Leadership and Decision Making in the Era of Generative AI

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Introduction

Many organizations have invested in single-purpose data and analytics solutions for decades but still struggle to build capabilities that truly drive intelligent decision making, such as having the ability to synthesize information, deliver insights, and collectively learn. Artificial intelligence (AI) has been a game-changer in how organizations leverage data and analytics and related technology investments.

To better understand how AI is impacting organizational ability to improve business outcomes, IDC undertook a survey, sponsored by Teradata, of 900 organizations across the globe, focusing on CDOs, CIOs, and CFOs. The objective was to learn more about the various characteristics of organizations with the greatest improvement in AI-driven decisioning, which strongly correlates with better business outcomes.

In this study, we measured AI-driven decisioning as an aggregate score of an organization's ability in these seven areas. This number is their AI-Driven Decisioning Score.

| Derive insights from data faster | Uncover new insights from data | Understand trends | Detect anomalies |

| Understand the root causes of exceptions, issues, problems | Understand key drivers of desired business outcomes | Provide more employees with insights to make better decisions |

A company's score puts them into one of three groups based on their performance in the past two years:

✓ **Lagging**   ✓ **Intermediate**   ✓ **Leading**

Executive Summary

AI-driven outcomes
Almost 90% more companies in the Leading group significantly improved business outcomes when they operationalized AI in their decision making when compared to the Lagging group.

Leadership
Business leaders must have equal or more influence on data and analytics initiatives than technology leaders. Leading organizations had business leaders drive data and analytics initiatives almost two times more than Lagging organizations.

Organizational structure
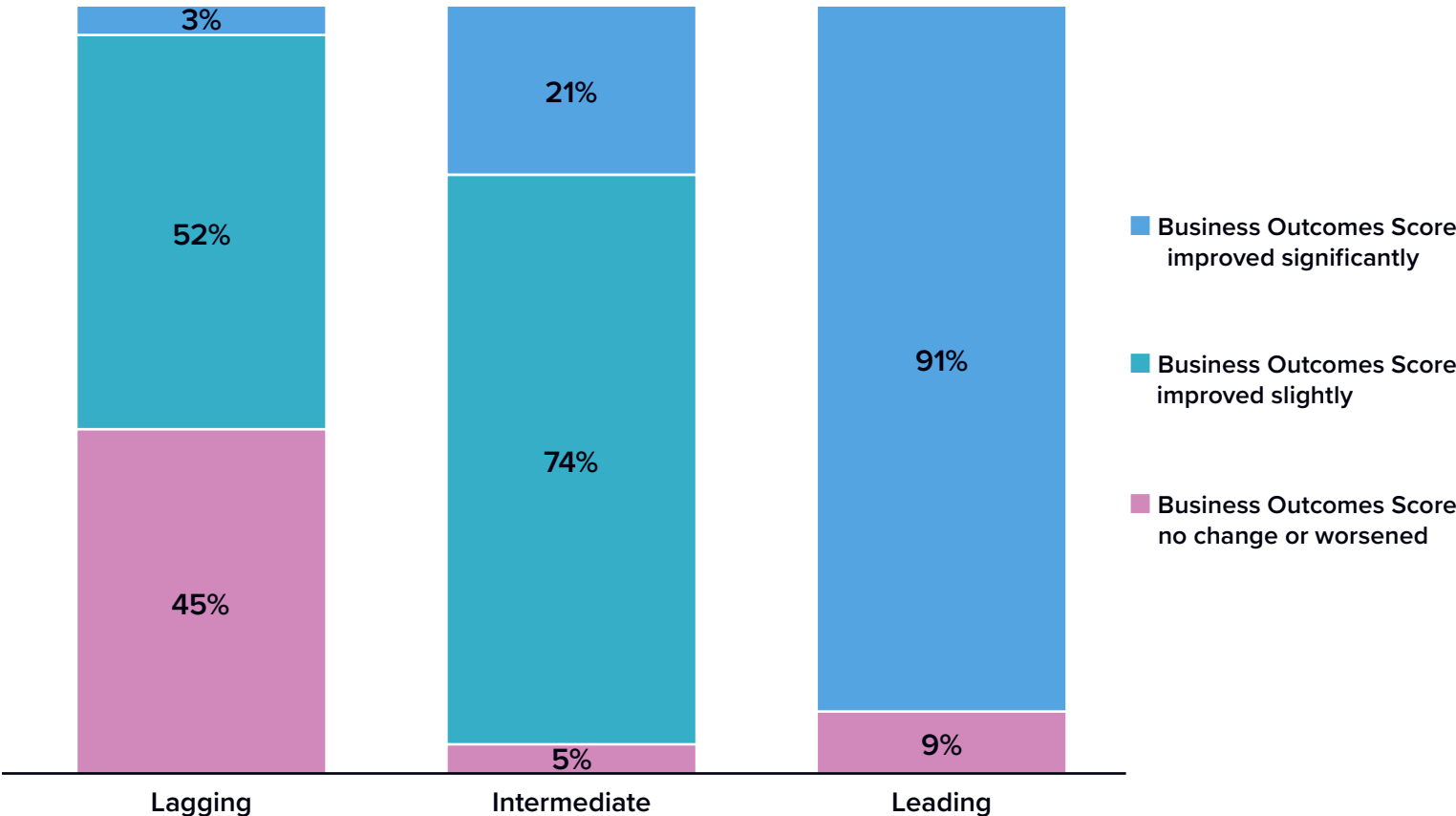Keeping data and analytics as close as possible to business generates better outcomes.

