



# Data and AI Leadership Executive Survey 2022

## Executive Summary of Findings



### *The Quest to Achieve Data-Driven Leadership*

### *A Progress Report on the State of Corporate Data Initiatives*

With a Foreword by Thomas H. Davenport and Randy Bean

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## Foreword

The popular English author Kate Atkinson published a 2008 novel called *When Will There Be Good News?* With the Covid pandemic entering its third year, we all dwell on this issue. On a narrower front but germane to our focus here, we wonder when there will be good news about data-driven cultures in organizations. As in the past several years, more than nine out of ten respondents feel that the primary challenges to becoming data-driven are due to culture, people, and process issues. The management guru Peter Drucker famously stated that “Culture eats strategy for breakfast.” While there is undeniably much good news in the NewVantage Partners annual survey—now in its tenth year—the number of organizations with a data-driven culture stubbornly refuses to improve.

At least we have a persistent measure of the ongoing effort to transform organizations to become data-driven, drive the required cultural change, and track the progression of large enterprise data, analytics, and AI initiatives. The ten years of the survey provide a useful measure of progress—or the lack thereof in some respects—in how companies are managing these important initiatives. From 2012 to 2022 the survey has assessed the initiatives that large companies are focused on, where they are investing and the returns they are getting, the roles assigned to manage data, and the issues that cause significant challenges. The focus of the survey has shifted a bit over time from data management to Big Data to AI and analytics, but these changes reflect the changes companies themselves have made in their quest to become data driven. And every year the sample of companies responding becomes larger and more diverse.

And there is cause for encouragement, as there is every year. Almost three quarters of firms (73.7%) have appointed Chief Data or Analytics Officers, or both combined into one role. That’s an amazing increase since the 12.0 % in 2012. The role is considered “successful and established” by 40.2% of the firms participating in the survey, which is up by about 7.0% for each of the last two years. 92.1% of companies say they are achieving returns on their data and AI investments, which is up markedly from 48.1% in 2017. 91.7% said they were increasing investments in data and AI, equaling last year’s percentage. 26.0% of companies have AI systems in widespread production—more than double the 12.1% last year. Put simply, data and AI initiatives are becoming well-established, investments are paying off, and companies are getting more economic value from AI. These are all significant accomplishments.

But we can’t help thinking about the lack of progress in data-driven culture and the human/organizational barriers to greater success. And more importantly, how will notable improvements in these areas ever appear in companies and the survey? It should not come as a major surprise that cultural change comes slowly, particularly in the case of large, legacy companies that have operated very successfully for generations if not for more than a century. As another noted famous author, Ernest Hemingway, once said about change, sometimes it comes “gradually, then suddenly.”



Some of the key metrics for the journey to becoming data-driven have stabilized and are pointing to moderate levels of success. 56.5% are driving innovation with data, up 8.0% since last year but down from 2019 and 2020. The percentage that is “competing on data and analytics” has fluctuated in the mid-40% range—far better than hoped when first writing about this idea in 2006. Close to 40 % of organizations continue to manage data as a business asset.

But the stubbornly challenging numbers continue to be reflected in the percentage of firms that have “created a data-driven organization” (26.5%, just up from 2021 but down from 2020 and 2019), and the even worse “established a data culture” (19.3%, and down every year since the 28% that accomplished it in 2019). It is likely that as companies mature in their data capabilities and data leadership, they are also becoming more self-critical and realistic in their internal assessments, recognizing that there is much work that lies ahead. And herein lies great opportunity for the data profession in the years ahead, which should be very good news for those in the profession.

As an example of efforts to build a data culture, we know of several companies that have established “data literacy” programs, but we feel that much more could be done in this area. For example:

- More organizations need to hire data and AI executives with backgrounds and experience in organizational change rather than just technology and analytics
- Companies could engage change management experts to understand barriers to data-driven cultures and how to remove them
- Senior executives need to promote data-driven decision-making and to hire and promote those who practice it
- Business leaders need to celebrate data successes and highlight these successes at all levels of their organizations.

We look forward in the next year to the end or decline of Covid, and to the adoption of initiatives that bring about the changes in data-driven culture that companies need to make digital, data, and AI transformations successful, and progress in their quest to become data-driven organizations.

