Chief Data Officers:
The New Business Leaders

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In this InfoBrief

In this worldwide IDC study of 1,291 organizations, we investigate the state of the Chief Data Officer (CDO), including their challenges, priorities, and KPIs.
Chief Data Officers Are Now Seen as Business Leaders

While the role of the CDO traditionally was focused on compliance and data governance, it has now expanded into empowering broad and consistent use of data to improve business outcomes.

- 80% of top KPIs are business-oriented:
  - Operational efficiency
  - Data privacy and protection
  - Productivity and capacity
  - Innovation and revenue
  - Customer satisfaction and success

- 59% of CDOs report to a business leader

- 80% of top stakeholders are businesspeople:
  - Chief Executive Officer
  - Chief Information Officer
  - Chief Operations Officer
  - Chief Financial Officer
  - Head of Digital Transformation

Source: State of the CDO Survey, February–April 2020, IDC | n = 1,291
Leading the Business with Data

The digital economy is at a tipping point where information flows are the primary driver of global economic output.

87% of CXOs state that becoming a more intelligent enterprise is their top priority by 2025.

52% of global GDP will be driven by digitally transformed enterprises by 2023.

For an organization to be successful, it must be data-driven and have a strong data culture.

This means an organization requires people, process, and technology that can manage data from capture to consumption.

Source: The CxO View of the Future Enterprise in the Digital Economy Fielded January–February 2020, IDC, U.S. only. n = 152
The Digital Economy Requires a New Generation of Data Workers and Leaders

Generation Data reflects a growing number of people in roles who work with data daily to complete tasks, make decisions, and affect business outcomes.

Modern Gen-D leaders...

- need to leverage data for innovation
- using advanced analytics and intelligence about data
to improve operations and discover new revenue opportunities
while protecting data assets.
Success Requires Four Archetypes of Data Leadership

This IDC study discovered four types of data-driven leadership based on measures across two dimensions of Orientation and Emphasis.

**Governance Gurus**
- **Priorities:** Advise, monitor, and govern enterprise data
- **Concerns:** Data privacy, security, protection, errors
- **Means:** Building frameworks, policies, and reporting systems to monitor and respond to issues

**Digital Innovators**
- **Priorities:** Enterprise DX innovation, cost reduction, revenue generation
- **Concerns:** Automation, culture, learning, knowledge management
- **Means:** Creative use of operating levers such as data, analytics, IT, and organizational change to create business value

**Operational Optimizers**
- **Priorities:** Enable data usability, availability, and efficiency
- **Concerns:** Inefficiency, costs, inconsistency
- **Means:** Building/deploying infrastructures, tools, technologies, processes, and systems to support data operations

**Analytics Champions**
- **Priorities:** Analytics and reporting on products, customers, operations, and markets
- **Concerns:** Transparency, data quality, accuracy, predictiveness, business alignment
- **Means:** Developing/deploying analytic models on top of enterprise platforms to support/automate decision making in BUs
Successful Data Leadership Requires Agility to Address Multiple and Shifting Roles

Data leaders must remain flexible, and shift between archetypes to address multiple priorities and shifting demands.

At some organizations, a single data leader must seamlessly shift between multiple roles for success.

At others, a team of data leaders, each having a specialized role under a unified data strategy, is a model for success.
Chief Data Officers: The New Business Leaders

The two largest discrepancies observed were with cloud and metadata.

62% of organizations surveyed report cloud as a significant challenge.
- 15% rank cloud as their top priority
- 50% struggle with CDW/DL ingestion, quality, governance
- 12% of time is spent on data integrity and quality activities

88% of organizations surveyed report metadata as a significant challenge.
- 11% rank metadata as their top priority
- 65% are not using metadata tools
- 71% have four or fewer data stewards and 26% have none

Priorities Versus Challenges

- Cloud: 15.1% highest priority, 61.6% challenge
- Integration: 14.5% highest priority, 52.1% challenge
- Metadata: 10.9% highest priority, 88.2% challenge
- Quality: 7.4% highest priority, 37.9% challenge
- Self-service: 7.3% highest priority, 34.5% challenge

Source: State of the CDO Survey, February–April 2020, IDC. n = 1,291
Further Misalignment Observed in Data Privacy and Protection

65% of organizations surveyed report data privacy and protection as the top KPI, yet...

