Results of any sample are subject to sampling variation. The magnitude of the variation is measurable and is affected by the number of interviews and the level of the percentages expressing the results. For the interviews conducted in this particular study, the chances are 95 in 100 that a survey result does not vary, plus or minus, by more than 5.7 percentage points from the result that would be obtained if interviews had been conducted with all persons in the universe represented by the sample.
INTRODUCTION AND KEY FINDINGS
INTRODUCTION

Establishing a culture of data-driven decision making (i.e., a data culture) is frequently cited as the top priority for today’s chief data officers (CDOs), chief data & analytics officers (CDAOs), and other top data executives.

The Alation State of Data Culture Report provides a quarterly assessment of the progress enterprises have made in establishing a data culture within their organizations, the challenges they face in embracing data-driven decision making, and the progress they have made in leveraging data to drive business value for their organizations.

The report introduces the Data Culture Index™ (DCI), a quantitative assessment of how well an organization is positioned to enable data-driven decision making. Enterprises are scored based upon the adoption of the three pillar disciplines of data culture: data search & discovery, data literacy, and data governance.

The Data Culture Index assigns a score between 0 and 4 for each of the three pillar disciplines, thus producing an overall score between 0 and 12. Scores 10-12 are graded with an A, 8-9 a B, 6-7 a C, 4-5 a D, and 0-3 an F. Companies are grouped into three tiers: Top (A or B), Middle (C), and Bottom (D or F), each reflecting about 1/3rd of the sample in the initial survey.
Enterprises need to make significant progress on developing data culture. Moreover, a disconnect exists such that those companies with the least developed data cultures least recognize the amount of work needed to be done to create one.

- Only 12% of companies score an A on data culture development; nearly two-thirds score a C, D, or F.

- A “data culture disconnect” exists whereby leaders over-estimate their organizations’ data culture in overall assessments compared to the bottom-up scoring in the Data Culture Index (DCI). 58% of leaders gave their organizations an overall grade higher than the one produced by the DCI for their organization.

- More than 85% of Bottom Tier (33rd percentile) companies made these grade-inflated overall assessments, revealing a Dunning-Kruger-like effect whereby those with the lowest scores were the least likely to recognize it.

- This bias demonstrates the need for and importance of an objective yardstick with which to measure progress on data culture development.
KEY FINDINGS, THE CHIEF DATA & ANALYTICS OFFICER

The Chief Data Officer is morphing into the Chief Data & Analytics Officer, likely reflecting an increased desire for a focus on both offensive (analytics) and defensive (governance) data strategies.

• 6 out of 7 companies (86%) have a C-level position responsible for data.

• 44% of those have a Chief Data & Analytics Officer, 23% have a Chief Analytics Officer, and 19% have a Chief Data Officer.

• Reporting structure is a strong predictor of a Top Tier data culture; 71% of Top Tier companies have a C-level data officer reporting directly to the CEO or Executive Board.

• 40% of Bottom Tier companies cite a lack of buy-in from leadership as a top challenge.

• 78% of companies (and 92% of Top Tier companies) have a corporate initiative to become more data driven.
KEY FINDINGS, COLLABORATION AND DECISION MAKING

Data quality remains the soft underbelly of data culture, resulting in decision makers questioning data, and often relying on gut instinct to make decisions. Collaboration and data governance remain top initiatives to improve the situation.

• Data quality (38%), data governance (36%), and advanced analytics (36%) were the top three reported D&A priorities, with data quality also cited as the top challenge to using data to drive business value.

• Increasing collaboration between the business and the D&A team (44%) and managing data governance at the point of use (41%) were the top two initiatives cited in helping to foster data culture. At top-tier data culture companies the figures increase to 59% and 56% respectively.

• 90% of data leaders say that the decision-makers at their company at least sometimes question the data they use, with over half (56%) saying this happens “often” or “all the time”. The reported frequency of questioning data was inversely correlated to organization level, with C-levels responding that it happens “all the time” or “often” 32% of the time, executives 53%, and directors 72%.

• Data leaders reported that C-levels ignore data in favor of gut instinct either “all the time” or “often” 31% of the time, citing belief in their instinct, lack of collaboration, and “used to their way” as the top reasons why.
KEY FINDINGS, BUSINESS DRIVERS AND ORGANIZATIONAL PROPONENTS

Business drivers and organizational proponents vary between Top and Bottom Tier companies, with Top Tier companies driven primarily by offensive considerations and Bottom Tier companies driven by defensive ones.