Thomas H. Davenport and Randy Bean

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## Introduction

Becoming a data-driven organization doesn't just happen. It requires leadership. Data volumes and sources continue to proliferate at an ever-increasing rate, challenging large, complex organizations to adapt and keep pace. As AI and machine learning capabilities mature, and as issues of data ethics and privacy become paramount, leading organizations will be challenged to transform their business and technology processes to deliver business value.

The bar has been raised. Now more than ever, organizations will be challenged to achieve data-driven leadership against a backdrop of competitive threats, shareholder and public expectations, and technology transformation.

The central theme of NewVantage Partners 2022 Data and AI Leadership Executive Survey is "The Quest to Achieve Data-Driven Leadership". The year marks the 10<sup>th</sup> edition of this C-Executive survey, which was first published in 2012. The survey was launched in response to a constituency of Fortune 1000 business and technology C-executives seeking to understand the transformational impact that data would have on their organizations and industry.

While much progress has been made over the course of the past decade, becoming data-driven is a journey. There is still much work to be done. In this context, a few findings from this year's survey immediately stand out:

- A new high of 73.7% of organizations surveyed have appointed a Chief Data and Analytics Officer (CDAO), up from 12.0% when this survey was first conducted in 2012.
- Yet, 59.8% of these organizations see the Chief Data and Analytics Officer (CDAO) role as still nascent and evolving, and 44.2% have struggled with turnover in the role.
- Organizations continue to struggle to become data-driven, with only 26.5% reporting have achieved this goal, and only 19.3% reporting having established a data culture.
- Cultural impediments remain the greatest barrier to organizations becoming data-driven, with 91.9% of survey respondents identifying this as the great challenge.
- Data ethics is emerging as an issue of rising importance, with just 44.1% of organizations reporting well-established data and AI ethics policies and practices in place, and only 21.6% responding that the industry has done enough to address data and AI ethics.

We are very grateful to report this year that a record 94 Fortune 1000 and industry leading organizations participated in the 2022 survey, up from 85 organizations last year, and 71 the year before that. This year, 77.0% of survey respondents functioned as the Chief Data and Analytics Officer (CDAO) within their respective organizations, and 96% held C-Executive responsibilities.

As always, a special thank you to all the executives who participated. We are very appreciative.



## 2022 Participant Summary

The 2022 survey, our 10<sup>th</sup> since its inception in 2012, reflects a record number of participating organizations, and our broadest range of participating organizations yet. Financial services firms continue to represent the largest number of participants, as these our companies that have been making substantial investments in data capabilities for decades. These are companies maintain high value customer relationships and have long invested in understanding the breadth and depth of these relationships.

The past few years have seen a sharp rise in data investment and data initiatives within healthcare and the life sciences. This is reflected in the increased participation of healthcare and life sciences firms in recent years.

This year, we see our greatest representation from companies and organizations across a range of industry segments, including retail, consumer packaged goods, manufacturing, publishing, high tech, government, and professional sports. We are delighted to welcome first time survey participants from these industries, including Albertsons, Exxon Mobil, Facebook, Inspire Brands, John Deere, Levi Strauss, McGraw Hill, National Football League (NFL), Schnucks Markets, Stanley Black and Decker, and the Department of Defense, the US Office of Personnel, and Virgin Pulse.

### Summary of 2022 executive survey participants by Industry Segment

<b>Industry Participation</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Financial Services</b>	<b>77.2%</b>	<b>73.8%</b>	<b>67.1%</b>	<b>66.3%</b>	<b>60.0%</b>
<b>Healthcare   Life Sciences</b>	<b>8.8%</b>	<b>16.6%</b>	<b>25.6%</b>	<b>21.8%</b>	<b>21.0%</b>
<b>All Other Industries</b>	<b>14.0%</b>	<b>9.6%</b>	<b>7.3%</b>	<b>11.9%</b>	<b>19.0%</b>

NewVantage Partners Executive Survey respondents constitute the most senior corporate executives with oversight and responsibility for Data and AI initiatives within their respective firm. Chief Data and Analytics Officers constitute a new high of 77.0% of this year's survey respondents.