- 40% do not track data risk metrics.
- 53% are not using privacy and protection tools.
- 80% have four or fewer people in data privacy management roles.

Source: State of the CDO Survey, February-April 2020, IDC | n = 1,291
Misalignment Creates Underutilization

70% of organizations have articulated the need to be more data-driven. Yet, of the total data available to an organization, only 50% is being utilized.¹

Source of Data and Utilization by Industry

Organizations are not getting the full business value out of the digital economy’s natural resource.

¹ Source: Business Intelligence End User Survey, IDC, February 2020
## Governance Gurus

### Significant Challenges

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloud</td>
<td>66%</td>
</tr>
<tr>
<td>Ensuring appropriate protection for data in motion and at rest</td>
<td></td>
</tr>
<tr>
<td>Data</td>
<td>41%</td>
</tr>
<tr>
<td>Data discovery, classification, lineage, and process flow mapping</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>32%</td>
</tr>
<tr>
<td>Lack of means to hire or upskill workers</td>
<td></td>
</tr>
</tbody>
</table>

### Opportunities

- Implement data protection capabilities such as encryption, masking, and privacy management. 49% report not using these technologies.
- Implement metadata management, data catalog, and lineage capabilities. 60% report not using these technologies.
- Look for technology that uses AI/ML to automate data governance and management activities, such as classification and mapping of policies to data elements.

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
## Digital Innovators

### Significant Challenges

- **Cloud**
  - Ensuring appropriate protection for data in motion and at rest
  - 61%

- **Org**
  - Key stakeholders have unrealistic expectations on business outcomes of data initiatives
  - 43%

- **Data**
  - Collaboration on common business definitions
  - 42%

### Opportunities

- **Implement data protection capabilities such as encryption, masking, and privacy management**
  - 46% report not using these technologies

- **Implement lineage and process flow capabilities to map data to operational processes, analytical activities, and business outcomes**
  - 63% report not using these technologies

- **Implement business glossary and cataloging capabilities**
  - 63% report not using these technologies

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
Analytics Champions

Significant Challenges

- **Cloud** 54%
  - Mapping, transforming, and cleansing data as part of cloud data warehousing/lakes

- **Org** 42%
  - Lack of alignment on top priorities to focus on

- **Data** 37%
  - Enabling self-service data while maintaining compliance

Opportunities

- **Implement data profiling, quality, preparation, and enrichment capabilities**
  - 54% report not using these technologies

- **Implement lineage, process flow, and governance capabilities to map data to operational processes, analytical activities, and business outcomes**
  - 65% report not using these technologies

- **Implement cataloging, governance, and privacy capabilities**
  - 66% report not using these technologies

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
**Operational Optimizers**

### Significant Challenges

- **Cloud** 55%
  - Mapping, transforming, and cleansing master data as part of migration to SaaS applications

- **Data** 40%
  - Mapping business glossary terms to technical metadata

- **Trust** 33%
  - Data ownership, privacy, compliance, and security

### Opportunities

- **Implement master data management and data quality capabilities**
  - 55% report not using these technologies

- **Look for cataloging and glossary capabilities that use AI/ML to automate classification and map glossary terms to data elements**
  - 71% report not using these technologies

- **Implement data privacy management capabilities**
  - 57% report not using these technologies

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
Means to Success: Assess, Adapt, Articulate

A data leader must assess the alignment of business goals and priorities with KPIs and challenges.

A data leader must adapt to ongoing changes in priorities and lead the team and the organization toward a data-driven future.

