



## Foreword to the 2020 Survey

This is the 8<sup>th</sup> annual survey by NewVantage Partners of senior executives about data and how organizations extract value from it. Throughout this period, the survey results have been quite consistent. They portray a field that is struggling to succeed despite massive investments in technology and applications. New technologies excite executives and organizations, new positions are created to capitalize on data, and new applications appear to provide value. Yet one thing never changes: organizations are not becoming data-driven and do not build data-focused cultures.

We described the problem this way in the Foreword to last year's survey:

Yet we would guess with high confidence that the great majority of spending on big data and AI goes for technology and its development. We hear little about initiatives devoted to changing human attitudes and behaviors around data. Unless the focus shifts to these types of activities, we are likely to see the same problem areas in the future that we've observed year after year in this survey.

Unfortunately, our prediction was correct. Companies continue to focus on the supply side for data and technology, instead of increasing demand for them by business executives and employees. It's a technology push rather than a pull from humans who want to make more data-based decisions, develop more intelligent business processes, or embed data and analytics into more products and services.

In case you don't plan to read the body of the report, a little evidence of the problem may be useful. Spending on big data and AI continues to increase, albeit less rapidly. More than two-thirds of these large organizations are investing \$50MM or more in these technologies, and many spend half a billion or more. Yet minorities of those surveyed report that their business is data-driven, and even smaller minorities that their cultures emphasize data. About three quarters of respondents say that business adoption of big data and AI is a challenge. Over 90% report that the challenges to becoming data-driven are in people, process, and culture—not technology. Perhaps not surprisingly, only 15% have deployed AI broadly into production—because that is where people and process issues come into play.

Continuing with the same supply-driven approach is not going to change this situation. What will change it is concerted efforts to educate senior and middle managers about the power of big data and AI, to provide experiences that make them more comfortable with technology, to redesign jobs to accommodate smart machines, and to upskill employees at every level to work with analytics and AI.

Perhaps IT and data executives feel that business leaders in their organizations are too old to learn new tricks. Indeed, in a recent global survey of executives sponsored by the analytics vendor Splunk, 73% felt that data skills were harder to learn than other business skills, and 53% believed they are too old to learn such skills. This speaks either to the need for a concerted effort to change their minds, or to a need for generational change.



But continuing in the current vein, or giving up on the objective of data-driven organizations and cultures, isn't really a viable option. That would mean the eventual demise of legacy organizations in favor of digital native firms—a prospect that many executives have feared in previous surveys. While human change is almost always more difficult to accomplish than technical change, it is hardly impossible. The companies that change the paradigm of data management and exploitation in a more human direction will, we believe, be the leading firms of the future.

Thomas H. Davenport and Randy Bean

January 2020



## Introduction

Leading companies are certainly well on their way with their investments in Big Data and Artificial Intelligence (AI) capabilities with 98.8% reporting active investment underway.

What has been less understood is the extent to which these companies are generating business results and measurable outcomes. While 73.3% of the survey participants indicate that they are achieving measurable results, the precise nature of these results has been less explored.

How is data-driven business transformation driving better business outcomes, and what are the obstacles to that transformation? These are the core themes of NewVantage Partners 8<sup>th</sup> annual executive survey.

The key question we sought to answer this year is how Big Data and AI investments are connected to tangible business outcomes. With this objective in mind, we asked executives to tell us:

- What is the principal driver of Data and AI investment within your firm?
- How widespread is AI adoption within your firm?
- What is the overall state of data and analytics within your firm?
- What is the state of your corporate data environment?
- What prevents your firm from achieving data-driven transformation?
- How successful has your organization been in establishing the CDAO function?

This survey was first conducted in 2012 -- in response to Fortune 1000 business and technology C-Executives who sought to understand the potential impact of Big Data.

Last year, the 2019 version of NewVantage Partners Executive Survey revealed some compelling and perhaps disheartening findings:

- Only 47.6% of firms were competing on analytics
- Only 46.9% of firms were managing data as a business asset
- Only 31.0% of firms had created a data-driven organization
- And, only 28.3% of firms had managed to forge a true data culture.

