantly, because humans love good storytelling this activity is likely to resonate with those less well versed in data practices – thereby increasing its use throughout the organization.

In 2021 we expect many more organizations to identify internal candidates as data storytellers. As the mix of excellent communication skills, business acumen and technical expertise is often hard to find, many companies will overcome this by creating their own programs to train candidates.

"Some of the most successful organizations I've seen use data as part of their business strategy have had a CDO who recruits what we could call 'data citizens' in different departments, to make the tactical use of data more entrenched across the organization. By doing this, they make data an open, useful tool, rather than a confusing gated asset that can only be accessed by a few who are able to navigate the logistics of decoding data."

Caroline Carruthers,
data champion and author

So where next?

As always, all of these predictions are only as good as the data. And in what's been one of the most challenging and uncertain years in living memory for many, we completely understand the need to rebuild and take stock.

But after the initial shock of 2020 we feel these trends will gain traction. Many of these trends will crossover so there are some final steps to bear in mind to take on 2021 positively:

- **Don't tackle these trends piecemeal** – many of these trends will influence or rely on others, so taking any of them on will require bigger thinking
- **Get your data strategy right first** – before taking any tactical decisions it is essential that a clear data strategy is in place, aligned with the objectives of the business. Without this there will be limits to how effectively data can be used
- **Address the human side of data analytics** - unless people are convinced by the need to adopt a data-driven way of working, and are comfortable with the tools used to make this a reality, any data strategy will be negatively impacted

Even as we go into another uncertain year, we can perhaps take comfort in how our industry has come together. If we can learn one thing to help us in 2021, it's that we now have both the technology and human ingenuity in place to not only cope with unexpected crises, but really use data to build a better future.

About Exasol

The Exasol high-performance analytics database is built to run faster than any other database, delivering next-level performance, scale and ease of use. Analyze billions of rows in seconds; run high-performance analytics securely in the cloud or on-premise; deliver frictionless analytics with self-indexing that automatically tunes performance; and scale out analytics for one transparent price.

[To learn more about Exasol please visit www.exasol.com](http://www.exasol.com)



CONTACT US TO SEE HOW WE CAN HELP YOU TAKE ADVANTAGE OF THESE TRENDS IN 2021.

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