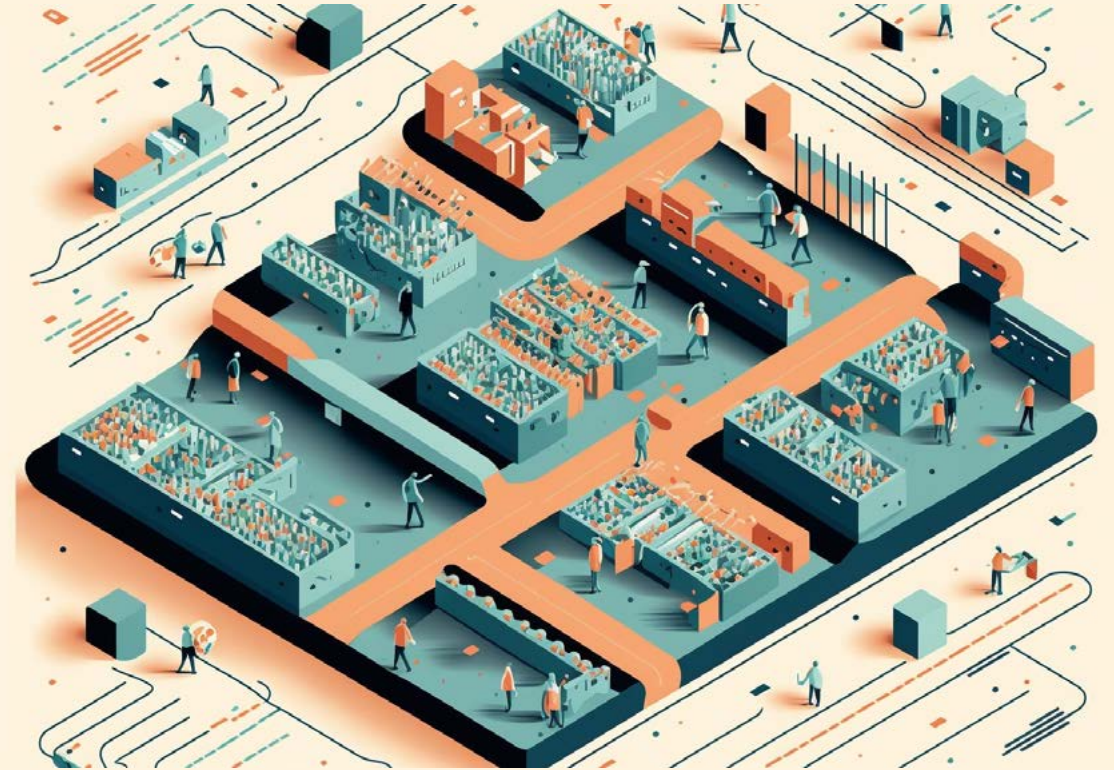


DATA AND ANALYTICS TRENDS FOR 2023

Building technology-driven and business-focused data organizations



The world as we know is changing every moment and there is terabytes of data being generated in each of those moments. Our personal devices are generating that data and so are the vehicles that we use for a commute, that smart light in your home or that microwave that you just used to heat that meal, all of them are generating data. It wouldn't be wrong to say that if that data were to take a physical form, we might be submerged by it in a few seconds.

We have also witnessed a transition from **"Where's the data?"** to **"What are we doing with all this data?"** Technological and data processing advancements at the beginning of this decade are maturing into being governed by standardized data principles and as more data is generated, the need to bring in automation has become more apparent. Who wants to keep working pivots on a spreadsheet anymore when the spreadsheet itself runs into huge data sets!

The questions that the enterprises must ask from their data organizations should be forward-looking with a view over the next 5 years, beginning with the immediate trends that will show up in 2023.

Based on our experience with multinational clients across diverse industries, we present to you the 5 Trends in Data Analytics for 2023.