Data literacy
52% more organizations in the Leading group have strong data literacy than Lagging organizations. Generative AI (GenAI) demands better data literacy.

Leaders Achieved Significant Improvements Over Laggards

Chart — Business Outcomes Score by category:

	Lagging	Intermediate	Leading
Business Outcomes Score improved significantly	3%	21%	91%
Business Outcomes Score improved slightly	52%	74%	
Business Outcomes Score no change or worsened	45%	5%	9%

Legend:
- Business Outcomes Score improved significantly
- Business Outcomes Score improved slightly
- Business Outcomes Score no change or worsened

IDC averaged results across four business outcomes reported over the past two years to arrive at a single overall **Business Outcomes Score** for each participating organization.
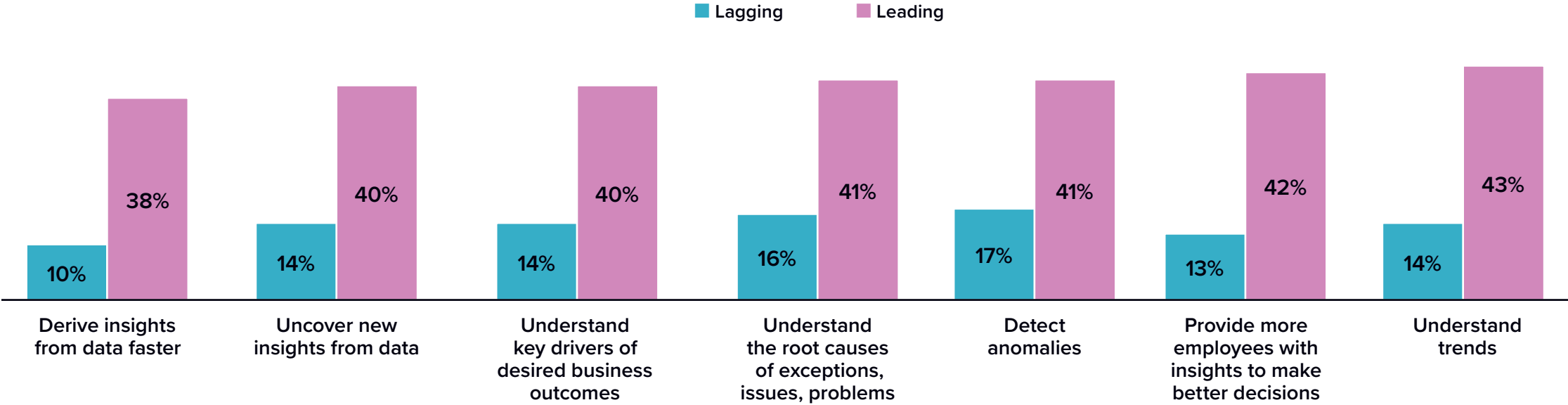
The four outcomes are:

- ✓ **Market share**
- ✓ **Profitability**
- ✓ **Customer satisfaction**
- ✓ **Employee satisfaction**

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix

Leading Organizations Invest in Data and Analytics Capabilities

In the past two years, how have your ongoing investments or initiatives in data and analytics impacted the following business practices?