### Summary of 2022 executive survey participants by Respondent Role

<b>Respondent Role</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Chief Data and Analytics Leader   CDO   CDAO</b>	<b>70.9%</b>	<b>74.8%</b>	<b>73.2%</b>	<b>76.0%</b>	<b>77.0%</b>
<b>Chief Information Officer   CIO   CTO</b>	<b>13.9%</b>	<b>17.3%</b>	<b>21.9%</b>	<b>12.0%</b>	<b>14.0%</b>
<b>Business Leader   CEO   COO   Line Exec</b>	<b>5.6%</b>	<b>2.5%</b>	<b>2.4%</b>	<b>2.0%</b>	<b>4.0%</b>
<b>Marketing/Strategy Leader   CMO   CDigO</b>	<b>2.8%</b>	<b>4.9%</b>	<b>1.2%</b>	<b>3.0%</b>	<b>1.0%</b>
<b>Other Executive</b>	<b>6.9%</b>	<b>2.5%</b>	<b>1.2%</b>	<b>7.0%</b>	<b>4.0%</b>



## 2022 Executive Survey Participating Firms

A record number of blue-chip companies and leading organizations, across industries, participated in the 2022 executive survey – a total of 94 firms. These are the 2022 participants:

### **FINANCIAL SERVICES | INSURANCE**

<b>AIG</b>	<b>Fannie Mae</b>	<b>Nationwide</b>
<b>Ally Financial</b>	<b>Fidelity Investments</b>	<b>New York Life</b>
<b>American Express</b>	<b>Freddie Mac</b>	<b>Nuveen</b>
<b>Bank of America</b>	<b>Hanover Insurance</b>	<b>PNC Bank</b>
<b>Bank of China</b>	<b>Huntington Bank</b>	<b>S&amp;P Global</b>
<b>Bank of Montreal</b>	<b>Invesco</b>	<b>Santander Bank</b>
<b>Berkshire Hathaway</b>	<b>JP Morgan Chase</b>	<b>Scotia Bank</b>
<b>Blackrock</b>	<b>LPL Financial</b>	<b>Silicon Valley Bank</b>
<b>Bloomberg</b>	<b>Liberty Mutual</b>	<b>State Street</b>
<b>BNY Mellon</b>	<b>Lincoln Financial</b>	<b>Sumitomo Mitsui Bank</b>
<b>Cerberus Capital</b>	<b>M&amp;T Bank</b>	<b>Sun Life Financial</b>
<b>Charles Schwab</b>	<b>Marsh</b>	<b>TD Bank</b>
<b>Citigroup</b>	<b>Mass Mutual</b>	<b>TIAA</b>
<b>Citizens Bank</b>	<b>Mastercard</b>	<b>Truist</b>
<b>Credit Suisse</b>	<b>Met Life</b>	<b>UBS</b>
<b>Deutsche Bank</b>	<b>MFS Investments</b>	<b>VISA</b>
<b>Discover</b>	<b>Morgan Stanley</b>	<b>Voya Financial</b>
<b>Equitable</b>	<b>Morningstar</b>	<b>Wells Fargo</b>

### **HEALTHCARE | LIFE SCIENCES**

<b>AbbVie</b>	<b>Cerevel</b>	<b>Mercy Health</b>
<b>Akron Children's Hospital</b>	<b>Cigna</b>	<b>Optum   United Health</b>
<b>Alexion</b>	<b>CVS Health</b>	<b>Parexel</b>
<b>Astra Zeneca</b>	<b>Eli Lilly</b>	<b>Partners Healthcare</b>
<b>Blue Cross Massachusetts</b>	<b>GlaxoSmithKline (GSK)</b>	<b>Pfizer</b>
<b>Bristol-Meyers Squibb</b>	<b>Humana</b>	<b>Zoetis</b>
<b>Cellarity</b>	<b>Mayo Clinic</b>	

### **RETAIL | MANUFACTURING | TECH | GOVERNMENT | SPORTS | EDUCATION**

<b>Albertsons</b>	<b>John Deere</b>	<b>Stanley Black &amp; Decker</b>
<b>Alliance Data Services</b>	<b>Levi Strauss</b>	<b>Starbucks</b>
<b>Catalina Marketing</b>	<b>McDonalds</b>	<b>US Dept of Defense</b>
<b>Exxon Mobil</b>	<b>McGraw Hill</b>	<b>US Office of Personnel</b>
<b>Facebook</b>	<b>Neustar</b>	<b>Virgin Pulse</b>
<b>Global Energy</b>	<b>NFL</b>	<b>William &amp; Mary College</b>
<b>Inspire Brands</b>	<b>Schnucks Markets</b>	



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## 2022 Executive Summary

This year marks the 10<sup>th</sup> edition of NewVantage Partners Data and AI Executive Survey, which was first published in 2012. How far have we come in a decade? What have we learned? What remains to be achieved? These are some of the key questions that the 10<sup>th</sup> edition of this annual survey of data and analytics leaders seeks to answer.