We are always up for a good discussion and if these trends ring a bell or if you believe that there's more to data analytics, artificial intelligence and machine learning, contact us and we'll get the discussion going.

Trend #1

COST OPTIMIZATION

When the macroeconomic indicators begin to show red flags, the immediate impact is felt on the workforce. As we moved into the end of 2022, the news about massive layoffs has started doing rounds. Deep-funded start-ups have started to consider profitability as a major metric to track and achieve. While on the other side of the spectrum, fiscal tightening has begun to show up at established firms. Identifying excessive spends, rationalizing customer engagement and marketing budgets and focusing more on generating revenues – we’re seeing all of these play out in front of us.

With the changing business and macro-economic indicators, businesses will focus more on cost optimization, and it will be a priority for businesses as they strive for growth in 2023. But how can businesses optimize costs without losing out on innovation and revenues?



Trend #1

COST OPTIMIZATION

The answer is in a time-tested word – efficiency.

In 2023, businesses will go back to the basics and bring in more process efficiencies. This efficiency across business functions would require their huge data sets to be processed and analyzed to present better insights in such a changing scenario. Businesses will require machine learning models that factor in external influences on businesses performance such as varying lending rates, inflationary trends, supply chain disruptions and changing market conditions.

But what must businesses do if they haven't already invested in such a data analytics setup? Are they doomed to fail? Certainly not! Contrary to popular belief, setting up a data analytics organization within the enterprise isn't an expensive proposition in the long term. It's even more cost effective if the data available with the enterprise is well-structured and ready to be processed with minimal data

cleaning. What they require is a robust data analytics approach that addresses their business needs and is not an overkill, creating a case of far too much for far too less data.

In 2023, businesses will focus on higher efficiency and getting done more from their existing technological stacks, investing in areas such as data analytics, that will impact the bottomline in a positive manner.

Trend #1

COST OPTIMIZATION

How enterprises can benefit from this trend

Investing in technology for future growth

Better control over their expenses

Better insights through data and analytics

How big an opportunity does cost optimization through technology, hold for your enterprise?

	Small enterprise	Mid-sized enterprise	Large enterprise
Data strategy	●	●	●
Data-driven decision making	●	●	●
Modern data stack	●	●	●
Data quality and governance	●	●	●

● High impact

● Medium impact

● Low impact

Trend #2

STEPPING UP THE TECHNOLOGY

Technology has at most times been an enabler in the growth of the humans, except when used for nefarious means, but let's leave it to the geopolitics of it. As businesses grapple with a slowing down of consumption across the developed world, they would not be looking for a labor-intensive solution. Nor would they be looking for point solutions that solve just the immediate business problem. **They would be on the lookout for technology solutions that can solve problems that they have foreseen but not yet dealt with.**

Businesses will require technology that will get them access to actionable data quicker. This also means that the quality of data being processed should be free of errors and of much higher quality than what is available at a larger scale. This access to data will also help businesses decentralize decision-making, and bringing in ownership of outcomes not just at the top echelons of the organization, but also at the ground-level where customers interact with the brand.



Trend #2

STEPPING UP THE TECHNOLOGY

Think shopfloors, retail stores, shop-in-shops, etc.

For instance, a store manager would be able to take a call on pricing based on the buying behavior of the customers. They would be able to promote an in-store discount if the levels of fresh produce are high towards the end of the day, this is especially important, in case of perishable goods.

If a technology solution is scalable, can address changing market dynamics, and can make sense of humongous data being generated every day, that is what the businesses that want to thrive in the future, would be looking at. Building technological superiority, contrary to prevalent belief, is not a quick solution. Businesses that have been investing in technology over the years would gain much more turf than those who have been, to quote industry analysts, laggards. And it is

not just a technology-related question.

As organizational structures evolve, we envisage more businesses giving a more structured access to decision-making powers to business groups within the enterprise. While on the face of it, it means higher risk in the overall traditional business scenario, when these decisions are backed by data analytics through proper data governance strategies, the gamechangers will unravel themselves.

