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Driving Business Value from Data in the Face of Fragmentation and Complexity

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Navigating this InfoBrief

Click on titles or page numbers to navigate to each section.

Executive Summary

Success in a digital-first world requires business change and effective data management.

▶ Data fragmentation and complexity are a pervasive problem across data, technology, process, and people.

▶ Fragmentation and complexity divert data leadership away from innovation and increase risk.

▶ The way organizations resolve fragmentation and complexity issues separates leaders from laggards.

- Leaders are achieving more than twice the business value from data.

- Key resolutions are standardization, automation, centralization, and allocation.

▶ Data leaders are digital leaders.

Data Powers the Future Enterprise in a Digital-First World
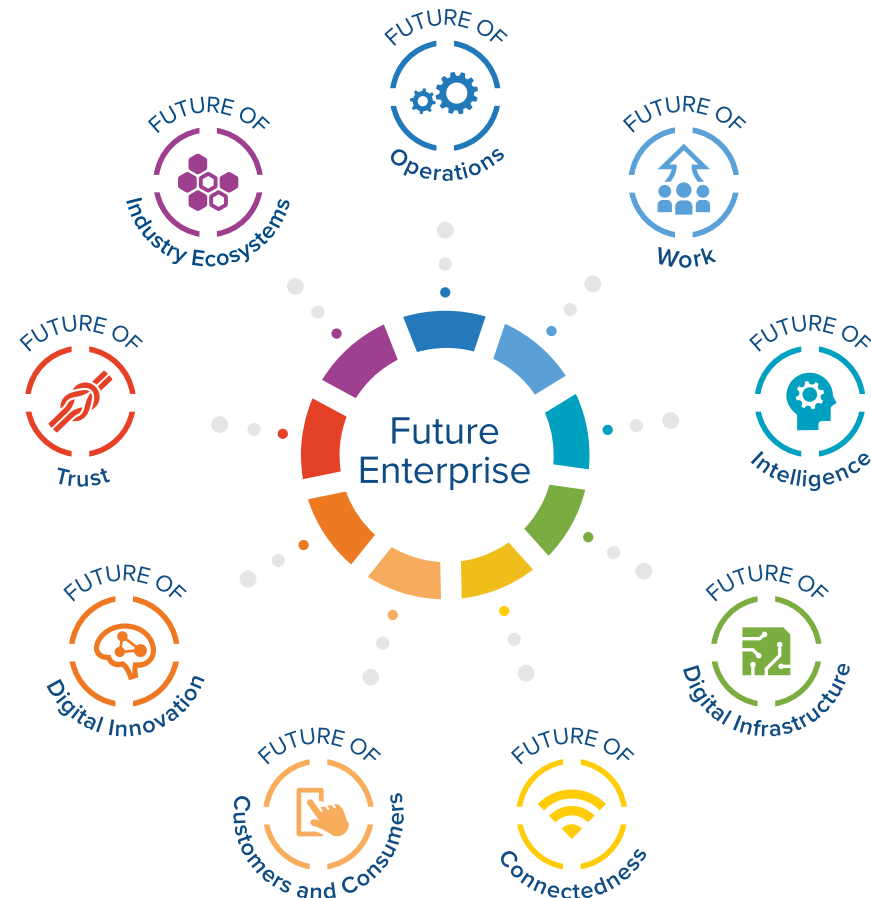
▶ **Digital-first applies to any company, government, or person that is always asking:**

"Is there some digital-based capability or enhancement that could improve our lives and desired outcomes?"

▶ **A digital-first world requires business change.**

98% of organizations are on a digital transformation journey.

▶ **Data management is critical to digital transformation.**

Organizations with strong data leadership are three times more likely to be well underway with digital transformation.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Organizations Face Data Fragmentation and Complexity

More volume in more sources, spread across more clouds makes it difficult to discover, manage, and control data.

Two-thirds of organizations regularly use **multiple clouds.**

Nearly **80%** of organizations store more than half of their data in **hybrid and multicloud infrastructures.**

Percentage of data stored in public, hybrid, or multiclouds
(% of respondents)
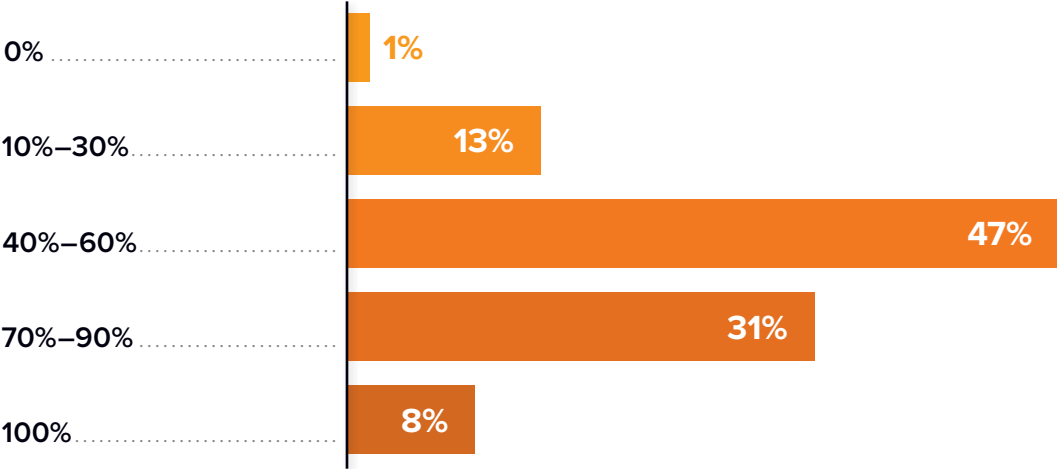
0%	1%
10%–30%	13%
40%–60%	47%
70%–90%	31%
100%	8%