(Percentage of respondents mentioning each outcome or benefit)

Legend: ■ Lagging ■ Leading

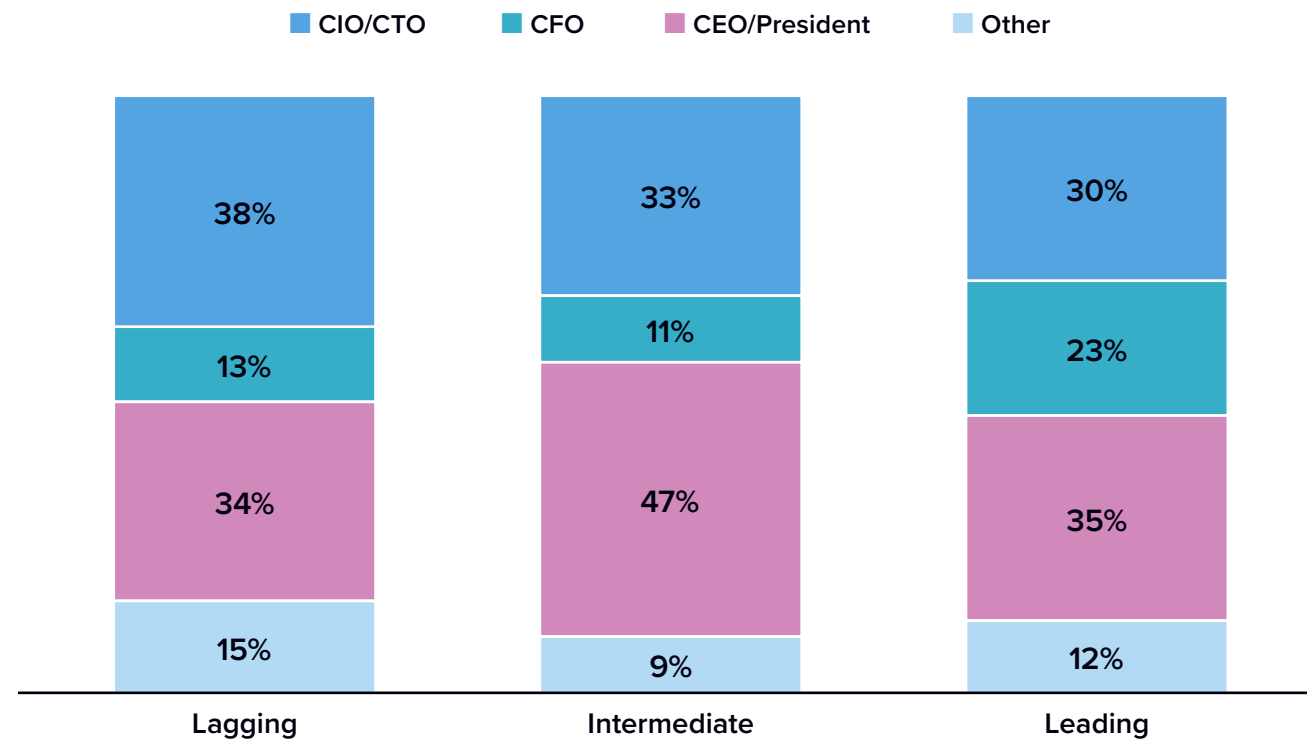| Category	Lagging	Leading
Derive insights from data faster	10%	38%
Uncover new insights from data	14%	40%
Understand key drivers of desired business outcomes	14%	40%
Understand the root causes of exceptions, issues, problems	16%	41%
Detect anomalies	17%	41%
Provide more employees with insights to make better decisions	13%	42%
Understand trends	14%	43%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix

On average, **27%** more companies in the Leading group cited the outcomes or benefits from investing in data and analytics capabilities compared with the Lagging companies.

The Leadership Role of C-Suite Executives

It is critical for business executives, including the CEO and CFO, to take leadership roles in the use of AI and data.

Who does the most senior person responsible for data and analytics report to?

Legend: ■ CIO/CTO ■ CFO ■ CEO/President ■ Other

	Lagging	Intermediate	Leading
CIO/CTO	38%	33%	30%
CFO	13%	11%	23%
CEO/President	34%	47%	35%
Other	15%	9%	12%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix

Leading organizations more frequently have leaders responsible for data and analytics report to the CFO compared to the other two groups.
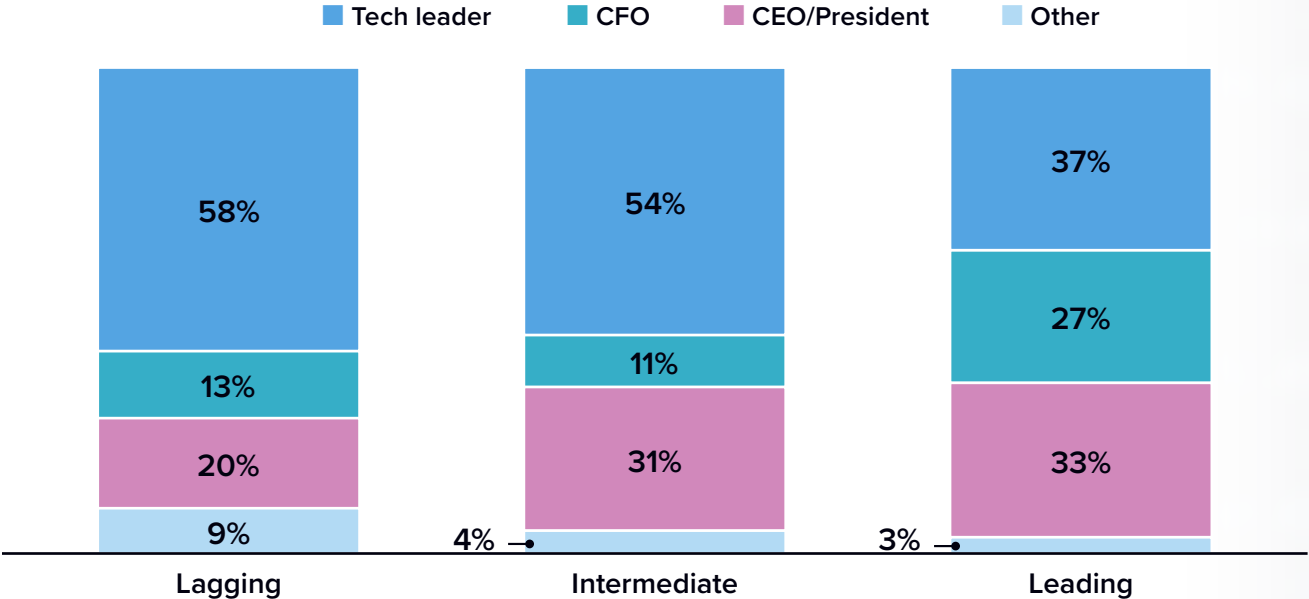
Lagging organizations most frequently have data and analytics leaders report to an IT executive (CIO or CTO).

Also, leading organizations are twice as likely (84% versus 42%) to have C-suite executives who believe that being data-driven is critical for the organization's success.

Data-Driven Business Leaders Have a Strong Influence

Organizations whose business executives take an active role in AI and data initiatives and investments see greater improvements.

Which role will have the most influence on your organization's data and analytics initiatives and investments through the next two years?

Legend: ■ Tech leader ■ CFO ■ CEO/President ■ Other

Lagging:
- Tech leader: 58%
- CFO: 13%
- CEO/President: 20%
- Other: 9%

Intermediate:
- Tech leader: 54%
- CFO: 11%
- CEO/President: 31%
- Other: 4%

Leading:
- Tech leader: 37%
- CFO: 27%
- CEO/President: 33%
- Other: 3%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix

Leading organizations with significant improvement more frequently state that the **CEO or CFO has more influence on data and analytics initiatives and investments** rather than IT and tech leaders.

Furthermore, the employees in these organizations more frequently believe their **C-suite leaders are better prepared to meet the organization's goals** in the coming one to two years.
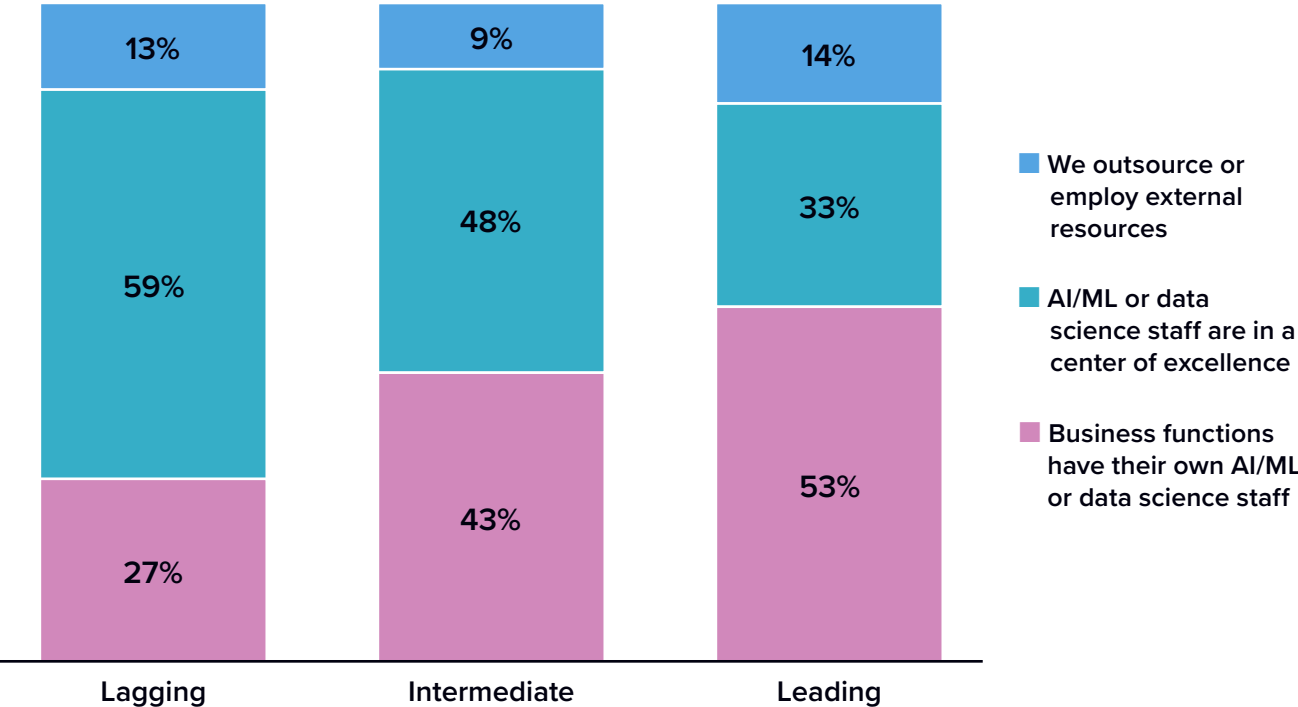
Making Analytics Available Throughout the Business