According to a Gartner report, through 2023, 50% of chief data officer (CDO) appointments will lead to the CDO being an internal service. That's the focus that data would have in growth enterprises.

Trend #2

STEPPING UP THE TECHNOLOGY

We believe that businesses will continue to invest in upgrading their technology stack, giving their people access to more refined data to make more informed decisions.

If the macro-economic indicators go the way they have been predicted to, technological superiority will be a key differentiator between businesses that grow in a relatively unfavorable environment than those who continue to just maintain their legacy systems.

Trend #2

STEPPING UP THE TECHNOLOGY

How enterprises can benefit from this trend

Quicker access to actionable data

Decentralised decision making

Better understanding of consumers

How big an opportunity does investing in technology, present for your enterprise?

	Small enterprise	Mid-sized enterprise	Large enterprise
Democratise data	●	●	●
Data-driven decision making	●	●	●
Data quality	●	●	●
Process efficiency	●	●	●

● High impact ● Medium impact ● Low impact

Trend #3

BUILDING WITH THE ECOSYSTEM

Gone are the days when the entire technology stack of a growing business was built on just one or two technologies. The limitations of these technologies have spawned new frameworks, methods and process flows to address specific needs of specific industries. There was a time when most processes were borrowed from the heavy manufacturing sector as it was the largest of them all. But not anymore. The ecosystem has evolved and how!

So, what is this ecosystem?

It's a merry coming together of technologies, services, skills, and ideas like never before. The API economy has brought disparate data sources together to present a cohesive picture. But every enterprise cannot invest in human resources that possess specific high-value skills – they would be moving away from what they do the best in their respective industries.



Trend #3

BUILDING WITH THE ECOSYSTEM

In a world moving towards artificial intelligence and machine learning, there is a paucity of a knowledgeable talent pool that has built systems that work like magic. Whether we believe in magic or not calls for a separate discussion, but we believe in the power of technology and the evolving technological ecosystems across the world.

We believe that Centers of Excellence (CoEs) will lead the way to breakthrough growth for enterprises. These CoEs aren't just technological powerhouses, they are business powerhouses. They bring in a holistic approach to the businesses by integrating the ecosystem of developers, technology architects, business consultants, industry operations professionals and human resources leaders to establish a small but quickly scalable footprint for the enterprises. These CoEs will perform two major functions – support the enterprise's larger footprint for their data analytics needs, and

build next-generation solutions that can be rolled out across the geographies that the enterprise is present in.

At Prescience, we bring together data analytics, data engineering, artificial intelligence, machine learning, data visualization and an understanding of the business landscape across industries through business consultants. In a way, we have built and nurtured this ecosystem and now, it's available to businesses that want to scale and thrive, without losing sight of their main goals.

Large to medium-sized businesses will explore niche players in the ecosystem for their technology-driven business needs to optimize their operational costs.

A dependable partner that provides both data analytics consulting and execution, will be a key asset to business growth in 2023.

Trend #3

BUILDING WITH THE ECOSYSTEM

How enterprises can benefit from this trend

Quicker access to skilled talent

Much lower time-to-market

Access to latest technology

How big an opportunity does building with the ecosystem, present for your enterprise?

	Small enterprise	Mid-sized enterprise	Large enterprise
Scaling up	●	●	●
Business agility	●	●	●
Modern data stack	●	●	●
Best-in-class talent	●	●	●

● High impact ● Medium impact ● Low impact

Trend #4

DATA QUALITY AND GOVERNANCE

Let's talk about the elephant on the screen – the cost of managing bad data. An enterprise gets data from various sources, internal and external. For instance, the external data could be in the form of leads from a marketing campaign. And we all have been through the rigmarole at least some time in our professional careers, exasperated at the erroneously filled information, numbers in place of characters and vice versa, and we haven't yet gone into the quality of data!