A decade ago, only a small percentage of leading companies had appointed a Chief Data and Analytics Officer (CDAO) – 12%. Today, a clear majority of leading companies have an executive serving in the CDAO role – 73.7%. The theme of this year’s survey is “*The Quest to Achieve Data-Driven Leadership*”. Here is the story that this year’s data tells us:

### **Investment in Data and AI initiatives continue to grow as efforts deliver measurable results**

Investment in Data and AI initiatives continue to grow – the 2022 survey indicates that 97.0% of participating organizations are investing in Data initiatives and that 91.0% are investing in AI activities. Further, 91.7% of organizations report that their investment in Data and AI initiatives is increasing. This year, 92.1% of organizations report that they are realizing measurable business benefits, up from just 48.4% in 2017 and 70.3% in 2020. More than half of organizations have developed a corporate data strategy – 53.0%, and 59.4% report that these strategies are yielding results. However, organizations still face challenges in their efforts to become data driven.

### **Achieving data-driven leadership remains an elusive aspiration for most organizations**

Despite an increase in achieving measurable business results, organizations still face a potentially long road ahead of them in their efforts to become data driven. This is dramatized by responses to key metrics of data-driven achievement. Less than half of respondents replied that they were competing on data and analytics – 47.4%; only 39.7% reported that they were managing data as an enterprise business asset; barely over a quarter – 26.5% -- report that they have created a data-driven organization; and just 19.3% indicate that they have established a data culture. These results point to work to be done and opportunity for improvement – 60.4% expect to become data-driven organizations within 2-3 years; 30.8% believe it will take 4-5 years or longer.

### **AI initiatives are accelerating, but implementation of AI into widespread production remains low**

Organizations report a more than doubling of AI initiatives that have moved into widespread production – 26.0%, up from just 12.1% in 2021. Yet, this continues to represent a small proportion of companies that are using AI on a widespread basis. Overall, 95.8% of organizations have AI initiatives that are underway in pilot or limited production. Only a small minority of respondents – 4.2% -- report no AI utilization of forecast yet another “AI winter”.



## **Becoming data-driven requires an organizational focus on cultural change**

There continues to be a strong consensus that cultural challenges – slow adaptability to change, reengineering of business processes, education of staff, requirements for data literacy, organizational alignment to support business objectives – represent the major impediment facing organizations in their efforts to become data-driven. For the 4<sup>th</sup> consecutive year, over 90% of executives – 91.9% in 2022 -- point to culture as the greatest impediment to achieving this business outcome. Only 8.1% cite technology limitations as the primary impediment.

## **The Chief Data and Analytics Officer (CDAO) role continues to grow and evolve, while turnover and stability remain challenges in what is still a new role**

The percentage of organizations that have appointed a Chief Data and Analytics Officer (CDAO) continues to increase – up from just 12.0% in 2012 when this survey was first conducted to 73.7% in 2022, a decade later. The CDAO role is now entrenched by any measure, especially market demand for the position. Challenges remain however as 59.8% of organizations continue to report that the role is nascent, evolving, or subject to turnover; 43.2% of respondents report that their organization has employed multiple CDAOs since establishing the role; 5.4% report their organization employed 5 or more CDAOs in the role. On a positive note, 40.2% of organizations report the CDAO role is successful and established, up from 27.9% in 2020.

## **The CDAO role is focusing in on business growth and analytic outcomes**

It is notable within the past few years how the CDO role has evolved to encompass analytics as an expanded CDAO function – 44.3% of CDAOs now come from a data analytics or data science background, contrasted with 29.1% from a data management or data governance background. A growing percentage of organizations – 50.6% -- are looking to hire CDAOs who will function as agents of change. The majority of CDAOs are – 64.3% -- are focusing on growth and innovation initiatives, rather than regulatory and efficiency efforts – 35.7%.

## **Organizations are targeting data investments in key areas of need**

Organizations are targeting data investment in several key areas in their efforts to drive business results, prioritizing investments in data platforms and data lake solutions – 26.3%; data quality and data health – 25.3%; Cloud migration – 14.8%; data literacy – 12.7%; and data catalogs – 7.4%.