Clearly, while progress has been made, much work remains to be done. Need drives opportunity. Data and AI are a journey. We are in the midst of it.

We are very grateful to report this year that over 70 Fortune 1000 or industry leading firms are represented in our 2020 survey, our highest rate of participation and representation to date.

C-executive participation has never been higher – 98.8% of participants identify as C-executives or the equivalent. This year's results and findings paint a picture of businesses and industries in transition.

As always, a special thank you to all the executives who participated. We are very appreciative of your time and thought.



## 2020 Survey Participating Firms

More than 70 leading firms participated in this year's executive survey – a new high. As in past years, survey participants represent a blue-chip roster of leading names.

Financial services firms once again comprise the majority. Healthcare firms are increasingly represented for the 2<sup>nd</sup> consecutive year – now representing over one quarter (26.4%) of participating companies. Here are the 2020 participants:

<b>Financial Services &amp; Insurance</b>		
<b>AIG</b>	<b>Fidelity Investments</b>	<b>PNC Bank</b>
<b>Allstate</b>	<b>First Republic Bank</b>	<b>S&amp;P Global</b>
<b>Ally Financial</b>	<b>Freddie Mac</b>	<b>Santander Bank</b>
<b>American Express</b>	<b>Hanover Insurance</b>	<b>Scotia Bank</b>
<b>American Family</b>	<b>Huntington Bank</b>	<b>State Street</b>
<b>Bank of America</b>	<b>JP Morgan Chase</b>	<b>Sumitomo Bank</b>
<b>Bank of China</b>	<b>Lincoln Financial Group</b>	<b>Sun Life Financial</b>
<b>Berkshire Hathaway</b>	<b>London Stock Exchange</b>	<b>Swiss Reinsurance</b>
<b>BNY Mellon</b>	<b>M&amp;T Bank</b>	<b>TD Ameritrade</b>
<b>Capital One</b>	<b>Mastercard</b>	<b>TD Bank</b>
<b>Charles Schwab</b>	<b>Met Life</b>	<b>TIAA</b>
<b>Citigroup</b>	<b>MFS Investments</b>	<b>Travelers</b>
<b>Citizens Bank</b>	<b>Moody's</b>	<b>UBS</b>
<b>Credit Suisse</b>	<b>Nationwide Insurance</b>	<b>Voya Financial</b>
<b>Deutsche Bank</b>	<b>New York Life</b>	<b>Wells Fargo</b>
<b>Healthcare &amp; Life Sciences   Other Leaders</b>		
<b>Aetna</b>	<b>HTA Alliance</b>	<b>Alliance Data</b>
<b>Alexion</b>	<b>Humana</b>	<b>Aramark</b>
<b>Alkermes</b>	<b>Johnson &amp; Johnson</b>	<b>Bloomberg</b>
<b>Bristol-Myers Squibb</b>	<b>Kaiser Permanente</b>	<b>Catalina Marketing</b>
<b>Celgene</b>	<b>Merck</b>	<b>General Motors</b>
<b>Cerevel</b>	<b>Partners Healthcare</b>	<b>Global Energy</b>
<b>CVS Health</b>	<b>Pfizer</b>	<b>Google</b>
<b>Eli Lilly</b>	<b>Sanofi</b>	<b>Schneider Electric</b>
<b>Glaxo Smith Kline</b>	<b>United Health</b>	
<b>H3 Biomedicine</b>		



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## 2020 Participant Summary

The 2020 survey is noteworthy for the sharp uptick in participant representation by the healthcare industry. This highlights the rising priority of Big Data and AI within healthcare, and the increasing data maturity of healthcare firms.

Here is a summary of 2020 survey participants by industry segment.

<b><u>Industry Participation</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Financial Services</b>	<b>77.2%</b>	<b>73.8%</b>	<b>62.5%</b>
<b>Healthcare</b>	<b>8.8%</b>	<b>16.6%</b>	<b>26.4%</b>
<b>Other Industries</b>	<b>14.0%</b>	<b>9.6%</b>	<b>11.1%</b>

NewVantage Partners Executive Survey is intended to be a survey of senior executives with corporate oversight and responsibility for Big Data and AI initiatives within their firms. Upon publication of the 2012 survey, Thomas H. Davenport called the survey “one of the few I have seen that focuses on large organizations and offers responses from C-level executives”.