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Organizations Face Data Fragmentation and Complexity (continued)

The complexity of management and control grows as the number of data sources increases
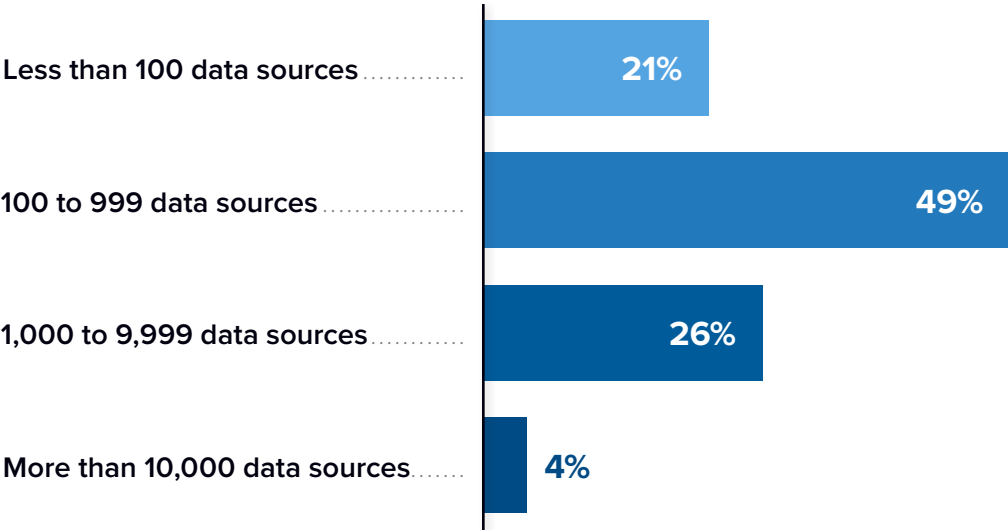
Less than 100 data sources **21%**

100 to 999 data sources **49%**

1,000 to 9,999 data sources **26%**

More than 10,000 data sources **4%**

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Technology Fragmentation and Complexity Are Common for Most Organizations

Technical debt increases management overhead and decreases efficiency.

Percentage of organizations that have standardized any one function

Function	Percentage
Data quality and enrichment	44%
Data ingestion and integration	42%
Master and reference data management	42%
Data sharing and consumption	39%
Data cataloging and metadata	38%
Data governance and privacy	36%

Only **6%**

of organizations have been able to **reduce technical debt** by standardizing across all data management functions.

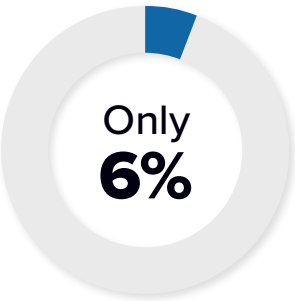**Standardization** = one solution for one function across the organization.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Process Fragmentation and Complexity Inhibit Automation

Lack of automation impacts the ability to scale data management.

Percentage of organizations with more than half of their processes automated in each category

Category	Percentage
Data quality and enrichment	37%
Data cataloging and metadata	38%
Data ingestion and integration	39%
Master and reference data management	41%
Data sharing and consumption	43%
Data governance and privacy	45%
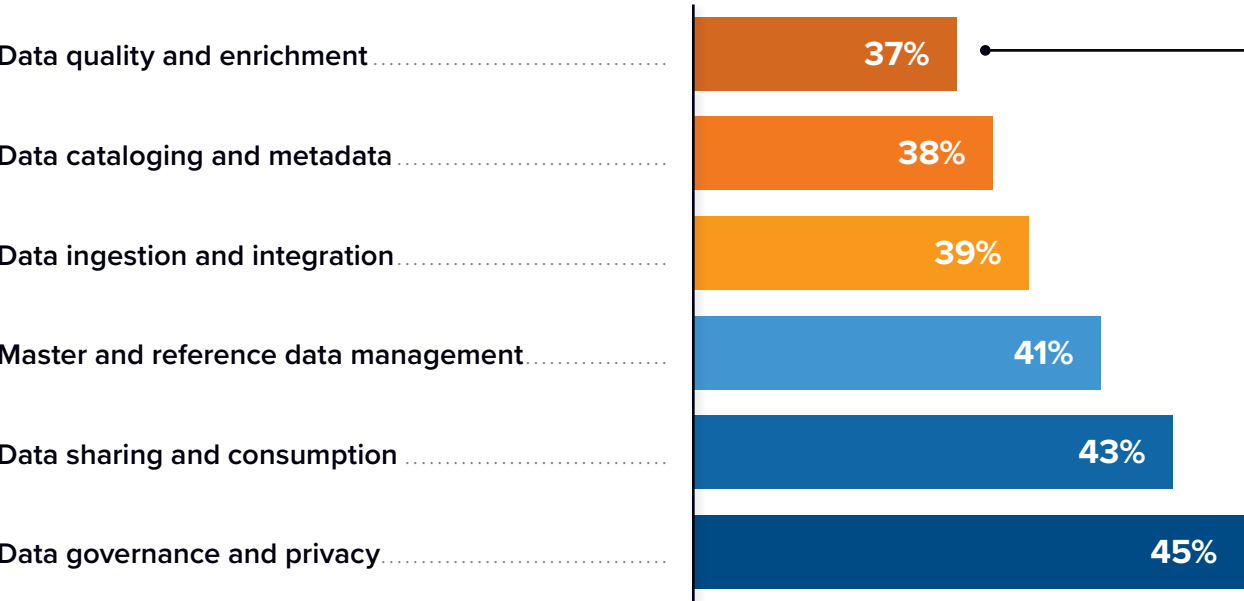
Example: **37%** of organizations have automated half or more of their data governance and privacy processes.