## **Data ethics will be the next major frontier for leading organizations**

Less than half of organizations – 44.2% -- report that they have well-established policies and practices in place governing data and AI ethics and the responsible use of data. Less than a quarter of data executives – 21.6% -- believe that the industry has done enough to address data and AI ethics issues and standards. Expect this to be an issue of growing importance and public concern in the next few years.





## Investment

Investment in Data and AI initiatives continues to be strong and increasing. For the 4<sup>th</sup> consecutive year, 97.0% or greater of survey respondents reported that their organizations were investing in data initiatives.

In recent years, as AI capabilities have expanded due to greater computing power and exponentially larger volumes of available data, we have begun to measure investment in AI initiatives as well and feature progress regarding AI efforts within our annual executive survey. This year, we have broken out AI investment from overall data investment, with the finding that over 90.0% -- 91.0% -- of organizations are also investing in AI initiatives.

<b><u>Investment in Data and AI Initiatives</u></b>	<b><u>2022</u></b>
<b>Investing in Data Initiatives</b>	<b>97.0%</b>
<b>Investing in AI Initiatives</b>	<b>91.0%</b>

The pace of investment in data and AI initiatives appears to be robust as well, with over 91.0% of organizations again reporting an increase in data and AI investment.

<b><u>Increase in Data and AI Investment</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>Investment is Increasing</b>	<b>91.9%</b>	<b>91.7%</b>
<b>Investment is Not Increasing</b>	<b>8.1%</b>	<b>8.3%</b>

In recent years, investment in AI has been slow to yield commensurate rollout of AI capabilities on a broad scale despite bold claims for the future of AI and enthusiastic media coverage. This year, we finally see some forward progression, with just over a quarter – 26.0% -- of organizations reporting that AI capabilities are now being delivered into widespread production within their organizations.

<b><u>State of AI Investment and Adoption</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>AI in Widespread Production</b>	<b>14.6%</b>	<b>12.1%</b>	<b>26.0%</b>
<b>AI in Pilot or Limited Production</b>	<b>78.0%</b>	<b>83.8%</b>	<b>69.8%</b>
<b>No AI in Use</b>	<b>7.4%</b>	<b>4.1%</b>	<b>4.2%</b>

More promising, there is a solid mandate for experimentation using AI, with 95.8% of organizations undertaking some form of pilot or AI rollout within limited production. It will be interesting to monitor this progress in the coming years to gauge the extent to which AI becomes mainstream and in widespread production.



## Results

Organizations are reporting a progression in measurable results from their data and AI investments. What is notable is that this represents a significant increase in the value that organizations are reporting from their data and AI investments over the course of the past few years, including an improvement from 48.4% in 2017 to 92.1% this year.

By any measure, this has to be considered as representing positive progress in demonstrating that investments in data and AI can produce measurable business results and outcomes.

<b><u>Measurable Results from Data and AI Investments</u></b>	<b><u>2017</u></b>	<b><u>2020</u></b>	<b><u>2022</u></b>
<b>Yes</b>	<b>48.4%</b>	<b>70.3%</b>	<b>92.1%</b>
<b>No</b>	<b>51.6%</b>	<b>29.7%</b>	<b>7.9%</b>

Yet, despite this progress, organizations continue to face a long road ahead of them in their efforts to capitalize on the full power of their data assets to become truly data-driven businesses and governmental departments.

Once again, the 2022 survey highlights the gap between current capabilities and business aspirations and underscore the work to be done in the coming years. Notable among this year's findings:

- Just 19.3% report that they have established a data culture
- Just 26.5% report they have created a data-driven organization
- Just 39.7% report that they are managing data as a business asset
- Just 47.4% report that they are competing on data and analytics
- 56.5% report that they are driving business innovation with data, a bright spot amidst a pattern of slow progression and considerable opportunity for improvement.

<b><u>The Journey to Becoming Data-Driven</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>Driving Business Innovation with Data</b>	<b>59.5%</b>	<b>64.2%</b>	<b>48.5%</b>	<b>56.5%</b>
<b>Competing on Data and Analytics</b>	<b>47.6%</b>	<b>45.1%</b>	<b>41.2%</b>	<b>47.4%</b>
<b>Managing Data as a Business Asset</b>	<b>46.9%</b>	<b>50.0%</b>	<b>39.3%</b>	<b>39.7%</b>
<b>Created a Data-Driven Organization</b>	<b>31.0%</b>	<b>37.8%</b>	<b>24.0%</b>	<b>26.5%</b>
<b>Established a Data Culture</b>	<b>28.3%</b>	<b>26.8%</b>	<b>24.4%</b>	<b>19.3%</b>

While much work remains to be done, companies through investment and focus, are laying a foundation for becoming progressively data-driven in the coming years.