And so it has remained. This is our 8<sup>th</sup> survey of senior corporate officers.

This year, C-executive decision-makers comprise 98.8% of survey participants, up modestly from 2019. This group is once again dominated by Chief Data Officer (CDO) and Chief Data & Analytics Officer (CDAO) respondents, the CDO and CDAO being a role and function which has emerged over the course of the past 8 years as the principal advocates for data within the corporate enterprise. The evolution of the CDO/CDAO role is a focus area of this survey and is discussed in detail in the Leadership section of this report. As noted last year, many organizations have merged the Chief Analytics Officer (CAO) role with the CDO role to create the combined CDAO function. A shrinking percentage of firms are represented in the survey by the CAO function.

The following represents a summary of the 2020 executive survey participants by responsibility.

<b><u>Respondent Role</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Chief Data &amp; Analytics Officer   CDO</b>	<b>55.6%</b>	<b>56.8%</b>	<b>62.2%</b>
<b>Chief Analytics Officer   Analytics Leader</b>	<b>15.3%</b>	<b>16.0%</b>	<b>11.0%</b>
<b>Chief Information Officer   Technology Leader</b>	<b>13.9%</b>	<b>17.3%</b>	<b>21.9%</b>
<b>Chief Executive Officer   Business Leader</b>	<b>5.6%</b>	<b>2.5%</b>	<b>2.4%</b>
<b>Chief Marketing/Digital Officer   Strategy Leader</b>	<b>2.8%</b>	<b>4.9%</b>	<b>1.2%</b>
<b>Other</b>	<b>6.9%</b>	<b>2.5%</b>	<b>1.2%</b>

Overall participation by role and responsibilities remains largely consistent in recent years.



## 2020 Executive Summary

Leading firms are pushing hard to realize business outcomes from their Big Data and AI investments. This is the major theme of our 2020 executive survey. Yet, for most firms, challenges remain and progress against Big Data and AI returns must be viewed in the context of a multi-year journey with progressive stages of maturity.

Here are some of the major findings and highlights from NewVantage Partners 2020 Big Data and AI Executive Survey:

### **Data and AI investment are up, but the pace of investment is slowing**

The percentage of firms investing greater than \$50MM is up to 64.8% in 2020 from just 39.7% in 2018, with a total of 98.8% of firms investing in Big Data and AI initiatives. However, the pace of investment is leveling off, as only 51.9% of firms are accelerating their rate of investment, in stark contrast to the 91.6% who were accelerating their pace of investment in 2019.

### **AI results continue to be at an early stage with limited deployment**

Firms report ongoing interest and an active embrace of AI technologies and solutions, with 91.5% of firms reporting ongoing investment in AI. On the side of caution, however, only 14.6% of firms report that they have deployed AI capabilities into widespread production, and the percentage of firms naming AI as the most disruptive technology declined from 80.0% in 2019 to 69.5% in 2020 -- still a sizable lead over Cloud Computing at a distant 11.0%.

### **Firms struggle to become Data-driven as progress is slow**

Business adoption of Big Data continues to be a struggle, with 73.4% of firms citing this as an ongoing challenge. Only 37.8% report that they have thus far created a data-driven organization. Even fewer – only 26.8% -- report success at building a data culture within their firms. Firms are still struggling to compete on analytics – only 45.1%, a slight decline from 47.6% in 2019. Most firms cite people and process challenges – 90.9% -- as the biggest barriers to becoming data-driven organizations.

### **The Chief Data Officer role remains unsettled and in early maturity for most firms**

Firms continue to struggle with the role and function of the Chief Data Officer (CDO/CDAO) – 72.1% of firms report that the CDO/CDAO function remains an unsettled role, while only 27.9% describe the role as being successful and established. Firms are favoring outside change agents in the CDO/CDAO role – 48.5% in 2020, up from 38.2% in 2019, and are turning away from insider veterans – down to 15.8% in 2020 from 32.4% in 2019.

### **Accountability for data remains an issue with no consensus owner or approach**

Many organizations continue to point to no single point of accountability for data within their firms, with 26.8% pointing to no single owner, and only 40.2% identifying the CDO/CDAO as primary executive with data responsibility.