- Operational efficiency (55%) was the top reported business driver for D&A priorities, with customer intimacy (48%), regulatory and compliance (48%), and digital transformation (47%) in a virtual three-way tie for second.

- Top organizational proponents for D&A initiatives were GRC (55%), F&A (53%), Customer Service (48%), and Operations (45%), overall.

- Top Tier companies, however, are driven by different proponents with Operations (56%) and Customer Service (54%) leading and only 33% citing GRC as a top proponent.

GRC = governance, risk, and compliance, F&A = finance & administration
KEY FINDINGS, COVID-19 AND DATA CULTURE

**COVID-19 is accelerating the move towards data culture, challenging companies to use data in new and expanded ways, and driving the increased usage of BI tools, visualization, and data catalogs**

- Over half (58%) of companies report that C-level executives rely “much more” or “somewhat more” on data for making business decisions as a result of COVID-19, with 18% relying “much more.” At Top Tier companies those figures increase to 67% and 25% respectively.

- Two-thirds (66%) say their company has either expanded how they use data already or have started using data in new ways as a result of COVID-19.

- Companies report increased usage of BI tools (47%), data visualization (43%), and data catalogs (39%) since the start of the COVID-19.
DATA CULTURE INDEX
DATA CULTURE INDEX (DCI)

To assess data culture, companies are assigned points based upon their adoption of three foundational disciplines: the ability to find data (search & discovery), analyze it to draw conclusions properly (literacy), and govern it appropriately (governance).

**DATA SEARCH & DISCOVERY**
- All departments can do this (4 points each)
- Most departments (3 points each)
- Around half of departments (2 points each)
- Few or one department (1 point each)
- No departments can do this (0 points each)

**DATA LITERACY**
- 30%
- 32%
- 29%

**DATA GOVERNANCE**
- 24%
- 37%
- 34%

Index Score
Level of adoption inside organization for each discipline:
- Data search & discovery (up to 4 points)
- Data literacy (up to 4 points)
- Data governance (up to 4 points)

Total Possible Points: 12
Q3 2020 DATA CULTURE INDEX RESULTS

<table>
<thead>
<tr>
<th>Data Culture Index Score (out of 12)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1%</td>
</tr>
<tr>
<td>11</td>
<td>3%</td>
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<tr>
<td>10</td>
<td>8%</td>
</tr>
<tr>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>6</td>
<td>19%</td>
</tr>
<tr>
<td>5</td>
<td>14%</td>
</tr>
<tr>
<td>4</td>
<td>17%</td>
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<tr>
<td>3</td>
<td>3%</td>
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<tr>
<td>2</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>1</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>0</td>
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</tbody>
</table>

Top Tier: 33% of companies have a high data culture, meaning half or most departments in their organizations have adopted all three disciplines, with at least one of these three disciplines already adopted in all or most departments in the organization.

Middle Tier: 32% of companies have an average data culture, where there is some adoption across all three disciplines.

Bottom Tier: 35% of companies have a low data culture, where just a few departments have adopted the three disciplines.

These three tiers are approximately tertiles
FEWER THAN 10% OF COMPANIES HAVE FULLY ENABLED THE THREE DISCIPLINES OF DATA CULTURE ACROSS ALL DEPARTMENTS

The three key disciplines of a data culture are data search & discovery, data literacy, and data governance. While data leaders say that their companies are working on adopting these disciplines, very few have done so across all departments.

LEVEL OF COMPANY ADOPTION:  
N=300

- All departments can do this
- Most departments
- Around half of departments
- Few or one department
- No departments can do this

DATA SEARCH & DISCOVERY  
24% 37% 30% 9%

DATA LITERACY  
30% 32% 29% 7%

DATA GOVERNANCE  
24% 34% 37% 5%

How widely has your company adopted... data search & discovery? ... data literacy? ... data governance?
THE DATA CULTURE DISCONNECT: MOST THINK THEIR DATA CULTURE IS BETTER THAN IT IS

66% of data leaders self-assessed their company as scoring an A or B on data culture, despite only 33% scoring A or B on the DCI. 87% of bottom tertile companies gave self-assessments higher than their DCI score. This shows a Dunning-Kruger-like effect, where companies that have a Bottom Tier data culture are also the least likely to recognize it.