Many organizations choose centers of excellence as a means of sharing skills in advanced analytics, data science, and AI and machine learning (ML), but providing business functions with their own analytics staff is more prevalent among Leading organizations.

Among Leading organizations, **53%** find that distributing advanced analytics skills throughout business functions is the most effective method to address advanced analytics needs.

Which methods have you found more effective for addressing advanced analytics, data science, or AI/ML skills or needs?

Legend:
- We outsource or employ external resources
- AI/ML or data science staff are in a center of excellence
- Business functions have their own AI/ML or data science staff

Lagging: 13%, 59%, 27%
Intermediate: 9%, 48%, 43%
Leading: 14%, 33%, 53%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix

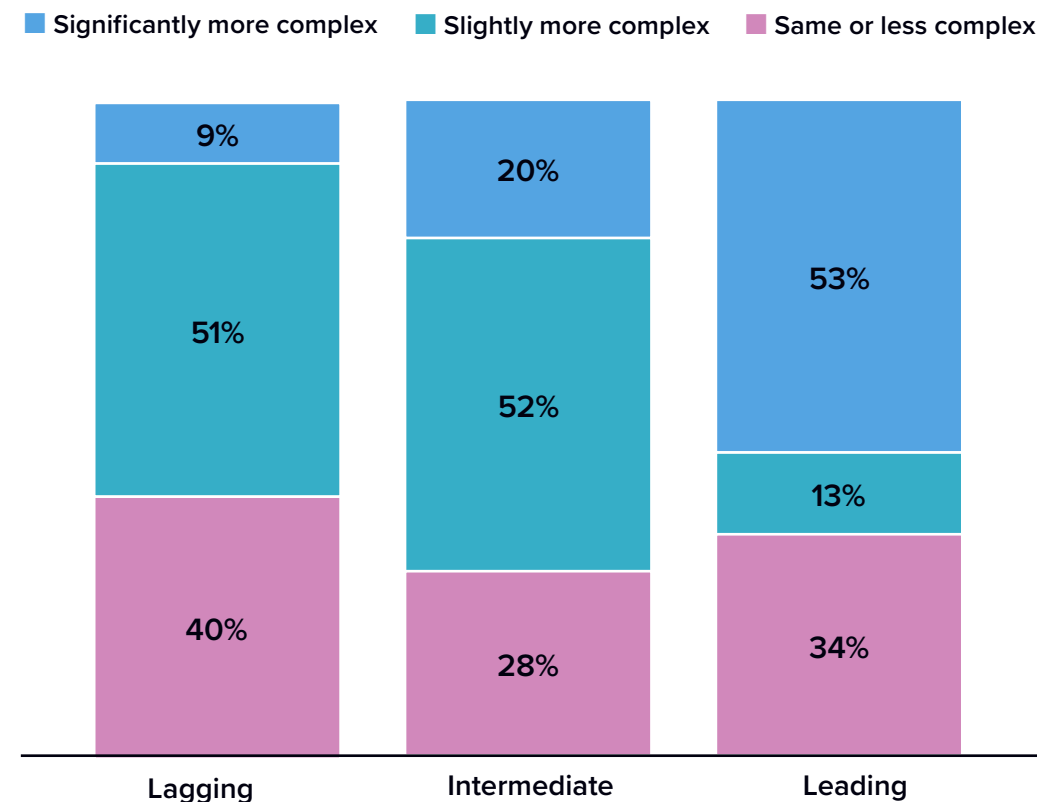# Leaders Address Complexity with Tools, Skills, and Strategy

As data grows in volume, velocity, variety, and locations, data complexity is inevitable. Organizations need an AI and data architecture and platform to operationalize decision support and automation for all.