## Investment

In recent years, it became evident that investment in Big Data and AI initiatives has become nearly universal among surveyed firms. That trend continues unabated in 2020, as the percentage of firms investing in Big Data and AI continues to climb – now reaching 98.8%.

<b><u>Investment in Big Data/AI</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Investing in Big Data/AI</b>	<b>97.2%</b>	<b>98.8%</b>

What is noteworthy, however, is that the degree of urgency associated with last year's investments in Big Data and AI has appeared to ease up considerably.

While 91.6% of executives reported that Big Data and AI investments were accelerating in 2019, nearly half – 46.9% -- of those executives now report that these investments are now being undertaken at a steadier pace.

This may be a case of digesting what firms have already invested in, or may signal a maturing of Big Data and AI functions within many organizations.

<b><u>Pace of Investment in Big Data/AI</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Pace is Accelerating</b>	<b>91.6%</b>	<b>51.9%</b>
<b>At a Steady Pace</b>	<b>8.4%</b>	<b>46.9%</b>

Investment in Big Data and AI initiatives continues to increase. Notably, the percentage of firms investing greater than \$50MM has increased steadily in recent years – from 39.7% in 2018 to 55.0% in 2019, and up sharply to 64.8% in 2020.

The percentage of firms making modest investments under \$50MM continues to decline, from nearly 60.3% in 2018 to a considerably lower 35.2% in 2020.

<b><u>Investment in Big Data/AI</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Over \$500M</b>	<b>12.7%</b>	<b>21.1%</b>	<b>18.3%</b>
<b>\$50M -- \$500M</b>	<b>27.0%</b>	<b>33.9%</b>	<b>46.5%</b>
<b>Under \$50M</b>	<b>60.3%</b>	<b>45.0%</b>	<b>35.2%</b>

One clear finding from respondents over the past two years is that Big Data and AI investments are being driven by “offensive” factors – transformation, innovation, and competitive advantage - that are intended to drive revenue growth and business advantage.



<b>Drivers of Big Data/AI Investment</b>	<b>2019</b>	<b>2020</b>
<b>Offensive</b>	<b>91.7%</b>	<b>89.0%</b>
<b>Defensive</b>	<b>8.3%</b>	<b>11.0%</b>

In contrast, investment decisions driven by “defensive” factors – cost-savings and regulation – remain a small percentage. This is a notable contrast to early years of this survey, when cost savings was identified as one of the primary drivers of data and AI investment.

<b>Principle Driver of AI/Big Data Investment</b>	
<b>Transformation</b>	<b>53.7%</b>
<b>Innovation</b>	<b>26.8%</b>
<b>Competition</b>	<b>8.5%</b>
<b>Cost-Savings</b>	<b>6.1%</b>
<b>Regulation</b>	<b>4.9%</b>

AI/Machine Learning continue to be seen as the most disruptive technology, although it is down from 96.4% in 2019 to 91.5% in 2020, perhaps echoing the point about AI investment entering into a more mature phase.

<b>Investment in Disruptive Technologies</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>AI/Machine Learning</b>	<b>68.9%</b>	<b>90.4%</b>	<b>96.4%</b>	<b>91.5%</b>
<b>Cloud Computing</b>	<b>85.2%</b>	<b>80.8%</b>	<b>90.5%</b>	<b>84.1%</b>
<b>Digital Transformation</b>	<b>78.7%</b>	<b>64.4%</b>	<b>77.4%</b>	<b>89.0%</b>
<b>Blockchain</b>	<b>37.7%</b>	<b>53.4%</b>	<b>41.7%</b>	<b>25.6%</b>

Cloud and Digital investments continue strong, while investment in Blockchain seems to have faded, down from peak investment levels of 53.4% to less than half – 25.6% two years later.

<b>Most Impactful Disruptive Technology</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>AI/Machine Learning</b>	<b>46.6%</b>	<b>71.8%</b>	<b>80.0%</b>	<b>69.5%</b>
<b>Cloud Computing</b>	<b>8.2%</b>	<b>12.7%</b>	<b>8.8%</b>	<b>11.0%</b>

Overall, the industry appears to be entering a period of maturity and technology absorption.