40% of organizations haven't been able to automate any process.
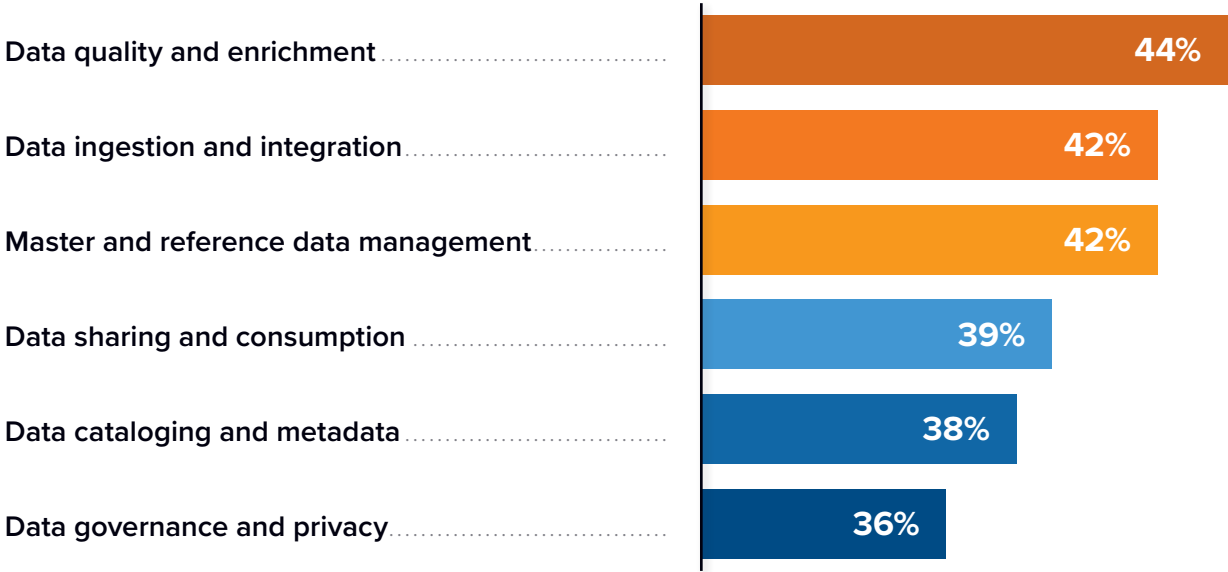
n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

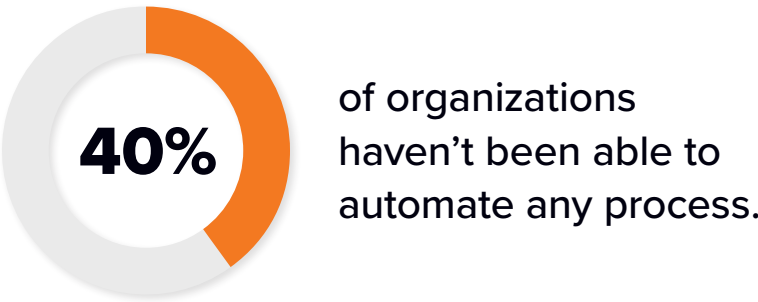# Organizational Fragmentation and Complexity Divert Leaders' Attention