<table>
<thead>
<tr>
<th></th>
<th>Self-assessed</th>
<th>Data Culture Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (10-12 out of 12)</td>
<td>16%</td>
<td>12%</td>
</tr>
<tr>
<td>B (8-9 out of 12)</td>
<td>50%</td>
<td>21%</td>
</tr>
<tr>
<td>C (6-7 out of 12)</td>
<td>28%</td>
<td>32%</td>
</tr>
<tr>
<td>D (4-5 out of 12)</td>
<td>6%</td>
<td>31%</td>
</tr>
<tr>
<td>F (0-3 out of 12)</td>
<td>0%</td>
<td>4%</td>
</tr>
</tbody>
</table>

GRADE INFLATION BY DATA CULTURE INDEX SCORE

How would you grade the data culture at your company?

87% of Bottom Tier companies provided an overall self-assessment higher than their DCI score.
DETAILED RESEARCH FINDINGS
WHO’S RESPONSIBLE FOR DATA? THE CHIEF DATA & ANALYTICS OFFICER

Overall, 6-in-7 (86%) have a C-level position for data, with Chief Data & Analytics Officer (CDAO) as the most common C-level Data officer. Most, but not all, companies also have an initiative to become more data-driven.

Which of the following does your organization have? Has your company established a corporate initiative to become a more data-driven organization?

- 78% Yes
- 22% No (net)

PERCENT WHOSE COMPANY HAS AN INITIATIVE TO BECOME A MORE DATA-DRIVEN ORGANIZATION
N=300

- 96% of Top Tier companies have a C-level data officer, with 51% having a CDAO.
- 92% of Top Tier companies have a company-wide initiative to be more data-driven, and the other 8% have plans to do so.
REPORTING STRUCTURE IS A STRONG PREDICTOR OF A COMPANY’S DATA CULTURE TIER

Most (57%) C-level Data Officers report to the CEO or Executive Board, but nearly 2-in-5 (38%) report to a tech-based C-suite. Those at Top Tier companies are more likely to report directly to the CEO or the Executive Board. This demonstrates how those organizations value the role of data.

WHO CDAOs, CAOs, OR CDOs AT THEIR ORGANIZATION REPORT TO ASKED AMONG THOSE WHO HAVE C-LEVEL DATA OFFICER, n=259

TOP TIER COMPANY INSIGHTS:

- 71% of C-level data officers at Top Tier companies report to the CEO or Executive Board.
TOP TIER COMPANIES ARE BREAKING DOWN SILOS

Top Tier companies are more focused on breaking down silos by increasing collaboration between the business and the data and analytics team (59%) and managing governance at the point of data use (54%). Overall, 80% of Top Tier companies are focused on these, compared to 64% overall.

Which of the following types of initiatives, if any, is your company currently doing to do to help your organization foster a data culture?

- 64% (net)
- 64%

INCREASING COLLABORATION BETWEEN THE BUSINESS AND THE DATA AND ANALYTICS TEAM 44%
MANAGING DATA GOVERNANCE AT THE POINT OF DATA USE 41%
EMPHASIS ON DATA SKILLS IN NEW HIRES 39%
RAISING AWARENESS ABOUT THE VALUE OF USING DATA 38%
TRAINING/RE-TRAINING ON USING DATA 37%
ESTABLISHING AN INTERNAL DATA COMMUNITY 36%
DESIGNATING OR ASSIGNING DATA STEWARDS WITHIN BUSINESS UNITS 35%
EMBEDDING DATA SCIENTISTS IN DEPARTMENTS 34%
CREATING METRICS AND KPIs AROUND DATA CURATION 31%

TOP TIER COMPANY INSIGHTS:

- 59% are increasing collaboration with their data and analytics team.
- 55% are managing governance at the point of data use.
- Overall, 80% of Top Tier companies are focused on these initiatives to break down silos and foster their data culture.
Most companies are prioritizing operations and efficiency, followed by customer intimacy and regulatory/compliance.