## Challenges

There is a strong consensus that the greatest challenges that organizations face in their efforts to become progressively data-driven are due to cultural impediment.

Change never comes easy for any organization, and the degree of difficult is magnified when it comes to legacy organizations, which tend to have a long track record of success but must evolve as business conditions and consumer expectations shift.

This year's survey once again reflects this recognition that cultural challenges represent the greatest impediment to becoming data-driven, with over 90.0% of respondents noting this for the 4<sup>th</sup> consecutive year.

<b>Principle Challenge to Becoming Data-Driven</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Cultural Factors   People   Process</b>	<b>80.9%</b>	<b>92.5%</b>	<b>90.9%</b>	<b>92.2%</b>	<b>91.9%</b>
<b>Technology Limitations</b>	<b>19.1%</b>	<b>7.5%</b>	<b>9.1%</b>	<b>7.8%</b>	<b>8.1%</b>

Cultural impediments manifest themselves in a variety of ways, ranging from evolving business processes, to outdated organizational structures, and natural human resistance to change.

Being an asset that flows through an organization, from points of production to points of consumption, organizations have not historically been structured to efficiently manage data as a business asset.

<b>Primary Responsibility for Data</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Chief Data/Analytics Officer</b>	<b>48.1%</b>	<b>40.2%</b>	<b>49.5%</b>	<b>52.0%</b>
<b>Chief Information Officer</b>	<b>4.9%</b>	<b>11.0%</b>	<b>12.1%</b>	<b>12.5%</b>
<b>No Single Point of Accountability</b>	<b>28.4%</b>	<b>26.8%</b>	<b>24.2%</b>	<b>21.8%</b>
<b>Other Executive</b>	<b>18.6%</b>	<b>12.0%</b>	<b>14.2%</b>	<b>13.7%</b>

Even with the adoption of centralized leadership structures, in the form of the Chief Data and Analytics Officer, organizations continue to struggle to manage data practices and policies effectively, as reflected in the finding that nearly a quarter of organizations – 21.8% -- still report no single point of accountability.



## Leadership

Over the years, a handful of organizations, Capital One being a notable example, appointed executives to fill the role of Chief Data Officer (CDO). It was not until the mid-2010's that adoption of the CDO role began to accelerate. In 2012 only 12.0% of organizations that were surveyed reported having named a Chief Data Officer. By 2017, this percentage had grown to 55.9%. This year, nearly three quarters of organizations surveyed – 73.7% -- reported having named an executive to this role.

<b><u>CDO/CDAO Appointed</u></b>	<b><u>2012</u></b>	<b><u>2017</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>Yes</b>	<b>12.0%</b>	<b>55.9%</b>	<b>65.0%</b>	<b>73.7%</b>
<b>No</b>	<b>88.0%</b>	<b>44.1%</b>	<b>35.0%</b>	<b>26.3%</b>

In recent years, the CDO has come to encompass analytics responsibilities, in addition to data management, to create an expanded Chief Data and Analytics (CDAO) function which encompasses a broader set of skills and responsibilities. This year, 44.3% of organizations report that a data analytics and data science background is now the most common skill set for CDAOs.

<b><u>CDO/CDAO Skill Set</u></b>	<b><u>2022</u></b>
<b>Data Analytics   Data Science</b>	<b>44.3%</b>
<b>Data Management   Data Governance</b>	<b>29.1%</b>
<b>Other</b>	<b>26.6%</b>

Turnover remains a challenge, with 43.2% of organizations having had 2 or more prior CDAOs.

<b><u>CDO/CDAO Tenure/Stability</u></b>	<b><u>2022</u></b>
<b>Firm Has Had 1 CDO/CDAO</b>	<b>56.8%</b>
<b>Firm Has Had 2-4 CDO/CDAOs</b>	<b>37.8%</b>
<b>Firm Has Had 5+ CDO/CDAOs</b>	<b>5.4%</b>

Amidst signs of growing stability in the role, the majority of organizations – 59.8% -- still report that the CDOA role has yet to demonstrate that it has become successful and well-established.