Where data leaders spend their time

Other tasks — 7%
Strategic initiatives — 17%
Evangelizing — 11%
Innovation and improvements — 14%
Keeping the lights on — 35%
Governance — 16%
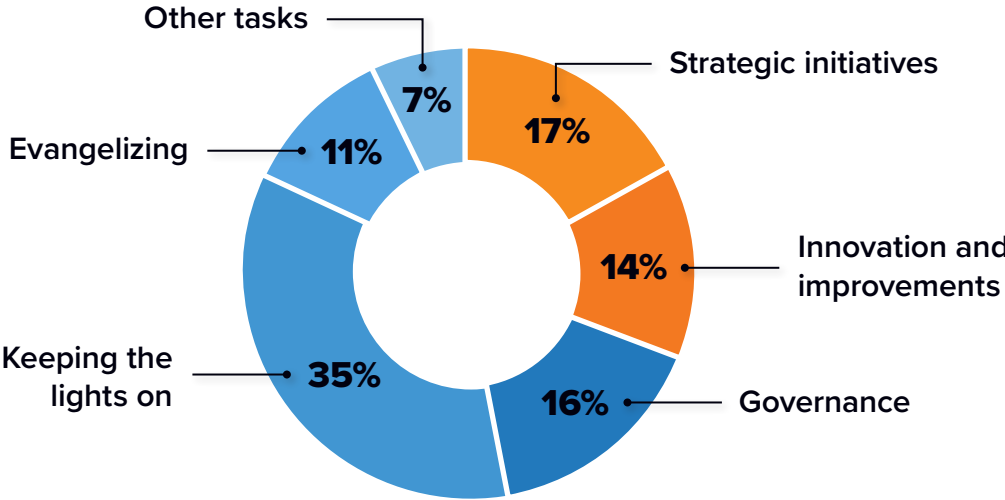
Data leaders spend most of their time in day-to-day management activities, **diverting focus away from strategy and innovation.**

Fragmentation of the data organization

Embedded 16%
Centralized 37%
Distributed 47%
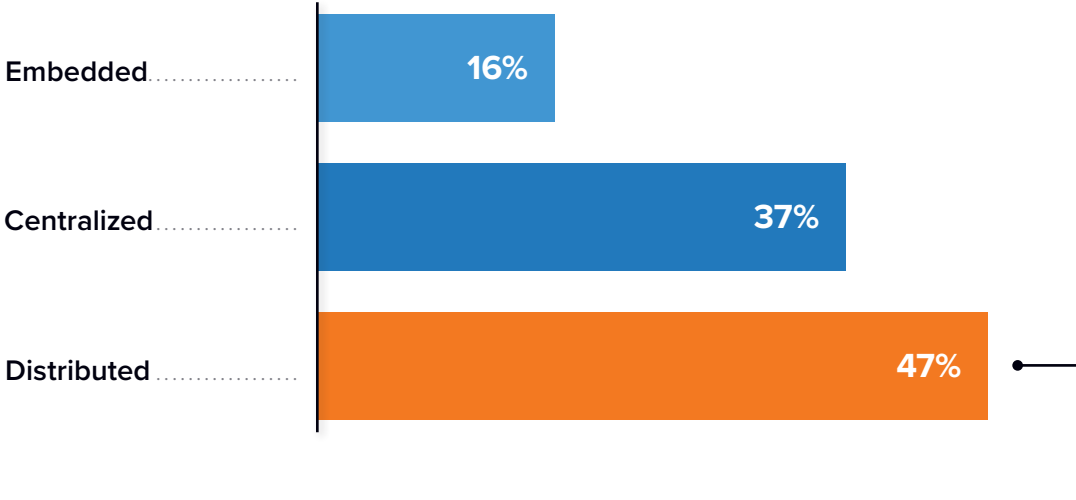
Most data management organizations are **distributed** throughout the enterprise, diluting data competencies and blurring the lines of accountability.

Fragmentation and Complexity Impact Innovation and Increase Risk

Innovation

Less than a third of organizations have been able to fully operationalize artificial intelligence (AI) into organizational activities.

Percentage of organizations that have operationalized AI across the organization in each category

AI for insights and decision making	32%
AI to automate data management	32%
AI for process optimization/automation	31%

Innovation with data starts with enabling data access, yet only **31%** of organizations provide **self-service access** to all the data needed by different teams.

Teams with self-service access to all data needed

Data teams	39%
Line of business teams	28%
Governance, risk and compliance teams	27%

Risk

Organizations are accountable for the data they collect and use, increasing fragmentation and complexity increases liability.

61% struggle to assure data security.

54% are challenged with assuring data and analytics compliance.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Resolving Fragmentation and Complexity
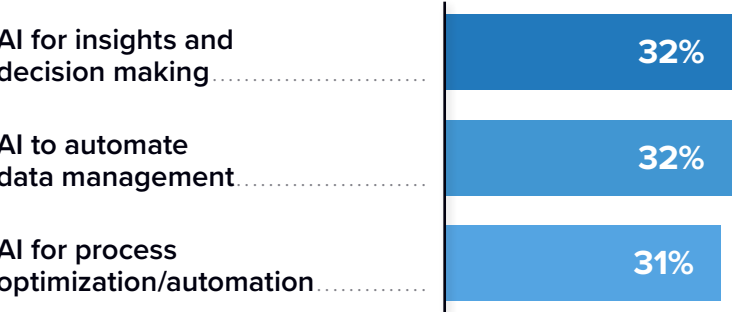
Organizations' maturity levels range from reactive to optimized.

An Organization's Ability to Leverage Data Drives Digital Success

Optimized Data Leaders Are Three Times More Likely to Be Digital Leaders

Data leadership maturity was measured by aggregating responses to questions about the current state of data, data technology, organization, and architecture.
Four levels of maturity emerged.