Similarly, data from internal sources such as store-level sales data, inventory information, data from supply chain pipelines, etc. are all usually not standardized. And every piece of bad data that gets into your insights-generating application ensures that your insights lack the accuracy that they must deliver.



Trend #4

DATA QUALITY AND GOVERNANCE

That's the importance of ensuring Data Quality in the data stack. A recent report states that Data Integration and Quality tools will reach a scale of \$1.2 billion globally by 2028. It is our belief that the overall cost savings through such an investment should lead to at least 3 gains for enterprises, if not more. Data Quality cannot survive on its own without the principles of Data Governance. Businesses will need to figure out how their datasets are managed efficiently, so that insights from them can be generated on-the-fly and not in a week or two.

In fact, more than 50% of time and resources are spent on Data Engineering and Management i.e. getting data ready for insights. With data landing from several different systems at a faster velocity, businesses will need even more support from data engineering to derive insights and value from data. If they don't do that, the

probability of gaining valuable insights from data go down exponentially.

If data is so important, does that mean that data engineering solutions should be built in silos? Absolutely not. Data engineering solutions that encompass Data Operations, Data Management and Governance and Quality provide validated data that help data scientists deliver actionable insights to business users, play huge role in creating business value from data. Moreover, such solutions must be designed in a plug and play manner, so that they fit into the enterprise technology stack irrespective of which stack is being used.

This trend is a great opportunity for enterprises to double down on the sanctity of their data. It is even more important to maintain proper data in fragile macro-economic conditions as this can be the key

Trend #4

DATA QUALITY AND GOVERNANCE

differentiator when business decisions are taken.

Are all decisions data-driven? No, but data wields an important influence over these decisions. **In 2023, if you have an artificial intelligence and machine learning strategy without a data strategy, you are doing an unimaginable disservice to the possible return of investment that you can get from investments in data engineering and technology.**

Trend #4

DATA QUALITY AND GOVERNANCE

How enterprises can benefit from this trend

Ability to get complex insights

Reaping dividends from data

Derive better value from investments

How big an opportunity does data quality and governance, present for your enterprise?

	Small enterprise	Mid-sized enterprise	Large enterprise
Decision-making	●	●	●
Cost optimisation	●	●	●
Data monetisation	●	●	●
Regulatory compliance	●	●	●

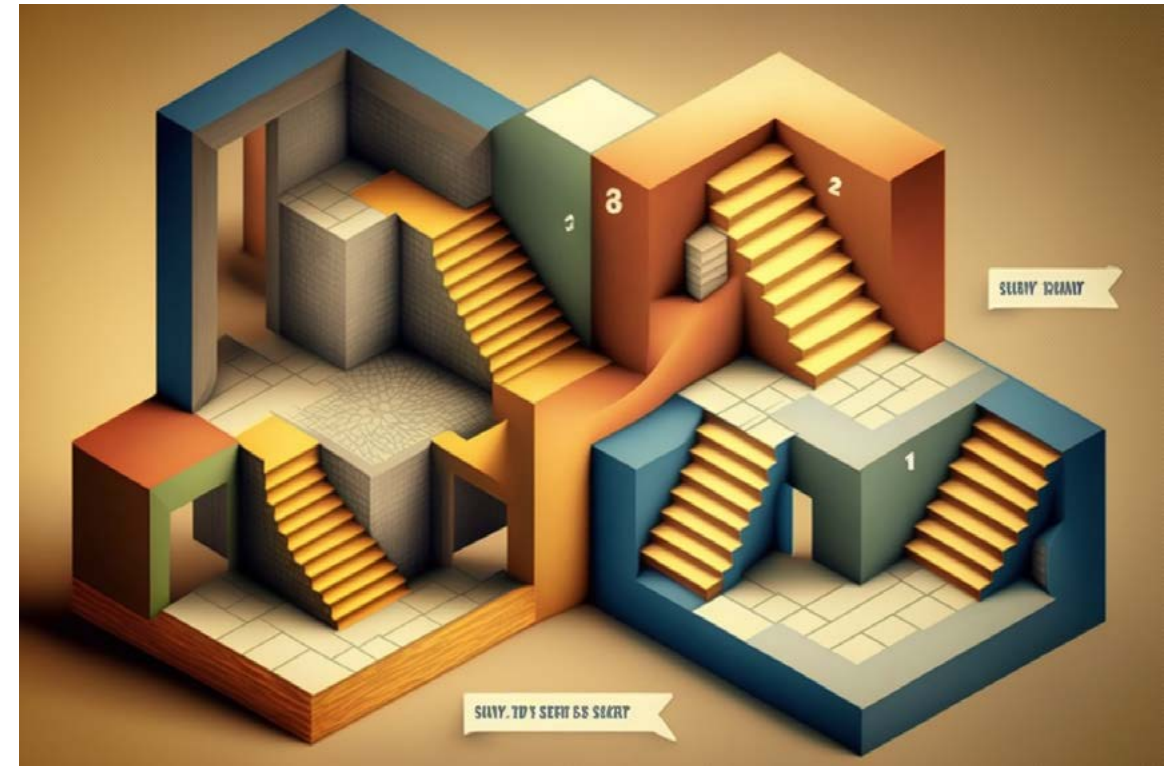
● High impact ● Medium impact ● Low impact