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## Business Results

The theme of this year's survey is "*Data-Driven Transformation: Connecting Data/AI to Business Outcomes*". So, what does the data tell us about the state of the field in 2020?

<b>Measurable Results from Big Data/AI</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Yes</b>	<b>48.4%</b>	<b>73.2%</b>	<b>62.2%</b>	<b>70.3%</b>
<b>No   Too Early to Tell</b>	<b>51.6%</b>	<b>26.8%</b>	<b>37.8%</b>	<b>29.7%</b>

First, it suggests that firms are realizing measurable results from their Big Data and AI investments, a pattern that has been holding steady in recent years, after a decrease from 2018 to 2019. Clearly, firms have established business use cases that are demonstrating value.

<b>Business Adoption of Big Data/AI a Challenge</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Yes</b>	<b>64.7%</b>	<b>77.1%</b>	<b>73.4%</b>
<b>No</b>	<b>35.3%</b>	<b>22.9%</b>	<b>26.6%</b>

Second, the data underscores what remains obvious to many – that even with progress in achieving measurable results, a vast majority of organizations – 73.4% -- still experience business adoption of Big Data and AI initiatives as a challenge.

<b>The State of Big Data/AI in 2019</b>	<b>2019</b>	<b>2020</b>
<b>Managing Data as a Business Asset</b>	<b>46.9%</b>	<b>50.0%</b>
<b>Forged a Data Culture</b>	<b>28.3%</b>	<b>26.8%</b>
<b>Driving Innovation with Data</b>	<b>59.5%</b>	<b>64.2%</b>
<b>Competing on Data and Analytics</b>	<b>47.6%</b>	<b>45.1%</b>
<b>Created a Data-Driven Organization</b>	<b>31.0%</b>	<b>37.8%</b>

Third, organizations are still struggling with making the transformation to becoming Data-Driven. Note these eye-popping metrics:

- Only 26.8% of firms have forged a data culture; 73.2% have yet to achieve this
- Only 37.8% of firms have created a data-driven organization; 62.2% have not
- Only 45.1% of firms are competing on data and analytics; 54.9% are not
- Only half of firms are managing data as a business asset; half are not.

What is most concerning is that these numbers are largely unchanged from 2019 – progress in these areas remains elusive.



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In particular, the trend toward data-driven business transformation has shown no real improvement over the past 4 years, with the 2020 number being a virtual flat line since 2017.

<b><u>Created a Data Driven Organization</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Yes</b>	<b>37.1%</b>	<b>32.4%</b>	<b>31.0%</b>	<b>37.8%</b>
<b>No</b>	<b>62.9%</b>	<b>67.6%</b>	<b>69.0%</b>	<b>62.2%</b>

The principal challenges to becoming data-driven continue to be cultural – people and business process related – and not about technology (only 9.1%). The greatest barriers to success continue to be organizational.

<b><u>Principal Challenge to Becoming Data-Driven</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>People   Business Process   Culture</b>	<b>80.9%</b>	<b>92.5%</b>	<b>90.9%</b>
<b>Technology</b>	<b>19.1%</b>	<b>7.5%</b>	<b>9.1%</b>

Why are so many organizations struggling to successfully tackle the human factors? Perhaps behavior is difficult to change, or they are not focusing on it as much as technology.

<b><u>AI Investment and Adoption</u></b>	<b><u>2020</u></b>
<b>AI in Widespread Production</b>	<b>14.6%</b>
<b>AI in Limited Production</b>	<b>51.2%</b>
<b>AI in Pilot</b>	<b>26.8%</b>
<b>No AI in Use</b>	<b>7.3%</b>

There are causes for optimism – 65.8% report AI in some degree of production; 92.9% see data & analytics improving or in excellent shape.

<b><u>State of Data &amp; Analytics</u></b>	<b><u>2020</u></b>
<b>Excellent</b>	<b>7.3%</b>
<b>Improving</b>	<b>85.4%</b>
<b>Stagnant</b>	<b>6.1%</b>
<b>Regressing</b>	<b>1.2%</b>

Legacy systems still abound in 93.9% of firms -- though they are transitioning – 81.7%. Only 6% of firms have modern data architectures; there is much work to be done in this regard.

