



Enhancing Data Quality Through DataOps

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Introduction

Data is the foundation for current business intelligence and AI-powered solutions. However, issues in preserving data quality, consistency, and dependability exist throughout sectors. This whitepaper investigates these issues and proposes practical solutions using the DataOps approach.

This whitepaper tackles the critical issue of data quality in today's data-driven organisations. It looks at the limits of existing data quality techniques and proposes the DataOps methodology as a solution. This paradigm allows organisations to alter their data quality processes, manage risks, and improve decision-making skills by focussing on empowerment, automation, and iterative improvement.

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The Current Data Quality Landscape

Organizations increasingly rely on data to compete effectively, yet maintaining its quality remains a challenge.

Quantitative Evidence: According to a 2024 dbt Labs study, 57% of respondents identified data quality as one of the top three issues in data preparation, up significantly from 41% in prior years.

In addition, 73% of data practitioners admit to distrusting their organization's data.

Qualitative Insight: As data ecosystems get more complex, trust and dependability gaps emerge, influencing decision-making processes directly.

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Challenges in Ensuring Data Quality

The most important problems in establishing accurate data quality are:

- **Dynamic and Persistent Issues:** Data quality issues are both dynamic and persistent, affecting a wide range of systems and processes.
- **Organisational Misalignment:** There is friction between those who create data (source system owners) and those who consume it for analytics.
- **Leadership Challenges:** Data quality leaders sometimes lack direct power to deliver solutions, necessitating cross-departmental collaboration



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The DataOps Solution: A Methodology for Scalable Improvement

DataOps uses Agile, Lean, and DevOps principles to promote a culture of continual data quality improvement.

Empowerment: DataOps empowers individuals by providing tools for real-time profiling, anomaly detection, and iterative improvement.

Automation: Automating operations like as anomaly detection promotes data cleanliness and dependability at scale.

Iterative Testing: Starting with simple, quantifiable goals and refining them over time allows for faster development.

Step-by-Step Framework

| Step | Action | Expected Outcome |
|-----------------------------|--|--|
| Start Small | Empower motivated individuals with free tools. | Improved data quality analysis capabilities. |
| Profile and Visualize Data | Identify issues such as missing values or inconsistencies. | Clear understanding of data health. |
| Implement Automated Testing | Use tools for anomaly detection and real-time monitoring. | Continuous and scalable data quality checks. |
| Leverage Scoring Systems | Align data quality scores with business goals. | Focused improvements on critical data sets. |

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Case Studies: Success Stories of DataOps

Case Study: Transforming Data Challenges into Operational Excellence at Gogo

Gogo, a global leader in in-flight connection and entertainment, had a difficult challenge: processing massive volumes of unstructured data created by its connectivity equipment, which is placed on over 2,900 commercial aeroplanes. This data was crucial for monitoring service quality, but it was dispersed across various sources, making analysis difficult and often impossible. The absence of organised data also limited Gogo's ability to respond to costly no-fault-found (NFF) maintenance requests, resulting in wasted time and costs. To address these difficulties, Gogo collaborated with N-iX to create a unified DataOps platform that allows for efficient data collection, processing, and storage in a centralised cloud-based data lake.

This approach provided dramatic advantages to Gogo. Gogo's capacity to monitor, analyse, and forecast equipment performance issues was dramatically improved by harnessing the potential of DataOps in conjunction with Data Science and Machine Learning. This resulted in lower operational expenses, fewer fines, and less needless maintenance costs related with NFF requests. Furthermore, enhanced data flow and insights enabled Gogo to improve the quality of its connection services, increasing customer happiness and strengthening its competitive position in the in-flight connectivity industry. This example shows how a strong DataOps approach may transform complicated data difficulties into demonstrable operational and financial success.

Case Study: Empowering Data-Driven Decisions at AvaTrade

AvaTrade, a global leader in online trading and investing, faced the difficulty of handling data from several sources across trading platforms, marketing channels, and client interactions. With millions of active users and transactions every day, the firm required a solution to integrate its data architecture and provide real-time analytics to improve decision-making. The complexity of integrating and digesting this data limited AvaTrade's capacity to generate useful insights and optimise its operations. To overcome these difficulties, AvaTrade worked with Rivery to modernise its data environment.

AvaTrade used Rivery's no-code data integration technology to integrate data from several sources into a centralised data warehouse. Automated data pipelines and real-time synchronisation enabled AvaTrade to construct complex analytics dashboards that tracked user activity, marketing performance, and trading patterns. This transformation lowered the time and effort necessary for manual data handling while increasing operational efficiency and data quality. With Rivery's scalable solution, AvaTrade can now make wiser, quicker judgements, giving it a competitive advantage in the dynamic online trading business.





Market overview

The worldwide DataOps platform market is expected to reach US\$ 4.0 billion by 2024. Between 2024 and 2034, the market is estimated to grow at a CAGR of 23.3%. The market is expected to be valued at \$32.7 billion by 2034.

Key DataOps Platform Market Trends:

- DataOps as a Service is expanding as businesses seek to streamline data management and utilise cloud-based technologies without investing in external infrastructure.
- The combination of DataOps solutions with MLOps and DevOps technologies is projected to result in the development of end-to-end procedures.
- Companies are investing in the creation of unique data integration platforms to meet industry-specific difficulties, such as manufacturing, banking, and healthcare.
- Companies are delivering unique DataOps solutions loaded with features such as data lineage monitoring and robust governance to assure regulatory adherence & excellent data quality.
- The growth of DataOps platforms is projected with the growing usage of edge computing, consequently allowing real-time decision-making and insights in collaborative spaces.

| Attributes | Key Insights |
|---|-------------------|
| DataOps Platform Market Estimated Size (2024E) | US\$ 4.0 billion |
| Projected DataOps Platform Market Valuation (2034F) | US\$ 32.7 billion |
| Value-based DataOps Platform Market CAGR (2024 to 2034) | 23.3% |

Source : <https://www.futuremarketinsights.com/reports/dataops-platform-market>

Country-wise Insights

| Countries | CAGR (2024 to 2034) |
|----------------|---------------------|
| United States | 23.5% |
| United Kingdom | 24.2% |
| China | 23.9% |
| Japan | 24.4% |
| South Korea | 23.8% |

Source : <https://www.futuremarketinsights.com/reports/dataops-platform-market>

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Using DataOps for Cross-Departmental Collaboration

Organisational silos are a big impediment to enhancing data quality. DataOps enables cross-departmental cooperation by bringing together data engineers, analysts, and business stakeholders in a uniform approach to enhance data quality. Key tactics include:

- **Creating Cross-Functional Teams:** To guarantee agreement on data quality goals, form teams that include all key stakeholders (data engineers, business analysts, data scientists, and business executives).
- **Standardising Communication:** Hold frequent meetings or use automated reporting dashboards to keep all stakeholders informed about data quality concerns and progress.
- **Creating Shared Ownership:** Instill a feeling of shared responsibility for data quality throughout the organisation, making it a business-wide priority rather than a segregated concern of the IT or data departments.

This method not only enhances data quality, but it also increases decision-making and operational efficiency.

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Conclusion:

Improving data quality is no longer an optional extra; it is a strategic need. DataOps may help organisations improve data dependability, cut losses, and make better decisions. Starting small, empowering individuals, and relying on iterative improvements pave the route for sustainable success. Furthermore, encouraging cross-departmental collaboration will hasten the transition to a culture of continual data quality improvement.

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