▶ **Reactive** organizations are impacted the most by fragmentation and complexity

▶ **Opportunistic** organizations are more proactive but are not repeating success in complex environments

▶ **Repeatable** organizations are successful in leveraging data, but fragmentation inhibits progress

▶ **Optimized** organizations are the most mature in how fragmentation and complexity are managed

Data leadership levels of maturity
(% of digital leaders)

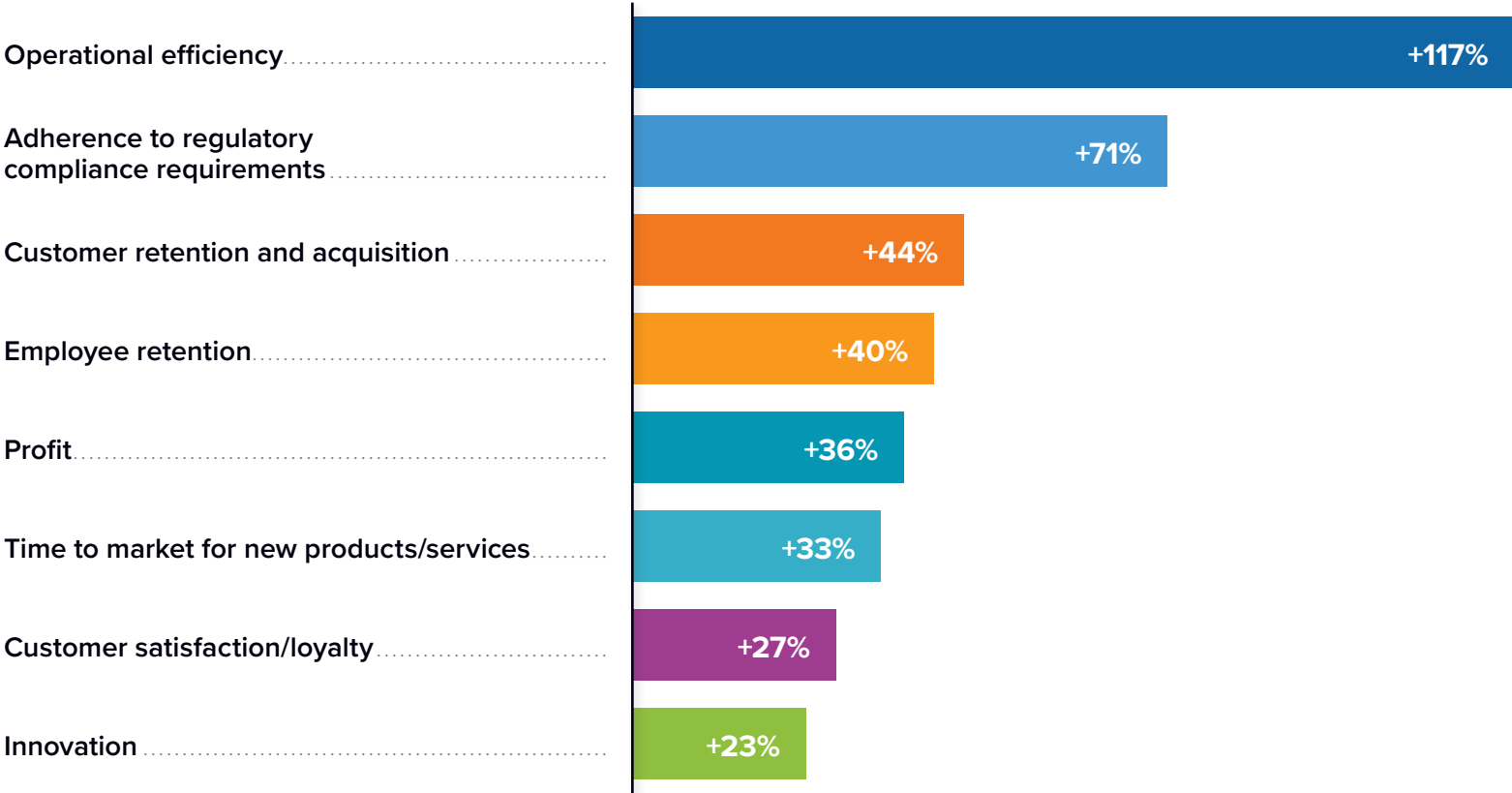| Reactive	Opportunistic	Repeatable	Optimized
25%	35%	56%	79%
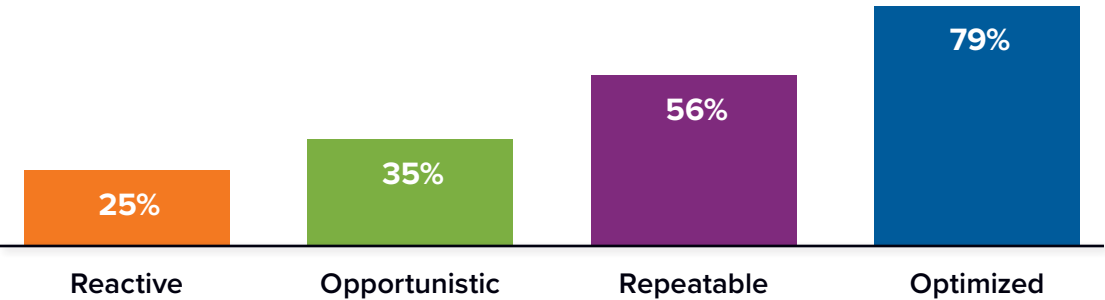
Digital leadership maturity was measured by where each organization is on its digital transformation journey. Digital leaders are well underway or at the end of the journey.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Optimized Data Organizations Get More than Twice the Business Value from Data

Optimized data organizations are resolving fragmentation and complexity issues across the dimensions of data, technology, and people to drive higher business value from their data.