Leading organizations are more than twice as likely than Intermediate organizations, and five times more likely than Lagging organizations, to have experienced significantly more data complexity. They are willing to embrace more diverse internal and external data and use more diverse analytics and AI models and methods.

Three-fourths of these organizations are early movers when it comes to adopting new data or analytics technologies.
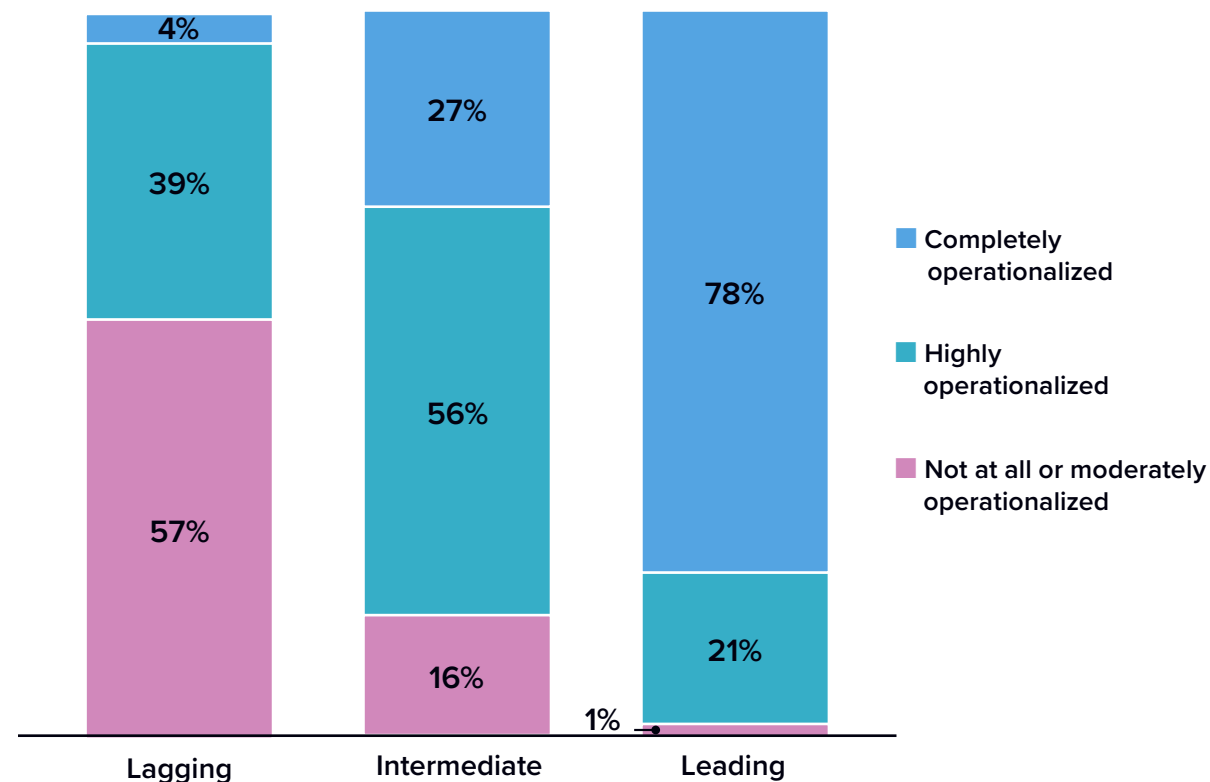
How did data volume, velocity, and variety change in your organization in the previous two years?

■ Significantly more complex ■ Slightly more complex ■ Same or less complex

	Lagging	Intermediate	Leading
Significantly more complex	9%	20%	53%
Slightly more complex	51%	52%	13%
Same or less complex	40%	28%	34%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, see Supplemental Data in Appendix

Operationalizing AI Helps Address Data and Analytics Complexities

To what extent are your organization's advanced analytics, data science, or AI/ML processes operationalized?

Chart data:

Lagging: 4% Completely operationalized, 39% Highly operationalized, 57% Not at all or moderately operationalized

Intermediate: 27% Completely operationalized, 56% Highly operationalized, 16% Not at all or moderately operationalized

Leading: 78% Completely operationalized, 21% Highly operationalized, 1% Not at all or moderately operationalized

Legend:
- ■ Completely operationalized
- ■ Highly operationalized
- ■ Not at all or moderately operationalized

Leading organizations are roughly 3 times more likely than Intermediate organizations and 18 times more likely than Lagging companies to have operationalized their advanced and predictive analytics, data science, and AI/ML processes.