A data leader must articulate the value and the need for the four different types of data leadership.
Guidance to Successful Data Leadership

Goals

- Validate business goals and objectives with key stakeholders.
- Align goals and objectives with data initiatives.
- Socialize and lead Gen-D to execute on initiatives.

Priorities

- Survey direct and indirect reports to identify where they are spending time.
- Evaluate how you are measured against data and IT priorities.
- Readjust priorities and/or recalibrate time for better alignment.

Key Performance Indicators

- Validate with stakeholders the KPIs you need to be measured on.
- Ensure KPIs align with the current and expected goals and priorities.
- Redefine critical success factors as needed.

Emphasis

- Use this IDC study as a guide to understand different data leadership types and adapt to the type of data leader you need to be as projects, programs, and priorities evolve.
Invest in the Right Tools for the Job

Governance Gurus
- Data catalogs
- Data stewardship
- Data flow/process mapping
- Data policy management
- Master data management
- Data profiling and quality
- Data masking/encryption
- Metadata repositories
- Reference data management
- Data privacy management

Digital Innovators
- Data catalogs
- Advanced and predictive analytics
- Descriptive analytics
- Master data management
- Data integration
- Self-service data preparation
- Business glossary
- Data-as-a-Service
- Data profiling

Operational Optimizers
- Metadata management
- Data quality
- Data replication
- Data integration
- Test data management
- Data loss prevention
- Data warehouses and lakes
- Information life-cycle management
- Data migration
- Master data management
- Data storage and orchestration
- Data protection and security

Analytics Champions
- Data ingestion
- Advanced and predictive analytics
- Visualization and self-service analysis
- Data profiling and quality
- Data warehouses and lakes
- Data streaming
- Data catalogs and marketplace
- Data anonymization
- Self-service data preparation

Protect
Advocate
Enterprise-Oriented
IT/Business Unit-Oriented
Leading with Data to a Future of Enterprise Intelligence

The digital economy requires broad and consistent use of data by a more data-literate workforce.

A data-literate workforce requires adaptive and agile data leadership to support:

- Operational efficiency and cost optimization
- Analytic insights and decision making
- Business innovation and customer experience improvements
- Risk management and ethical use of data

Data enablement is a differentiator:

- Identify, catalog, transform, and master as much data as possible for higher data utilization.
- Democratize the data to empower the right people at the right time for the right uses.
- Automate data management processes to augment Gen-D worker skills and capabilities within your organization.
- Invest in the right capabilities to address evolving priorities and challenges.

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
Regional Influences and Industry Drivers of Data Leaders Around the World

NA is the most protective but with a broader enterprise orientation, perhaps reflective of how recent data breaches have tarnished corporate America.

EMEA is protective and most oriented to IT/business unit, reflective of heavy regulatory requirements.

CEMA ranks highest on the scale of advocacy but is dragged down by detail in an IT/business-unit orientation.

Both LATAM and AP are further away from protection, perhaps reflective of less regulated environments, with a focus on customer experience in highly populated areas.

Industries with enterprise perspectives are straddling protection and advocacy as they face competition in the digital economy.

Industries focused on customer experience and innovation are finding new insights and addressing productivity through data advocacy.

Industries with massive amounts of data are leveraging analytics to solve problems at IT and business-unit levels.

Education and government are focused on protection of individuals and organizations represented in the data.

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
Regional and Industry Influences in Country-Level Characteristics

**Business goal:** Cost reduction
**Objective:** Lower manufacturing costs
**Challenged by:** Organization and skills
**Data priority:** Self-service
**Data issue:** Lineage

**Business goal:** Cost reduction
**Objective:** Lower manufacturing costs
**Challenged by:** Technology
**Data priority:** Cloud data lakes/warehouses
**Data issue:** Classification

**Business goal:** Cost reduction
**Objective:** Lower manufacturing costs
**Challenged by:** Technology
**Data priority:** Metadata management
**Data issue:** Business glossary mapping to technical mapping