Improvement in business metrics of optimized versus reactive data organizations

Metric	Improvement
Operational efficiency	+117%
Adherence to regulatory compliance requirements	+71%
Customer retention and acquisition	+44%
Employee retention	+40%
Profit	+36%
Time to market for new products/services	+33%
Customer satisfaction/loyalty	+27%
Innovation	+23%

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Solving **Data** Fragmentation and Complexity Results in Higher Levels of Business Value

Acknowledge the Problem

Acknowledging the problem is the first step to solving it. Optimized data organizations are **17 times more** likely to know that major improvements are required in how analytics are integrated into business decision making.

Access Self-service Data

Business resources need self-service data access to generate higher value; **75% more** of optimized data organizations enable business self-service access to data compared to reactive organizations.

Operationalize AI

Optimized data organizations are **five times more** likely to operationalize AI, increasing innovation and generating higher levels of business value.

Migrate Data to the Cloud

Data in the cloud is more accessible to every worker anywhere, driving higher value. Nearly **twice as many** optimized data organizations migrated more data to the cloud in the past year compared to reactive data organizations.

Solving Technology Fragmentation and Complexity Results in Higher Levels of Business Value

Reduce Technical Debt

Reducing technical debt will reduce operations and management overhead; **152% more** of optimized data organizations have standardized data management functions compared to reactive data organizations.

Utilize Complete Enterprise Data Architecture

Optimized data organizations are **14 times** more likely to utilize a complete enterprise data architecture spanning hybrid and multicloud, simplifying data integration, intelligence, and control for higher efficiency and business value.

Automate

Automation is the only viable alternative to tackling the scale of data fragmentation and complexity. Optimized data organizations are **five times** more likely to have operationalized the use of AI to automate data management activities.

Continuous Improvement

Generating business value from data requires continuous improvement. Optimized data organizations are **10 times** more likely to recognize that improvement is required across four or more data management functions.

Utilize Hybrid and Multiple Cloud Technologies

As data moves to the cloud, so too must data technology. There is a **72% increase** in the use of hybrid and multiple cloud technologies in optimized data organizations compared to reactive organizations.

Solving **People** Fragmentation and Complexity Results in Higher Levels of Business Value

Centralize Data and Analytics Roles

Centralizing data and analytics roles reduces fragmentation of people and increases business value through greater collaboration and efficiencies; **70% more** of optimized data organizations have centralized data and analytics roles compared to reactive organizations.

Focus on Data Management

Assuring better analytic and digital outcomes without risk requires a focus on data; **56% more** of optimized data organizations spend most of the time on data management compared to reactive organizations.

Stay Resilient and Adopt to Changes

Resilient people respond better to change. More than **three times** as many of the optimized data organizations were sufficiently or completely prepared to adopt new ways of working in response to the COVID-19 pandemic.

Operate in a Cloud-centric Model

Cloud offers flexibility, elasticity, and adaptability in the face of change. Nearly **three times** as many optimized data organizations have a cloud-centric operating model.

How a Data Organization Sets Business Objectives Impacts Business Value

Optimized data organizations have **more "value" oriented** objectives compared to reactive organizations.

Incorporating data into decision making can generate a lot of business value; **130% more** of optimized data organizations have this objective compared to reactive ones.

Improving the quality of data and analytics will improve the quality and integrity of data-driven business value. Optimized data organizations are **two times more** likely to make quality a top objective.

Efficiency of data and analytics activities is the top objective for the optimized data organization, delivering business value with data by impacting the bottom line.

Security is the top objective for reactive data organizations. Risk-first resolution needs to happen before focus can shift to value.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

How a Data Organization Sets Internal Objectives Impacts Business Value

Optimized data organizations are better at setting **objectives that address fragmentation and complexity** compared to reactive organizations.

Improving the use of AI in automation of data management activities will improve efficiency. Nearly **twice as many** optimized data organizations have this objective compared to their reactive peers.

Knowing where your data is and what it means is critical for delivering business value. However, data cataloging and metadata management is **the least important** priority among the reactive.

Improving data ingestion and integration capabilities can unify fragmented and complex data. **Twice as many** optimized data organizations have this objective compared to the reactive.

Cloud data migration is the **least important** objective for the optimized but is the **third highest** objective for the reactive because this group is further behind.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Budget Allocation Priorities Indicate How Much Business Value Data Can Create

Reactive companies are focused on digital modernization, but the optimized are focused on digital transformation.

Digital modernization is focused on **bringing the organization up to speed with the latest technology.** Modernizing applications is the top budget priority for reactive organizations.