<b><u>Success of the CDO/CDAO Role</u></b>	<b><u>2020</u></b>	<b><u>2021</u></b>	<b><u>2022</u></b>
<b>Successful and Established</b>	<b>27.9%</b>	<b>33.3%</b>	<b>40.2%</b>
<b>Nascent and Evolving</b>	<b>49.1%</b>	<b>48.8%</b>	<b>42.7%</b>
<b>Struggling with Turnover</b>	<b>23.0%</b>	<b>17.9%</b>	<b>17.1%</b>



## Strategy

We have seen that organizations are investing in data and AI initiatives and have firmly committed to establishing the leadership function that can enable these organizations to make the progression to becoming data driven.

This year, for this first time, we asked organizations to what extent they have developed a data strategy that will enable the delivery of business value. A bare majority of organizations surveyed – 53.0% report that they have formulated a corporate data strategy to realize business value.

<b><u>Corporate Data Strategy to Achieve Business Value</u></b>	<b><u>2022</u></b>
<b>Yes</b>	<b>53.0%</b>
<b>No</b>	<b>47.0%</b>

Of those organizations that have developed a corporate data strategy, the majority – 59.4% -- report that their strategy is generating success. One can extrapolate from these answers that most organizations have yet to develop a corporate data strategy that correlates directly to successful business outcomes and the realization of business value. This could be an important next step in these organizations journey to become data driven.

<b><u>Data Strategy Achieving Success</u></b>	<b><u>2022</u></b>
<b>Strategy Generating Successes</b>	<b>59.4%</b>
<b>Strategy Yet to Generate Successes</b>	<b>40.6%</b>

We read and hear so much about the many data-related initiatives that organizations are undertaking to drive business value and are aware of the significant investments that are being made for this purpose. We asked survey participants to name their single top data investment priority for 2022. The resulting list reflects the areas where we see the greatest amount of technology and business innovation taking place.

<b><u>Top Data Investment Priority</u></b>	<b><u>2022</u></b>
<b>Data Platform   Data Lake</b>	<b>26.3%</b>
<b>Data Quality   Data Health</b>	<b>25.3%</b>
<b>Cloud Migration</b>	<b>14.8%</b>
<b>Data Literacy</b>	<b>12.7%</b>
<b>Data Catalog</b>	<b>7.4%</b>
<b>Other</b>	<b>13.5%</b>



## Progress

Even with the disparity between aspirations and present shortfalls, we noted notable areas of progress this year. A majority of organizations – 64.3% this year -- are now focused on growth and innovation data initiatives, what we call offense, compared with 5-10 years ago, when organizations more focused mostly on regulatory, compliance, efficiency goals.

<b>Primary Focus of the CDO/CDAO</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>Offense   Growth   Innovation</b>	<b>54.6%</b>	<b>70.1%</b>	<b>64.3%</b>
<b>Defense   Regulatory   Efficiency</b>	<b>45.4%</b>	<b>29.2%</b>	<b>35.7%</b>

We have seen that organizations continue to struggle to reduce turnover, improve stability, and establish achievable expectations for the Chief Data and Analytics Officer (CDAO) function.

As this role evolves, we have seen an increase in demand and expectations that the CDAO operate as an agent of change within the organization. We expect that as the role continues to mature, the CDAO function will become increasingly well established, and that data science and analytics on behalf of growth and innovation will become a central mandate of the CDAO role.

<b>Profile of a Successful Chief Data Officer</b>	<b>2018</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<b>External change agent   outsider</b>	<b>34.0%</b>	<b>48.5%</b>	<b>44.4%</b>	<b>50.6%</b>
<b>Company veteran   insider</b>	<b>32.1%</b>	<b>15.8%</b>	<b>23.5%</b>	<b>13.6%</b>
<b>LOB executive   owns business results</b>	<b>11.3%</b>	<b>21.4%</b>	<b>16.1%</b>	<b>9.9%</b>
<b>Data scientist   analytics leader</b>	<b>15.1%</b>	<b>5.7%</b>	<b>8.6%</b>	<b>18.5%</b>
<b>Technology executive</b>	<b>7.5%</b>	<b>8.6%</b>	<b>7.4%</b>	<b>7.4%</b>

As organizations look to the future with the aspiration of becoming data-driven, we observe a growing recognition and understanding that becoming data-driven entails a journey and is not a destination where one can sit back and become complacent.