**Business goal:** Cost reduction
**Objective:** Lower procurement costs
**Challenged by:** Culture and skills
**Data priority:** AI in IT operations
**Data issue:** Scaling preparation and quality

**Business goal:** Cost reduction
**Objective:** Lower manufacturing costs
**Challenged by:** Modernization
**Data priority:** AI in business
**Data issue:** Business glossary mapping to technical mapping

**Business goal:** Cost reduction
**Objective:** Lower manufacturing costs
**Challenged by:** Modernization
**Data priority:** AI in IT operations
**Data issue:** Classification

**Business goal:** Risk aversion
**Objective:** Improve cybersecurity
**Challenged by:** AI in IT operations
**Data priority:** Scaling preparation and quality

**Business goal:** Customer experience
**Objective:** Increase customer acquisition
**Challenged by:** Collaborating on business definitions
**Data priority:** Cloud

Source: State of the CDO Survey, February–April 2020, IDC, n = 1,291
Appendix: Research Hypothesis and Method

Hypothesis:
The complexity of data flows, coupled with different data capabilities of organizations have made the responsibilities of an organization’s data leader more than one person’s role.

Methodology:
By surveying 1,291 organizations worldwide, IDC identified natural clusters of data leaders in terms of their organization’s data capabilities and intersection with how each leader is measured and stated mandates.

The distribution of survey respondents shows natural clusters in two dimensions:

- Data capabilities and scope orientation: IT/Business Unit to Enterprise
- Individual data leader KPI measurements and mandate: Protect to Advocate

### Enterprise–IT/Business Unit Score

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<thead>
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<th>Score</th>
<th>Enterprise</th>
<th>IT/Business Unit</th>
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<tr>
<td>82–100</td>
<td>143</td>
<td>303</td>
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<tr>
<td>70–81</td>
<td>187</td>
<td>372</td>
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<td>56–69</td>
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<td>95</td>
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<tr>
<td>26–39</td>
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</tr>
<tr>
<td>0–25</td>
<td>95</td>
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</table>

### Protect–Advocate Score

<table>
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<tr>
<th>Score</th>
<th>Protect (-6 to -4)</th>
<th>Some protect (-3 to -1)</th>
<th>Neutral protect (-0)</th>
<th>Neutral advocate (+0)</th>
<th>Some advocate (1 to 3)</th>
<th>Advocate (4 to 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of respondents</td>
<td>248</td>
<td>376</td>
<td>95</td>
<td>78</td>
<td>272</td>
<td>222</td>
</tr>
</tbody>
</table>
Appendix: Demographics

Global Region

- AP: 27%
- CEMA: 6%
- EMEA: 19%
- LATAM: 4%
- NA: 44%

Company Size (number of employees)

- 1,000–2,499: 17%
- 10,000 or more: 17%
- 2,500–4,999: 33%
- 5,000–9,999: 11%
- 500–999: 22%

Industry

- Healthcare & life sciences: 17%
- Finance: 16%
- Education and government: 11%
- Trans., comm., utilities: 11%
- Retail or wholesale: 13%
- Services: 22%
- Manufacturing: 10%
About the Analyst

Stewart Bond
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
Message from the Sponsor

Informatica: Exclusive Partner for State of the CDO Survey

Creating and executing a data strategy that is mapped to business goals, process, and outcomes is one of the most important activities you as Chief Data Officer can do to improve business performance. What should you look for in your data management solution partner?

Consider the following:

- Informatica is the only vendor with market leading capabilities in all data management capabilities, which reduce risk.
- Informatica is the first vendor to integrate capabilities into a comprehensive platform that increases return on investment.
- Informatica offers modular capabilities that enable fast deployment to accelerate time to value.
- Informatica was the first vendor automating and scaling data management activities using AI to lower cost of ownership.

See why Informatica is the global leader in enterprise cloud data management. and See what we’ve learned from more than 25 years of experience working with data.
About IDC

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