

As the Age of AI Begins, Data Quality and Security Are Non-Negotiable

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In the history of information technology (IT), organizations have faced a continuous stream of innovations and opportunities. From time to time, these have been significant enough to be revolutionary to how IT is managed and delivered as well as to the value it provides. But not since the PC era has an innovation rocked and rolled the technology landscape as artificial intelligence (AI) is rocking and rolling it now, radically reinventing IT and organizational strategies top to bottom.

Amid this latest revolution, however, one fundamental IT strategy has not been reinvented. Data remains the paramount point of focus. The first letter in “IT” does stand for “information,” after all.

Market Research Insights

In December 2024, Techstrong Research polled members of the Techstrong community knowledgeable about data management practices at their organizations. The goal of the study, sponsored by analytics, database, and application management services provider Datavail, was to gain a current and relevant sense of opportunities and challenges in data quality and security, particularly in relation to AI adoption. What we saw in this poll confirms a picture of enterprises addressing the fundamentals of data management while simultaneously working to harness new technologies, AI in particular.

The Importance of Data

Data is the lifeblood of any organization today; it is generated and used by every job function, can influence any strategy or decision, and has become fundamental to the achievement of every significant goal. Whether an organization is implementing a new CRM system, migrating to cloud infrastructure, or deploying AI, success depends critically on the quality, accessibility, and security of organization data of every conceivable kind.

The advent of AI has only amplified the importance of data management, quality, and security, because AI doesn't just produce or consume data like conventional applications—it also learns from data and uses data as critical context. AI also makes predictions, generates recommendations, and proposes new insights from data—outcomes that can have lasting, reverberating impacts in an organization. The old programming adage “garbage in, garbage out” takes on new significance in the AI era.

Techstrong Research Analyst View

Poor-quality data doesn't just lead to incorrect reports or flawed analytics. It can result in biased AI models, unreliable automation, and compromised decision-making, quite easily at scale. So, perhaps the most striking insight from our poll is the incomplete state of data maturity across organizations today. Nearly three quarters of respondents indicate sub-optimal degrees of data maturity at their organizations, suggesting a pervasive need in the market to improve interorganizational communication and understanding about the significance and benefits of data management strategies.

The priority that such strategies have is clear in the poll. Over half of organizations have leadership that considers data quality to be

a high priority. In other words, organizations generally understand the fundamental value of maintaining high-quality data. And when it comes to AI, the issues of data quality, accuracy, security, and privacy emerge as top concerns regarding AI adoption. Ethical and accuracy considerations surprisingly merit less focus today.

The results of our poll validated this crucial understanding about IT: while evolutionary and revolutionary waves of IT innovation come and go, the foundational value of data quality and management remains constant. Organizations that maintain a strong focus on these are better positioned for success while absorbing and using new technologies, especially AI—the most transformative technological wave we have ever seen.

Key Takeaways

- Despite necessary focus on new technologies and AI, organizations recognize that data quality and security form the bedrock of achievement and value.
- Organizational leadership frequently understands that data quality isn't just an IT concern but a strategic priority with broad effects.
- Organizations are taking a variety of approaches to data management across integration, governance, quality, and infrastructure—usually more than one.
- The rise of AI and machine learning (ML) is driving organizations to re-evaluate and strengthen their data management

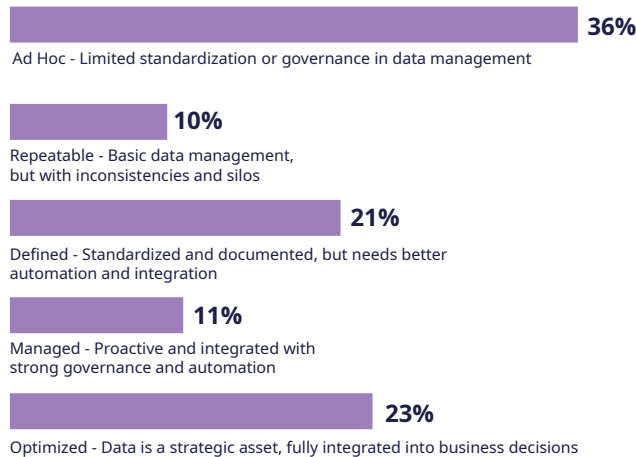
practices, as these technologies amplify both the benefits of good data and the risks of poor data. Ethics and accuracy are less frequent considerations than data quality and security.