<b><u>State of Data Environment</u></b>	<b><u>2020</u></b>
<b>Legacy Systems</b>	<b>12.2%</b>
<b>Mix of Legacy and New</b>	<b>81.7%</b>
<b>Modern Data Architectures</b>	<b>6.1%</b>



## Leadership

As noted in recent years, the role and function of the Chief Data Officer continues to evolve and expand.

Most notable has been the step by many firms to combine the Chief Data and Chief Analytics functions into a single role as the Chief Data and Analytics Officer.

We see further evolution in the CDO/CDAO role, as management reporting relationships continue to evolve, and CDO/CDAO's seek to gain traction and firmly establish this function.

For purposes of this report, we use the terms Chief Data Officer and Chief Data & Analytics Officer interchangeably.

For the first time in recent years, we note a decline in the percentage of firms that have appointed a CDO/CDAO, down from 67.9% in 2019 to 57.3% in 2020, the lowest number in 3 years.

<b>Appointment of a Chief Data Officer</b>	<b>2012</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Yes</b>	<b>12.0%</b>	<b>55.9%</b>	<b>62.5%</b>	<b>67.9%</b>	<b>57.3%</b>
<b>No</b>	<b>88.0%</b>	<b>44.1%</b>	<b>37.5%</b>	<b>32.1%</b>	<b>42.7%</b>

One reason for this discrepancy may be the greater representation of life sciences firms in this year's survey. While 63.6% of financial services firms have appointed a CDO/CDAO, only 47.6% of life sciences firms have filled this role.

Given that life sciences firms are more nascent in their development of mature data management capabilities and data governance, this should not be surprising. We expect that this number will increase in the next few years.

<b>Primary Focus of the CDO</b>	<b>2020</b>
<b>Offense   Revenue Generation</b>	<b>54.6%</b>
<b>Defense   Regulatory   Compliance</b>	<b>45.4%</b>

We asked this year whether CDO/CDAO's are focused on what we characterize as "offensive" activities (revenue generation and innovation) or on "defensive" activities (regulatory and compliance reporting).

Since that the CDO role originated in the 2009-2012 period for many firms--notably leading banks--due to regulatory reporting demands, it is interesting to note the progression from defense to offense, over half of firms -- 54.6% -- now reporting that the CDO/CDAO has shifted to a more offensive and innovative function.

Adding analytics to the CDO role may have helped with that transition.



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<b><u>CDO with Revenue Responsibility</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Yes</b>	<b>13.5%</b>	<b>11.3%</b>	<b>12.3%</b>
<b>No</b>	<b>86.5%</b>	<b>88.7%</b>	<b>87.7%</b>

Even with this offensive trend, the percentage of firms reporting that the CDO/CDAO has assumed revenue responsibility is low, at 12.3%, suggesting that “data monetization” remains elusive.

Management responsibility for data continues to be a source of potential concern.

A significant 26.8% of firms report there is still no single point of accountability for data within their company, perhaps reflecting decentralized ownership of data within lines of business.

This number has not shown much change during the past 3 years, and the percent of CDO/CDAO’s with primary responsibility for data declined from 48.1% in 2019 to 40.2% in 2020.

<b><u>Primary Responsibility for Data</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Chief Data/Analytics Officer</b>	<b>47.9%</b>	<b>48.1%</b>	<b>40.2%</b>
<b>Chief Information Officer</b>	<b>15.5%</b>	<b>4.9%</b>	<b>11.0%</b>
<b>No Single Point of Accountability</b>	<b>23.9%</b>	<b>28.4%</b>	<b>26.8%</b>
<b>Other Executive</b>	<b>12.7%</b>	<b>18.6%</b>	<b>12.0%</b>

Companies continue to struggle to calibrate their expectations and establish a profile that reflects their vision of a qualified CDO/CDAO, although an increasing percentage of organizations are coalescing around the perspective on the CDO/CDAO as an external change agent – up from 38.2% in 2019 to 48.5% in 2020.