Digital transformation is focused on **taking advantage of technology to innovate the business.** The top budget priority for the optimized data organization is creating a 360-degree view of the customer **with master data management.**

Data governance and privacy assure the right data is being used by the right person for the right reasons. **Both ends of the maturity scale** have this as a priority.

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

Regional Highlights

North America

▶ More organizations are implementing an enterprise data architecture (compared to other regions).

▶ Organizations have migrated more data to the cloud (compared to other regions).

▶ Organizations have the most people dedicated to data and analytics leadership.

▶ Data security is the highest overall objective.

▶ More organizations believe data and analytics are more important since the onset of the COVID-19 pandemic (compared to other regions).

Europe, Middle East, and Africa

▶ EMEA has the lowest percentage of optimized data organizations.

▶ Despite the level of maturity, organizations have the most standardized data functions.

▶ More organizations provide governance, risk, and compliance teams with self-access to data (compared to other regions).

▶ More organizations assign data responsibility to the CIO (compared to other regions).

▶ Ensuring data privacy is the highest overall objective, likely because of GDPR.

Asia/Pacific

▶ Asia/Pacific has the highest percentage of optimized data organizations.

▶ Despite being the most optimized, they have the least number of standardized data functions.

▶ Organizations have higher numbers of data sources to manage (compared to other regions).

▶ Organizations have the most centralized employees (compared to other regions).

▶ Improving the efficiency of data management and analytics is the highest priority.

Essential Guidance

1 **Identify where you are on the scale from reactive to optimized.**

▶ **How fragmented and complex are your current data, technology, and people?**

• Level of technology standardization and architectural approach

• Current state of cloud migration

• Centralization of data and analytics organizations

• Is data leadership a dedicated role or is data only part of someone's organizational responsibility?

2 **Identify where improvements can be made.**

▶ Reducing technical debt

▶ Automation

▶ Priority setting

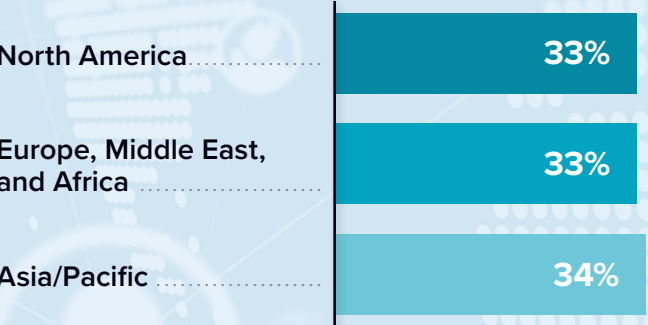**3** **Establish your place in a digital-first world.**

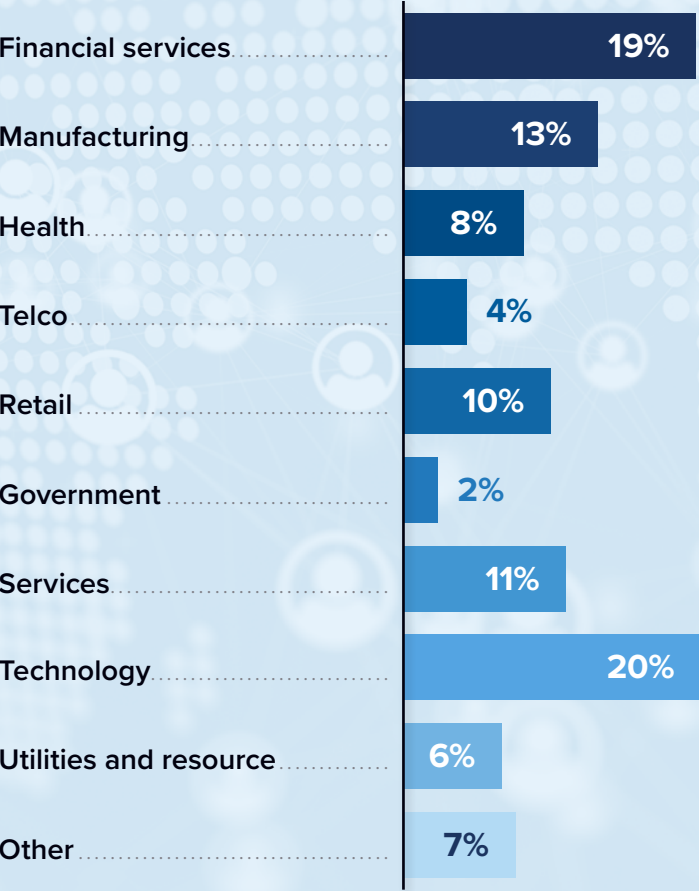▶ Focus on data leadership to accelerate digital leadership among your peers.