Standardization of core data and financial analysis processes is much more prevalent among organizations with the greatest improvement in AI-driven decisioning. Standardization provides the needed stability to adjust or react to changing conditions and events with the support of data-driven insights.

Leading companies are in the later stages of digital transformation and tend to view themselves as digital businesses.

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix
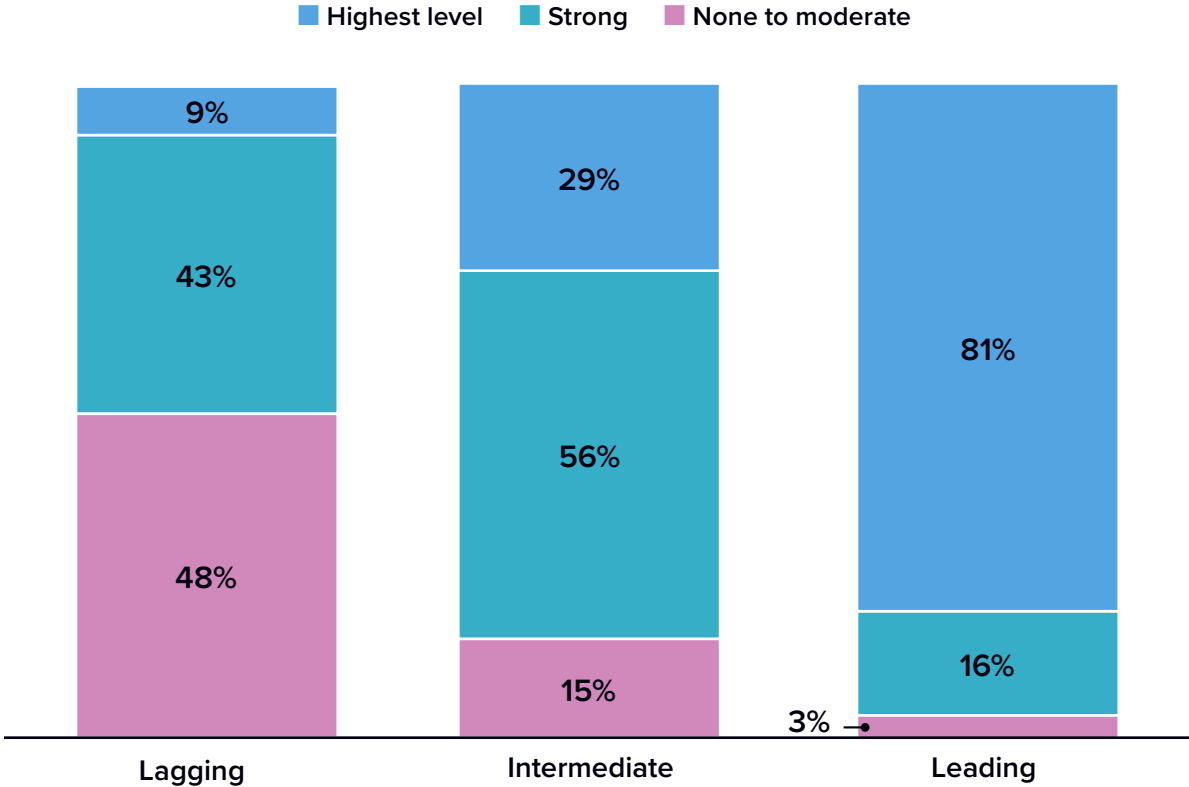
Investing in Data Literacy Pays Significant Dividends

Organizations must foster advanced analytics, AI/ML skills, and strong data literacy skills as generative AI becomes mainstream.

Companies in the Leading group have the highest level of expertise (81%) in these skills. This is compared to only 29% of Intermediate organizations and 9% of Lagging organizations.
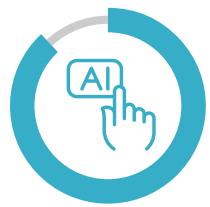
What is your organization's expertise in using advanced analytics, data science, or AI/ML to analyze data?

■ Highest level ■ Strong ■ None to moderate

	Lagging	Intermediate	Leading
Highest level	9%	29%	81%
Strong	43%	56%	16%
None to moderate	48%	15%	3%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023 | For an accessible version of the data in this figure, Supplemental Data in Appendix

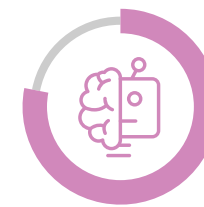# Do Organizations Have the Guardrails in Place to Scale Generative AI?