**KEY BUSINESS DRIVERS FOR COMPANY’S DATA AND ANALYTICS PRIORITIES**

*N=300*

- Operations and efficiency: 55%
- Customer intimacy: 48%
- Regulatory and compliance: 48%
- Digital transformation: 47%
- Generating Revenue: 41%
- Product innovation: 40%

**TOP TIER COMPANY INSIGHTS:**

- Like other companies, Top Tier companies also list operations and efficiency as the top business driver with 59%.
TOP CHALLENGES USING DATA TO DRIVE BUSINESS VALUE

All companies cite data quality as a top challenge in driving business value. At Bottom Tier companies, data leaders say they are challenged by a lack of buy-in from company leadership.

TOP CHALLENGES USING DATA TO DRIVE BUSINESS VALUE
N=300

- **42%** Data Quality – bad, inaccurate, or redundant data
- **39%** Managing Compliance
- **39%** Data Democratization - not everyone can access data on their own
- **37%** Organizational Silos - data is not shared among different groups
- **30%** Data discovery - do not know what data exists or who has what data
- **28%** Lack of a data-driven culture
- **27%** Lack of buy-in from company leadership
- **38%** Lack of analytical skills among employees
- **40%** of Bottom Tier companies cite a lack of buy-in from leadership as a top challenge.
TOP TIER COMPANIES FIND CHAMPIONS IN OPERATIONS AND CUSTOMER SERVICE

At Top Tier companies, the primary proponents of data are external-facing (Customer Service) and have organization-wide reach (Operations), compared to Bottom Tier companies where Risk and Finance departments are primary proponents.

BUSINESS UNITS OR DIVISIONS THAT ARE TOP PROPONENTS FOR DATA AND ANALYTICS NEEDS

N=300

- 55% Governance, Risk, and Compliance
- 53% Finance/Administration
- 48% Customer Service
- 45% Operations
- 26% Product
- 25% Sales
- 19% Marketing
- 19% Human Resources

TOP TIER COMPANY INSIGHTS:

- The top proponents for data and analytics at Top Tier companies are operations (56%) and customer service (54%).
- Only 33% cite governance, risk, and compliance as a top proponent, compared to 55% overall.
All companies prioritize initiatives to improve their data quality. Top Tier companies also prioritize data democratization.

Using the list below, please rank in order the top three data and analytics initiatives and priorities inside your company.

**DATA ANALYTICS INITIATIVES AND PRIORITIES**

**TOP THREE RANKED RESPONSES, N=300**

- **DATA QUALITY**: 38%
- **DATA GOVERNANCE & COMPLIANCE**: 36%
- **ADVANCED ANALYTICS & AI**: 36%
- **DATA DEMOCRATIZATION**: 35%
- **DATA INTEGRATION**: 34%
- **DATA LITERACY**: 33%
- **MASTER DATA MANAGEMENT**: 32%
- **DATA-DRIVEN METADATA MANAGEMENT**: 28%

**TOP TIER COMPANY INSIGHTS:**

- At companies with a Top Tier data culture, data quality is the top initiative with 43%, followed by democratization at 38%.
- Top Tier data culture companies are less likely to list metadata management as a priority, with only 18% compared to 28% overall.
### MOST COMMON DEPLOYMENTS OF DATA & ANALYTICS INITIATIVES

Most deployments of data and analytics are focused on customer service, operations, or product. Top Tier companies are the most likely to have deployed data and analytics for these objectives.

#### BUSINESS OBJECTIVES WHERE COMPANY HAS DEPLOYED A DATA AND ANALYTICS INITIATIVE

*N=300*

<table>
<thead>
<tr>
<th>Business Objective</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service Improvements</td>
<td>44%</td>
</tr>
<tr>
<td>Efficiencies in Operations or Supply Chain</td>
<td>44%</td>
</tr>
<tr>
<td>Innovating New Product Developments</td>
<td>42%</td>
</tr>
<tr>
<td>Innovating Enhancements to Current Products</td>
<td>39%</td>
</tr>
<tr>
<td>Compliance, Risk, and Governance</td>
<td>38%</td>
</tr>
<tr>
<td>Revenue Generation</td>
<td>34%</td>
</tr>
<tr>
<td>Financial Reporting</td>
<td>34%</td>
</tr>
<tr>
<td>Hiring, Training, or Re-Skilling</td>
<td>33%</td>
</tr>
<tr>
<td>Marketing</td>
<td>22%</td>
</tr>
</tbody>
</table>

#### TOP TIER COMPANY INSIGHTS:

- **52%** have deployed data and analytics for customer service improvements.
- **47%** have deployed data and analytics for operations and supply chain.
- **46%** have deployed data and analytics for innovating new product developments.
MOST DECISION-MAKERS ARE QUESTIONING THE DATA THEY USE

Ninety percent of data leaders say that the decision-makers at their company at least sometimes question the data they use, with over half (56%) saying this happens often or all the time. Those at the Director level are the most likely to say this happens most or all the time.

