Top Data Predictions for 2024

BY MARIA CARRISA SANCHEZ

December 2023

Top Data Predictions for 2024

PURPOSE

The global population of internet and social media users grows each day, which means that the volume of shared data is also on a remarkable rise. Statista forecasts that the amount of data to be created, captured, copied and consumed globally by 2025 will be more than 181 zettabytes.

With new capabilities rapidly emerging in the data ecosystem, and 2024 almost upon us, TechRepublic Premium spoke with a wide range of experts to garner their views on where data is headed.

HOW DATA WILL LOOK IN 2024

The common consensus about data leans towards a convergence of advancing AI, updated privacy and security regulations and other legal frameworks that present noteworthy potential for data and related technological developments in various sectors.

The evidence is out there. Fortune Business Insights' Big Data Analytics Market Report 2023 forecasted that the global market size is projected to surge from $307.52 billion in 2023 to an estimated $745.15 billion by 2030, reflecting a substantial compound annual growth rate of 13.5%.

Staying ahead of the curve in the constantly evolving field of data is imperative for companies seeking to leverage its power.

The following is a summary of industry experts' predictions for the data ecosystem in 2024:

Laying the groundwork for AI success
Various experts highlighted the growing value of AI this year and the role of data in its advancement. Since relevance, structure and quality of data are vital factors in the success of AI systems, seamless data integrations should be established.

According to Soumendra Mohanty, Tredence Chief Strategy Officer, "Implementing and scaling AI solutions require careful planning. Defining AI objectives, gathering high-quality data, building cross-functional teams, investing in the right infrastructure and implementing robust data governance are crucial steps for a successful AI journey."

Forrester Analyst Zeid Khater further specified, "AI proficiency will become increasingly important, and unstructured data will become a much more sought-after resource than ever before. The value of monetized data assets used to train models will also increase, particularly unstructured text data for large language models."

"Unstructured data managed by enterprises will double in 2024. Unstructured data such as social posts and customer feedback represent less than a third of managed data today," Khater said. "With AI poised to unlock a wealth of text insights, these untapped reserves hold huge potential. Language models can surface game-changing trends from unstructured sources. Companies investing now in unstructured pipelines will gain a competitive edge. They'll tap into a wider range of customer insights through analytics."

Conforming to the above statement, Ryohei Fujimaki, Founder and CEO of dotData, noted that the advent of generative AI-based analytics solutions in 2024 marked a watershed moment in the data analytics industry. He stated, "This marked a significant shift in how users interacted with data, transitioning from the complexity of structured query languages to the intuitive ease of natural language. Now, individuals could simply articulate their analytical inquiries in everyday language, and the advanced generative AI would not only comprehend these queries but also visualize the related data with insightful analytical interpretations."

However, Fujimaki also emphasized, "The generative AI, while proficient in handling structured queries and data visualization, lacked the capability to process and analyze large-volume enterprise business data comprehensively. This gap in capability meant that while the technology was revolutionary, it was not yet fully equipped to handle the intricate and extensive data needs of large enterprises."

Subhash Ramachandran, Senior VP of Product Management at Software AG, also explained that companies and individual users will have an increased dependence on API integrations for model training and refinement because complex AI models require more relevant data. He said, "The impending era transcends the one-size-fits-all AI paradigm, giving way to more specialized and customized solutions achievable only through targeted data integrations."

"Recent actions by social media giants X (formerly known as Twitter) and Reddit serve as bellwethers for this trend, where their newly restrictive data and API access policies showcase how data is becoming a premium commodity. While these changes have met some outcry and pushback, they emphasize the growing importance — and cost — of data access for AI development."

Ramachandran stressed. "Instead of paying for additional quality datasets, enterprises should instead focus on their own legacy datasets and how to properly connect them to AI applications to ensure models provide answers that are the best possible fit for their organizations."

Transitions in the data analytics team

The development of AI has led to an evolution in the responsibilities and expectations of modern data analytics teams.

According to Mohanty, "Teams are shifting from managing data platforms to accelerating data, digital and AI transformation initiatives. Collaboration, diverse data sources and enhanced communication skills are becoming essential."

"The transformation of data analytics teams is revolutionizing how businesses approach data and AI-driven initiatives. These teams are not just managing data; they're actively democratizing it, making data and analytics accessible across the organization," Mohanty added. "This shift empowers employees at all levels to make informed decisions, fostering a data-driven culture that enhances business performance."

Khater affirmed, "As the move toward a future state of AI progresses, executive teams will usher in C-level positions focused on overseeing how data is managed in relation to the organization's AI strategies."

"In 2024, CAIOs will surface on one out of eight executive leadership teams, as AI leadership is changing. According to Forrester, 12% of companies with a solid AI strategy now have a chief AI officer directing overall strategy. Only 2% give that responsibility to the chief data officer," Khater commented. "This doesn't spell the end for CDOs. Instead, it means you have to ensure that your AI and data leaders work hand in hand so they can spin the data straw into insights gold. The CAIO brings technical knowledge, while the CDO provides quality data. It's a powerful partnership for AI success."

Supplementing Khater's statement, Mohanty also mentioned, "The power and influence of data mean that CDOs now operate on the frontline of business, working hard to align enterprise data capabilities with the evolving demands of a competitive business environment. Customer trends, preferences and behavioral patterns are constantly evolving and only a data-driven approach will allow companies to capitalize on these changes and pull ahead of the pack."