- While organizations pursue modernization and innovation, they are evenly balancing fundamental data management needs and the ability to drive future capabilities.

The path forward for organizations is clear: maintain unwavering attention on data quality and management fundamentals as they are critical to the successful adoption of new technologies and making meaningful progress toward goals. This balance ensures that organizations would thrive in a world where data is an essential strategic asset.

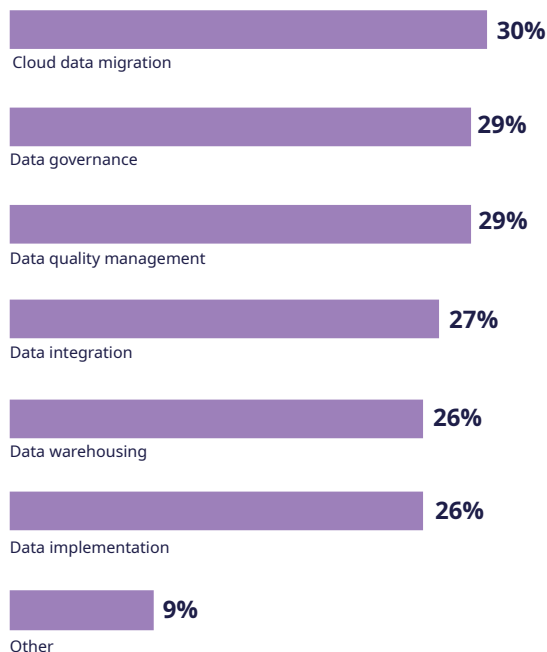
Detailed Poll Results

How would you best describe your organization's current level of data maturity?



In order to qualify to answer all the questions in the poll, respondents had to be knowledgeable about their organizations' data management and quality initiatives and processes. However, the largest group of respondents (36%) reported that there really aren't any such initiatives at all; data management has at best limited standardization or governance. And although that means the majority (the remaining 64%) have taken at least basic steps toward mature data management, fewer than one quarter overall (23%) treat their data as a vital resource integral to the business.

Which of the following data management and quality initiatives is your organization currently undertaking?



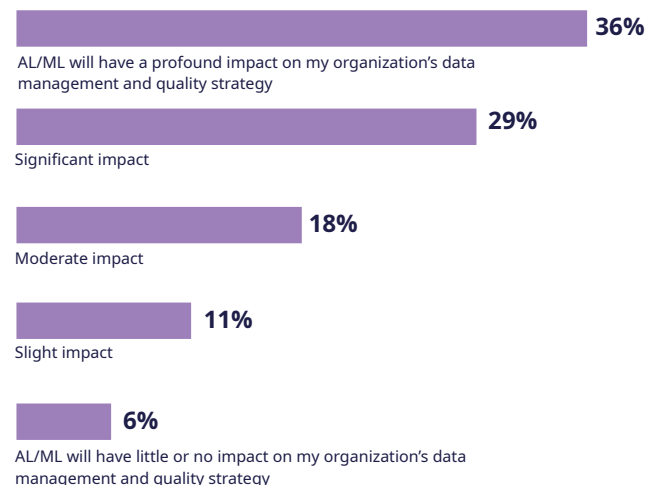
Organizations are pursuing a variety of data modernization initiatives with similar participation levels: cloud migration (30%), governance (29%), quality management (29%), integration (27%), warehousing (26%), and data lakes (26%). Differences among these are statistically insignificant, and typically, organizations are pursuing only two initiatives at a time.

Within your organization's leadership, how prioritized is data quality compared to other data strategies?