HOW OFTEN DECISION-MAKERS QUESTION THE DATA THEY USE

![Bar chart showing the frequency of data question by decision-makers in different roles.]

How frequently do decision-makers in your company question the data they use?

TOTAL
N=300

C-LEVEL
n=60*

EXECUTIVE
n=116

DIRECTOR
n=124

<table>
<thead>
<tr>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>All the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>8%</td>
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<td>28%</td>
</tr>
<tr>
<td>Rarely</td>
<td>8%</td>
<td>45%</td>
<td>30%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>9%</td>
<td>39%</td>
<td>31%</td>
</tr>
<tr>
<td>Often</td>
<td>5%</td>
<td>23%</td>
<td>33%</td>
</tr>
<tr>
<td>All the time</td>
<td>2%</td>
<td>8%</td>
<td>15%</td>
</tr>
</tbody>
</table>

*Executive sample includes C-Level and Director roles.
TWO-THIRDS OF COMPANIES’ DECISION MAKERS IGNORE DATA IN FAVOR OF GUT INSTINCT WHEN MAKING DECISIONS

Most companies say their company’s C-level executives at least sometimes ignore data in favor of gut instinct. While the top reason why is that they believe their instinct is a differentiator, lack of collaboration with their data and analytics team is another key reason why this happens.

How often, if ever, do C-level executives at your company ignore data in favor of gut instinct when making business decisions? / What are the top reasons why decision-makers in your company sometimes ignore data in favor of gut instinct?
THERE ARE POSITIVE SIGNS FOR EMBRACING DATA, AS COVID-19 HAS LED COMPANIES TO RELY ON DATA MORE FOR DECISION-MAKING

Over half (58%) say their company’s C-level executives are relying more on data than they were at the start of COVID-19. This increase is most seen among C-level data officers.

Since the start of COVID-19, have C-level executives relied more or less on data when making business decisions?

<table>
<thead>
<tr>
<th>Change in Reliance</th>
<th>TOTAL N=300</th>
<th>C-LEVEL n=60*</th>
<th>EXECUTIVE n=116</th>
<th>MANAGEMENT n=124</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relied much less</td>
<td>18%</td>
<td>12%</td>
<td>25%</td>
<td>1%</td>
</tr>
<tr>
<td>Relied somewhat less</td>
<td>23%</td>
<td>18%</td>
<td>19%</td>
<td>30%</td>
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<td>18%</td>
<td>30%</td>
<td>11%</td>
<td>19%</td>
</tr>
<tr>
<td>Relied much more</td>
<td></td>
<td></td>
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</tbody>
</table>

TOP TIER COMPANY INSIGHTS:

• 67% of data leaders at Top Tier companies say their C-level executives are relying on data more since the start of COVID-19.

• This includes 25% who say they are relying on data “much more”, compared to 18% overall.
COMPANIES ARE ALSO EXPANDING HOW THEY USE DATA DURING COVID-19

Two-thirds (66%) say their company has either expanded the way they previously used data or has started using data in new ways as a result of COVID-19.

USE OF DATA IN DECISION-MAKING DUE TO COVID-19
N=300

- Using data in new ways: 27%
- Expanded how already using data: 19%
- Using data less or in fewer ways: 16%
- No impact due to COVID-19: 38%

TOP TIER COMPANY INSIGHTS:

- 49% of data leaders at Top Tier companies say they are expanding how they already use their data.
USE OF BI TOOLS, DATA VISUALIZATION, AND DATA CATALOGS HAS INCREASED SINCE THE START OF COVID-19

Almost 2-in-5 (39%) are using data catalogs more since the start of COVID-19, including 44% of companies with a high data culture.

Which of the following technologies, if any, are you using more of since the start of COVID-19?

TOP TIER COMPANY INSIGHTS:

- 44% of data leaders at Top Tier data culture companies say they are using data catalogs more since the start of COVID-19.