Leading organizations are more frequently prepared to leverage and trust GenAI, but they also acknowledge the need for greater governance over data quality and integrity.

88% of Leading organizations reported very high preparedness to use GenAI.

83% of Leading organizations reported very high trust in GenAI.

77% of Leading organizations completely agree they need more governance to ensure data quality and integrity to use GenAI.

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study*, sponsored by Teradata, March 2023

Generative AI has great potential to improve productivity through better human-computer interfaces, better pattern recognition in data analysis, and augmentation of human operators, from developers to sales staff.

Recent major improvements in AI-driven decisioning are a result of investment in data and analytics technology, skills, and processes. Having these in place prepares organizations to leverage GenAI once enterprise-grade, production-ready solutions become broadly available outside of a few current use cases.

Appendix: Supplemental Data

The tables in this appendix provide accessible versions of the data for the complex figures in this document. Click "Return to original figure" below this table to get back to the original data figure.

DATA FROM PAGE 5

	Business Outcomes Score improved significantly	Business Outcomes Score improved slightly	Business Outcomes Score no change or worsened
Lagging	3%	52%	45%
Intermediate	21%	74%	5%
Leading	91%	9%	0%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

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Appendix: Supplemental Data (continued)

DATA FROM PAGE 6

In the past two years, how have your ongoing investments or initiatives in data and analytics impacted the following business practices?

	Lagging	Leading
Derive insights from data faster	10%	38%
Uncover new insights from data	14%	40%
Understand key drivers of desired business outcomes	14%	40%
Understand the root causes of exceptions, issues, problems	16%	41%
Detect anomalies	17%	41%
Provide more employees with insights to make better decisions	13%	42%
Understand trends	14%	43%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

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Appendix: Supplemental Data (continued)

DATA FROM PAGE 7

Who does the most senior person responsible for data and analytics report to?

	CIO/CTO	CFO	CEO/President	Other
Lagging	38%	13%	34%	15%
Intermediate	33%	11%	47%	9%
Leading	30%	23%	35%	12%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

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DATA FROM PAGE 8

Which role will have the most influence on your organization's data and analytics initiatives and investments through the next two years?

	Tech leader	CFO	CEO/President	Other
Lagging	58%	13%	20%	9%
Intermediate	54%	11%	31%	4%
Leading	37%	27%	33%	3%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

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Appendix: Supplemental Data (continued)

DATA FROM PAGE 9

Which methods have you found more effective for addressing advanced analytics, data science, or AI/ML skills or needs?

	We outsource or employ external resources	AI/ML or data science staff are in a center of excellence	Business functions have their own AI/ML or data science staff
Lagging	13%	60%	27%
Intermediate	9%	48%	43%
Leading	14%	33%	53%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

Return to original figure

DATA FROM PAGE 10

How did data volume, velocity, and variety change in your organization in the previous two years?

	Significantly more complex	Slightly more complex	Same or less complex
Lagging	9%	51%	40%
Intermediate	20%	52%	28%
Leading	53%	13%	34%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

Return to original figure

Appendix: Supplemental Data (continued)

DATA FROM PAGE 11

To what extent are your organization's advanced analytics, data science, or AI/ML processes operationalized?

	Completely operationalized	Highly operationalized	Not at all or moderately operationalized
Lagging	4%	39%	57%
Intermediate	27%	56%	16%
Leading	78%	21%	1%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

Return to original figure

DATA FROM PAGE 12

What is your organization's expertise in using advanced analytics, data science, or AI/ML to analyze data?

	Highest level	Strong	None to moderate
Lagging	9%	43%	48%
Intermediate	29%	56%	15%
Leading	81%	16%	3%

n = 900; Source: IDC's *Data, Analytics, and AI Persona Study, sponsored by Teradata*, March 2023

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About the IDC Analysts

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Chandana Gopal is research director for IDC's Future of Intelligence market research and advisory practice.
Her core research coverage includes factors that influence enterprise intelligence such as artificial intelligence, business intelligence, and data intelligence as well as cultural elements such as data literacy and knowledge sharing.
With her background in integration and analytics, her research includes a particular emphasis on how organizations can build enterprise intelligence and use it as a competitive differentiator and growth accelerator.

More about Chandana Gopal

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Dan Vesset is group vice president of IDC's Analytics and Information Management market research and advisory practice where he leads a group of analysts covering all aspects of structured data and unstructured content processing, integration, management, governance, analysis, and visualization. He also leads IDC's global Big Data and Analytics research pillar. His research is focused on best practices in the application of business intelligence, analytics, and enterprise performance management software and processes on decision support and automation, and data monetization.

More about Dan Vesset

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