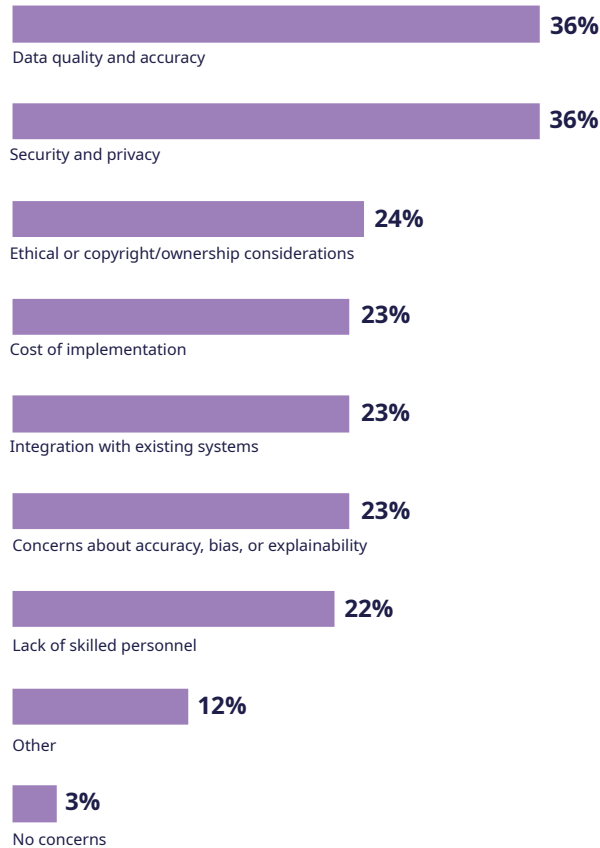
Data quality is considered a top priority by most organizations, with 57% rating it as high priority (34%) or very high priority (23%). Only 19% consider it a low or very low priority. When you compare this 57% prioritization rate with the fact that 75% don't know their organization's data maturity level, it suggests that while many leaders recognize data quality is important in theory, the talent and experience required to translate that priority into measurable practices and outcomes may be lacking at many organizations.

To what extent do you believe that AI or ML will impact your organization's data management and quality strategy in the next three years?



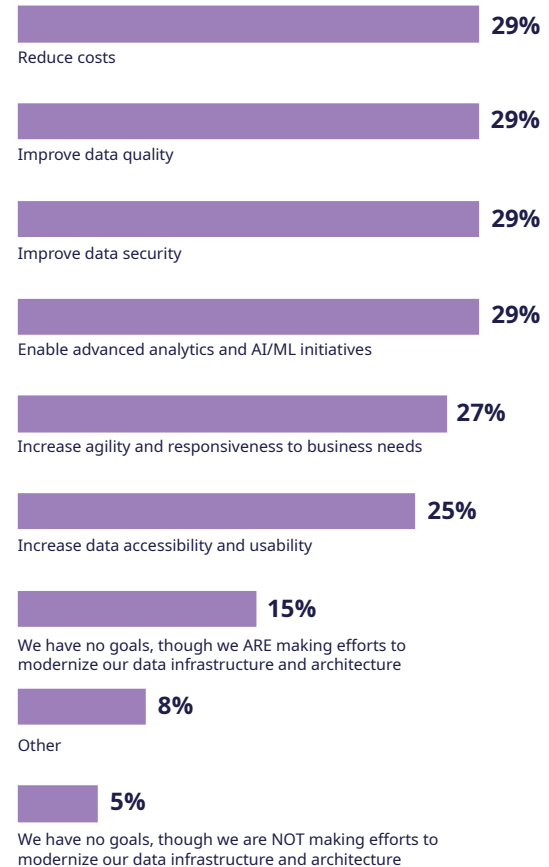
Looking toward the future, the impact of AI on data management is expected to be substantial. Nearly two-thirds (65%) of respondents believe AI and ML will have a significant or profound impact on their organization's data management and quality strategy in the next three years. This shows a clear line drawn between data quality and the value derived by the adoption of AI.

Which of the following do you think are the three most significant concerns at your organization regarding the adoption and use of AI?



Data quality/accuracy and data security/privacy tied as top AI adoption concerns (36% each), followed by ethical/copyright considerations (24% saying it is a top concern). Another issue strongly related to data, the accuracy of AI, was, interestingly, much less often cited as a top concern (23%). These twin considerations of data quality and security may be acting as barriers to AI adoption. Many organizations may be wisely waiting to accelerate AI adoptions until they feel more confident about their underlying data quality and security practices.

Thinking about your organization's efforts to modernize its data infrastructure and architecture, what are your organization's top three goals?



Most organizations (80%) have goals in mind in their data modernization efforts, but those goals vary widely from addressing fundamentals to enabling future capabilities. Top goals of data modernization were evenly distributed, statistically speaking, from basics such as reducing costs (29%), improving quality (29%), and enhancing security (29%) to innovation drivers such as enabling advanced analytics/AI initiatives (29%), increasing agility (27%), and improving data access (25%). Organizations recognize the need to strengthen their data foundation and prepare for more advanced applications.

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