He further explained, "CDOs are now stepping up to meet this challenge. Instead of passively managing and storing data, many are now taking a proactive approach, leveraging tools like generative AI and machine learning to analyze data and establish ROI for potential use cases. On its own, data has very little inherent value; but in the hands of the right team, equipped with the right tools, it can make or break a business."

Prolonged shortage of data center capacity
Because of the high demand for AI systems, data center capacity has been strained, making this already limited resource scarce.

According to Raul Martynek, CEO of DataBank, "Data center capacity was very constrained coming into this year. The generative AI craze that ensued significantly worsened the shortage throughout 2023. Since data centers are usually built in a two to three-year cycle, it takes time for infrastructure projects to ramp up and be completed. While there are plenty of new builds in the works currently, it won't be for another year before they come online. For 2024, that means a year of data center drought. AI companies will have to settle for whatever they can get their hands on, putting into serious question the very viability of their business."

In addition to what Marynek reported, the persistent heat waves caused by global warming exacerbate the problem of data center capacity shortages by putting additional pressure on the existing energy grids. Recent news stories showed that Australia was at heightened risk of power outages as a result of the growth in data center power demand due to the continued rise of AI computing.

As some facilities reach the end of their lifecycle, the data center market may need to consider reshaping their design and strategy to assist consumers in supporting AI demand and lowering energy use.

Increased demand for data-centric security

Brian Platz, CEO and co-founder of Web3 data company Fluree, reckons the year will have a rise in demand for trusted, interoperable data due to generative AI's recently discovered challenges associated with data poisoning and hallucinations. He suggested, "To combat the risks associated with AI hallucinations, companies will need to find solutions which provide data-centric security and verifiable data provenance/origin. By prioritizing data integrity and ensuring the authenticity and quality of input data, organizations can build a strong defense against AI poisoning and hallucinations."

Platz also mentioned specific measures to safeguard company-owned data, "Implementing robust data-centric security measures involves encryption, access controls and monitoring to safeguard data throughout its lifecycle. Verifiable data provenance establishes a transparent and traceable record of data sources, transformations and manipulations, enabling the identification and mitigation of potential issues."

Advancements in data ethics and governance

Along with emerging data capabilities, there is a rising concern about ethical considerations. However, Dima Spivak, VP of Products at StreamSets, has a positive outlook on the potential progress around data ethics and best practices. He noted, "President Biden's sweeping Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence puts some guardrails in place that ensure AI is used safely and responsibly. That's a great first step toward developing principles that will ultimately improve everyone's trust in AI systems. The goal of these new innovations in data ethics will mean that users, both consumer and corporate, can be sure that what an LLM tells them is accurate, unbiased and will support their best interests."

In accord, Mohanty stated, "The focus on advanced analytics and data governance is opening doors to new operational efficiencies and monetization opportunities. Enhanced governance ensures data integrity and security, which is crucial for maintaining customer trust and complying with regulatory standards, especially in sectors like finance where data sensitivity is paramount."

Guidelines on data ethics and governance will only work if there is an active collaboration between governing bodies and business enterprises. Hence, Lucidworks VP of Global Sales Engineering Brian Land underscored the relevance of reshaping company processes concerning marketing and handling consumer data privacy. He explained, "In 2024, brands are gearing up to face new challenges around privacy and ethics with the end of third-party cookies and the advent of new large language models."

Brett Hansen, Chief Growth Officer of Semarchy, presented a key point of consideration on this topic. He anticipates that data governance will transform into data intelligence this year. He said, "Yes, data governance will remain vital for maintaining compliance. However, evolved data intelligence capabilities have now emerged, allowing practitioners to not only control data but also understand it — and these capabilities are a must in the modern business world. Mining metadata to comprehend its lifecycle will allow teams to more effectively support their business requirements. These enlightened governance strategies will help organizations achieve mutual goals of data compliance while also uncovering granular data insights."

CONCLUSION

To sum it up, 2024 signifies a year of breakthroughs in the dynamic realm of data, posing new opportunities and challenges in various sectors.

Industry experts' predictions underscore the integral role of emerging AI capabilities, collaboration, strategic integration and enhanced governance in data collection, management and analytics.

Organizations must perceive these trends as beacons, shedding light on where data is heading. Keeping oneself abreast and adaptive in an era of rapid progress and technological advancements is essential to harnessing the full potential of this constantly changing ecosystem.

While the brilliant minds above believe data will have more power and influence over the coming years, what do you as a reader think? Share your thoughts with us at X (Twitter), LinkedIn or at the TechRepublic Forums. Rest assured, we'll use the data you provide responsibly.

TechRepublic
P R E M I U M.

About TechRepublic Premium: Trusted expertise on every topic. Original research and surveys. A full library of e-books and white papers. Customizable tools and templates. It takes all of these resources and more to solve the toughest IT problems.

Disclaimer: The information contained herein has been obtained from sources believed to be reliable. TechnologyAdvice, LLC disclaims all warranties as to the accuracy, completeness or adequacy of such information. TechnologyAdvice, LLC shall have no liability for errors, omissions or inadequacies in the information contained herein or for the interpretations thereof. The reader assumes sole responsibility for the selection of these materials to achieve its intended results. The opinions expressed herein are subject to change without notice.

Copyright ©2023 by TechnologyAdvice, LLC. All rights reserved. TechRepublic Premium and its logo are trademarks of TechnologyAdvice, LLC. All other product names or services identified throughout this article are trademarks or registered trademarks of their respective companies.

Visit us at TechRepublic.com/premium.

Cover image: Adobe Stock.