Appendix

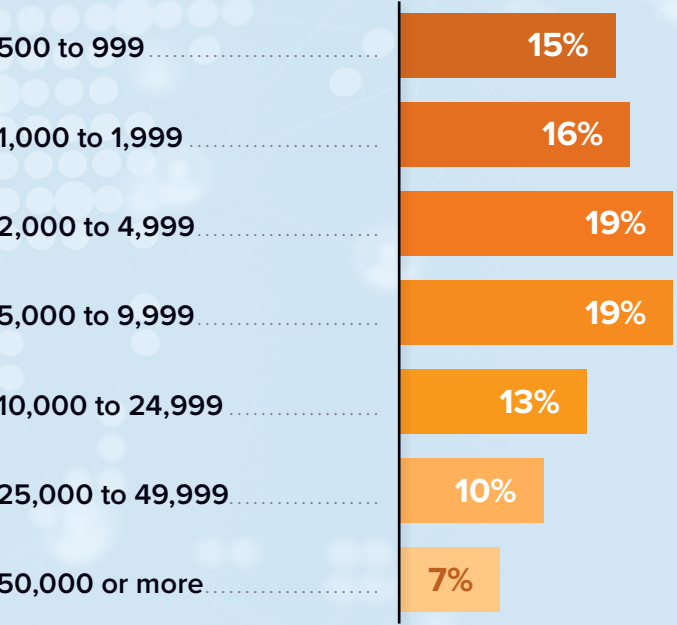## Demographics and Data Maturity Scale

Demographics

Region

North America	33%
Europe, Middle East, and Africa	33%
Asia/Pacific	34%

Industry

Financial services	19%
Manufacturing	13%
Health	8%
Telco	4%
Retail	10%
Government	2%
Services	11%
Technology	20%
Utilities and resource	6%
Other	7%

Number of Employees

500 to 999	15%
1,000 to 1,999	16%
2,000 to 4,999	19%
5,000 to 9,999	19%
10,000 to 24,999	13%
25,000 to 49,999	10%
50,000 or more	7%

n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021
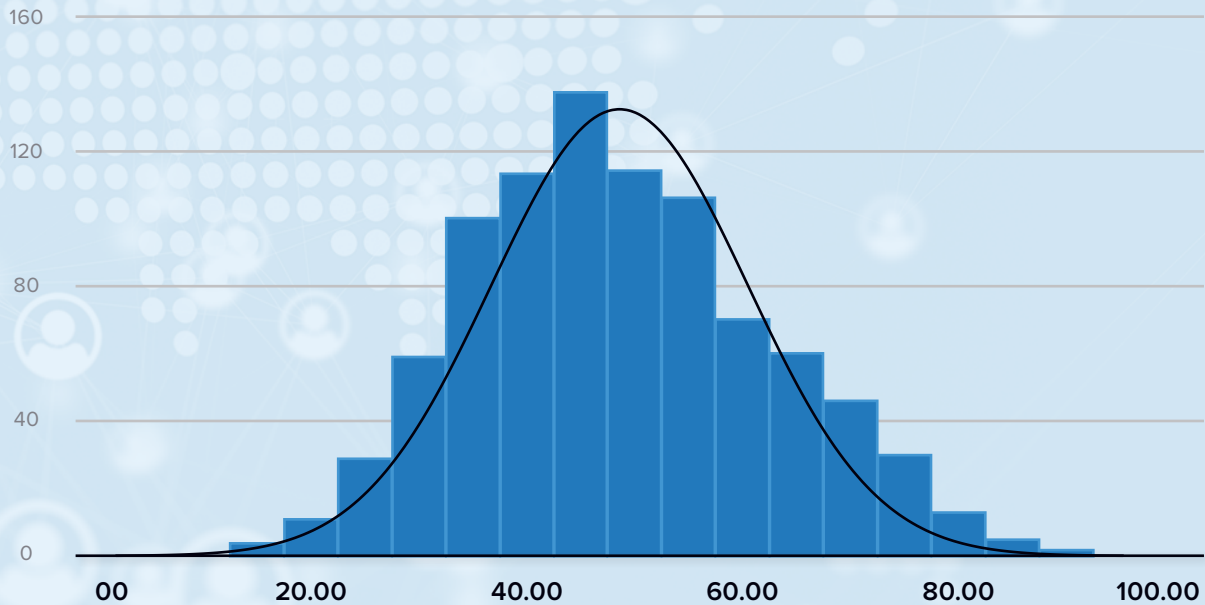
Data Maturity Scale

Survey questions that were used to build the scale provided data points on the following:

1. Number of standardized functions

2. Number of functions needing major improvement or complete overhaul

3. Number of functions where more than 50% of the capabilities are automated

4. Average score on AI functionality questions

5. Integration of analytics into decision making

6. Degree to which data management and analytics are currently hosted in cloud

7. Degree to which data is currently stored in cloud

8. Data architectural layer creation

All of these data points were positively correlated with each other.

Maturity scale
(Frequency)

The overall maturity scale is positively correlated with business outcomes (r = 0.327 Spearman Correlation).

Mean = 49.33, Std. Dev. = 14.17, n = 899, Source: IDC's *Global Chief Data Officer (CDO) Engagement Survey*, commissioned by Informatica, June 2021

About the Analyst

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Research Director, Data Integration and Data Intelligence Software, IDC

Stewart's core research coverage includes watching emerging trends that are shaping and changing data movement, ingestion, transformation, mastering, cleansing, and consumption in the era of digital transformation. Having worked in the IT industry for over 25 years, from early experience in database and application development through solution design and deployment to strategic architectural consulting, Stewart has worked through some significant changes in the IT industry. His depth of field experience coupled with market insight gives him a unique perspective, valued by his customers and peers.

More about Stewart Bond

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