<b><u>Chief Data Officer Success Profile</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>External change agent   outsider</b>	<b>34.0%</b>	<b>38.2%</b>	<b>48.5%</b>
<b>Company veteran   insider</b>	<b>32.1%</b>	<b>32.4%</b>	<b>15.8%</b>
<b>LOB executive   owns business results</b>	<b>11.3%</b>	<b>13.2%</b>	<b>21.4%</b>
<b>Data scientist   analytics leader</b>	<b>15.1%</b>	<b>5.9%</b>	<b>5.7%</b>
<b>Technology executive</b>	<b>7.5%</b>	<b>10.3%</b>	<b>8.6%</b>

The percentage of firms looking to company insiders appears to have fallen sharply from 32.4% in 2019 to just 15.8% in 2020, while the number that believe the CDO/CDAO should own business results has risen from 13.2% in 2019 to 21.4% in 2020, to represent the 2<sup>nd</sup> most sought after CDO/CDAO qualification.



<b><u>Long Term Role of the CDO</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>
<b>Sits on executive committee</b>	<b>50.0%</b>	<b>45.0%</b>	<b>37.9%</b>
<b>Reports to executive committee</b>	<b>37.1%</b>	<b>37.5%</b>	<b>50.7%</b>
<b>CDO is interim or unnecessary   to be phased out</b>	<b>12.9%</b>	<b>17.5%</b>	<b>11.4%</b>

In contrast to previous years, firms seem to be accepting that the CDO/CDAO should report to the executive committee – 50.7% -- and not actually sit on the committee – 37.9%.

A minority – 11.4% -- continue to maintain the view that the CDO/CDAO is an interim or unnecessary role that should be phased out over time.

<b><u>Success of the CDO Role</u></b>	<b><u>2020</u></b>
<b>Successful and Established</b>	<b>27.90%</b>
<b>Nascent and Evolving</b>	<b>49.10%</b>
<b>Struggling with Turnover</b>	<b>23.00%</b>

Finally, we thought it was time to ask firms whether they feel that the CDO/CDAO role has been a success or not.

In recent years, we have observed anecdotally what appears to be a high rate of turnover in the CDO/CDAO role, particularly among the leading banks that first established this role.

There are multiple possible explanations for this observation:

- a failure on the part of firms to establish clear and achievable expectations for the CDO/CDAO role;
- the evolving and changing nature of the role and different requirements for it at different stages of organization evolution and maturity;
- a lack of preparation and necessary skills on the part of the CDO/CDAO;
- a high market demand for CDO/CDAO's that results in short tenures.

It is worth noting that nearly half of firms – 49.1% -- view the role as being nascent and evolving, which seems to be consistent with the broader set of answers provided in this survey.

Just over one quarter of firms – 27.9% -- report that the CDO/CDAO is successful and established, with just under one quarter – 23.0% -- reporting that they are struggling with turnover.

The bottom line based on this year's survey is that for 72.1% of firms, the CDO/CDAO function remains an unsettled role -- reflective of the dynamic and disruptive changes that Big Data and AI have driven over the course of the past decade. The transformation continues.



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## About NewVantage Partners LLC

NewVantage Partners (NVP) are strategic advisors to Fortune 1000 firms and market leaders in data-driven business transformation.

We serve as trusted advisors to our clients, guiding and assisting them in the processes of:

- Leveraging data as a business asset
- Becoming a data-driven enterprise
- Forging a data culture and mindset
- Innovating with data to achieve competitive success.

### Leading Data-Driven Business Transformation

Since 2001, NewVantage Partners has helped a blue-chip roster of Fortune 1000 companies and industry leaders leverage data and analytics to drive innovation and business transformation.

Our clients include leading financial services and life sciences firms, and data-intensive firms across many industries.

NewVantage Partners thought-leadership perspectives appear in leading publications, including Forbes, The Wall Street Journal, Harvard Business Review, and MIT Sloan Management Review, through our Executive Thought-Leadership Roundtable Breakfasts, annual Big Data/AI Executive Survey, and through our industry keynote panels and speaking engagements.

NewVantage is headquartered in Boston with offices in New York, San Francisco, Austin, and Raleigh.

## Thought Leadership

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