Trend #5

BUSINESS BACKWARD APPROACH

This one is quite close to how we work at Prescience, and it would be heartening to see this approach being taken up by businesses. The Business Backward Approach keeps the business goals at the forefront and begets the question – what would it take to achieve these goals? Ask relevant questions to build a technology framework that works to solve complex business problems.

We hope to see businesses identifying the correct business problem and evaluate the value proposition that artificial intelligence and machine learning, coupled with data engineering, bring to solve it. Once the businesses begin to take this approach, they will be faced with questions about the next steps in the journey. **The answers are simple – build solutions and frameworks, structure conversations around solving the business problem, build the team to execute the solution and leverage the power of the ecosystem.**



Trend #5

BUSINESS BACKWARD APPROACH

How enterprises can benefit from this trend

Better decision-making

Robust frameworks and solutions

Business problem-driven solutions

How big an opportunity does business backward approach, present for your enterprise?

	Small enterprise	Mid-sized enterprise	Large enterprise
Decision-making	●	●	●
Business agility	●	●	●
Process efficiency	●	●	●
Data strategy	●	●	●

● High impact ● Medium impact ● Low impact

In 2023, business models will not get disrupted as they were disrupted in 2006 but there will be a recast of these models within the existing frameworks. And this recast will be driven by artificial intelligence, machine learning, data engineering, data analytics, data visualization and technology.

If you look closely, each of the trends is interdependent on the other in some way or the other. A different way of doing business has been evolving over the last few years and this year, the tables turn in its favor.



Trend #1
COST OPTIMIZATION



Trend #2
STEPPING UP THE TECHNOLOGY



Trend #3
BUILDING WITH THE ECOSYSTEM




Trend #4
DATA QUALITY AND GOVERNANCE



Trend #5
BUSINESS BACKWARD APPROACH

DATA AND ANALYTICS TRENDS FOR 2023

Building technology-driven and business-focused data organizations



About Prescience Decision Solutions

Prescience is a business focused analytics firm that empowers organizations to find meaningful insights in their data. Our Business-Backward Approach helps create tangible data-driven solutions that provide users with timely inputs for astute decision making. We do this by leveraging our expertise in machine learning and advanced data science technologies, deep domain knowledge and our customers' business knowledge.

Visit us at www.prescienceds.com or send us an email at info@prescienceds.com to get in touch with us. You can also follow us on LinkedIn.