It is noteworthy that most executives – 69.2% -- believe they can achieve this outcome within the next few years, but a healthy percentage – 30.8% -- believe more time will be required. I respect the ambition, but suspect based on history that the latter group will be more correct.

<b>How Long to Become Data-Driven</b>	<b>2022</b>
<b>Within 1 Year</b>	<b>8.8%</b>
<b>Within 2-3 Years</b>	<b>60.4%</b>
<b>Within 4-5 Years</b>	<b>25.3%</b>
<b>Longer</b>	<b>5.5%</b>



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## Ethics

In concluding this, our 10<sup>th</sup> annual survey, we asked respondents about one of the fastest growing areas of discussion and concern among large organizations and among data professionals – this would be the topic of data responsibility and data and AI ethics.

There has been a growing body of literature that reflects the critique on data abuses. These critiques range from the allegations of weapons of math destruction and algorithmic bias to surveillance capitalism.

Increasingly, responsible data initiatives are taking hold, such as the Bloomberg Data for Social Good initiative, the Mastercard Center for Inclusive Growth, and recently, the announcement of the Data and Trust Alliance, comprised of leading firms including CVS Health, Humana, Mastercard, and Meta/Facebook.

This year, for the first time, we asked survey respondents for their views the state of data responsibility and data ethics.

We noted that less than half – 44.2% -- reported that their organization has developed well-established policies and practices in support of data responsibility and ethics – 55.8% have not.

Further, an overwhelming majority of executives – 78.4% -- expressed the view that the industry has not done enough to this point to address data and AI ethics.

<b><u>The State of Data Responsibility and Data Ethics</u></b>	<b><u>2022</u></b>
<b>Well-Established Policies &amp; Practices In Place</b>	<b>44.2%</b>
<b>Industry Has Done Enough to Address Data and AI Ethics</b>	<b>21.6%</b>

We expect that this will become a topic of growing importance and public attention over the course of the next few years, as it should be. I would encourage everyone to stay tuned.



## About NewVantage Partners, A Wavestone Company

For two decades, since its founding in 2001, NewVantage Partners (NVP) has served as strategic advisors in data-driven business leadership to a blue-chip roster of Fortune 1000 companies and industry leaders. Our clients have included leading financial services and life sciences firms, and data-intensive firms across many industries.

Now, we begin an exciting new chapter in our history with the announcement that Wavestone, a leading global consultancy headquartered in Paris, France has acquired NewVantage Partners.

Together, Wavestone and NewVantage Partners will deliver leading-edge expertise in data strategy, data governance, data management, and data security. Our commitment to our customers and the industry has never been stronger.

## Industry Thought Leadership

NewVantage Partners industry thought-leadership perspectives appear in leading publications, including *Harvard Business Review*, *MIT Sloan Management Review*, *Forbes*, and *The Wall Street Journal*, and through our annual Data and AI Executive Survey, our exclusive Executive Thought-Leadership Roundtable events, industry keynote panels and speaking engagements, and the 2021 publication of *Fail Fast, Learn Faster: Lessons in Data-Driven Leadership in an Age of Disruption, Big Data, and AI*. <https://www.failfastlearnfaster.org/>

## Featured Articles

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### MIT Sloan Management Review

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[Portrait of an AI Leader.](#) August 31, 2021.  
[The Pursuit of AI-Driven Wealth Management.](#) July 7, 2021.  
[Embracing AI When Your Industry is in Flux.](#) May 5, 2021.  
[Execs Bullish on AI but Wary of Data Leadership.](#) March 5, 2021.

### Forbes

[NFL Extends Moneyball to A New Level of Professional Sports Leadership.](#) November 26, 2021.  
[Transforming the Insurance Industry with Big Data, Machine Learning and AI.](#) July 6, 2021.  
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[Pandemic Shines Spotlight on Big Data and AI In Life Sciences and Healthcare.](#) May 26, 2021.  
[Why CIOs Have a Big Stake in Data Success.](#) March 17, 2021.

## Contact Information

Randy Bean | CEO | NewVantage Partners | 800 Boylston Street | PO 990465 | Boston, MA 02199  
 Cell/Direct: 781.789.8794 | [rbean@newvantage.com](mailto:rbean@newvantage.com)  
 Linked In <https://www.linkedin.com/in/randybeannvp/>



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