

Analytics And Data Science

8 Strategies for Chief Data Officers to Create — and Demonstrate — Value

by Thomas H. Davenport, Richard Y. Wang, and Priyanka Tiwari

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Summary: The CDO role is poorly understood, and incumbents of the job have often met with diffuse expectations and short tenures. There is a clear need for CDOs to focus on adding visible value to their organizations. The authors suggest eight strategies for CDOs to create — and show — value for their companies: assume responsibility for analytics and AI, focus on data products, measure and document results, build relationships with peers and business leaders who get it, focus on data governance, work on creating a data-driven culture even though it's difficult to show value quickly, build analytics and data infrastructure, and focus on a few key projects of value to stakeholders.

The chief data officer (CDO) role was only established in 2002, but it has grown enormously since then. In one recent survey of large companies, 83% reported having a CDO. This isn't surprising: Data and approaches to understanding it (analytics and AI) are incredibly important in contemporary organizations. What is eyebrow-raising, however, is that the CDO job is terribly ill-defined. Sixty-two percent of CDOs surveyed in the research we describe below reported that the CDO role is poorly understood, and incumbents of the job have often met with diffuse expectations and short tenures. There is a clear need for CDOs to focus on adding visible value to their organizations.

Part of the problem is that traditional data management approaches are unlikely to provide visible value in themselves. Many nontechnical executives don't really understand the CDO's work and struggle to recognize when it's being done well. CDOs are often asked to focus on preventing data problems (defense-oriented initiatives) and such data management projects as improving data architectures, data governance, and data quality. But data will never be perfect, meaning executives will always be somewhat frustrated with their organization's data situation.

While improvements in data management may be difficult to recognize or measure, major problems such as hacks, breaches, lost or inaccessible data, or poor quality are much easier to recognize than improvements.

So how can CDOs demonstrate that they're creating value? The primary ways that data adds value to companies is through enabling them to understand and predict business performance and customer behavior, and embedding it into products and services — all offense-oriented initiatives. CDOs, then, must be able to help companies achieve value through better data usage and consumption.

That is a primary focus of a recent research project sponsored by Amazon Web Services that all three authors contributed to. It included a large survey of 250 CDOs who attend the MIT Chief Data Officer/Information Quality Symposium, as well as in-depth interviews with 25 prominent incumbents of the role. Of the CDOs surveyed, 41% said they define success by achieving business objectives — significantly more than those who measured success in terms of change management or culture shift (19%), technical accomplishments (5%), prevention of serious data problems (2%), or an equal combination of these factors (32%).

Based on the insights in this research, we'll describe several value-creating steps below. We'll start with some approaches that work for every type of organization, and then describe some that depend on the analytical and data management maturity of the company employing the CDO.

How CDOs Can Create Value

Assume responsibility for analytics and AI. These initiatives are viewed as delivering the most value: 35% of the CDOs surveyed believe in focusing on a small set of key analytics or AI projects to deliver the most value. A majority of CDOs (64%) are also spending their time on enabling new business initiatives based on data, analytics, or AI. That makes them — either officially or unofficially — chief data and analytics officers, which is a fast-growing variant of the CDO title. Several CDOs commented in interviews that the combination of managing both the supply of and demand for data is effective at providing value.

At lower levels of maturity, focus on a few key projects of value to stakeholders. If your organization is early in its data and analytical journey, pick a few analytics and AI use cases to develop based on consultations with

key stakeholders. Ensure that those few projects get successfully deployed. And don't boil the ocean — modernize the data environment only as particular analytics applications or AI use cases are being developed. Then business leaders can see the connection between data modernization and the business value it enables.

Focus on data products. Data products are combinations of data and analytics/AI to achieve a specified result for a customer or employee. An example might be a new simulation model to determine whether wealth management customers will outlive their savings, or an attrition model to predict employee departures. Adopting an analytics-based data product focus, which encompasses all activities from ideation to deployment and ongoing maintenance, is a good way to ensure value creation. The product focus ensures that data scientists, data engineers, and other members of a data product team don't just create algorithms, but rather collaborate in deploying entire business-critical applications. Thirty-nine percent reported that they "adopt a data product management orientation with product managers." This is a relatively new concept, so for that many to have already adopted a data product focus is surprising.

Manav Misra, the chief analytics and data officer at Regions Bank, ensures that each of the data products his team develops are successfully deployed and the value to the company carefully measured. For each data product they have quarterly steering committee meetings, at which the business team — the leaders of the business or functional unit that sponsored development of the data product — does the reporting, and Misra's team attends the meeting.

Measure and document results. Carefully measuring the results and value of key projects, sometimes in collaboration with the finance organization, helps CDOs demonstrate and publicize value. Sebastian Klapdor, CDO of printing and design service company Vista, is also a strong advocate of data products,

and ensures that all of Vista's data products have impact by assessing them quarterly with a sign-off on any monetary benefits from the finance organization. In only a couple of years his CDO organization has documented \$90 million in incremental profit – an impressive number for a company with \$1.5 billion in 2021 revenues. Some CDOs have also created online dashboards to describe their organization's achievements and value with respect to data and data-driven business outcomes.

Build relationships with peers and business leaders who get it. Successful CDOs find business leaders — and parts of the business — who already appreciate data to a substantial degree, and who can be partners in providing data-driven value. Data, analytics, and AI initiatives require substantial change not only in technical areas, but also in processes, culture, skills, and customer/supplier relationships. They can't be done successfully without strong senior executive support. CDOs need close and trust-based relationships with those senior executives.

Strategies for Advanced Companies

Some other approaches to providing value depend on the sophistication of the company involved in analytics, AI, and their data management underpinnings.

Highly sophisticated companies can focus on data governance. Data governance is a top priority for CDO activity in our survey, but it's a difficult way to achieve value. It involves behavior change and asking data users to take on data management activities that are not part of their defined jobs. Given the difficulty of effective data governance, only those CDOs who have established value through other means may want to take it on as a priority. Some CDOs are attempting to establish "governance by design," in which systems and data structures enforce the proper use of data through data architectures and reusable data assets. However, it is still early days for this approach, and it also

requires a high level of data management sophistication.

Advanced companies should work on creating a data-driven culture, even though it's difficult to show value quickly. A hefty (69%) percentage of CDOs spend a substantial fraction of their time on data-driven culture initiatives, and it's clear why: 55% view a lack of a data-driven culture as a top challenge to meeting business objectives. Cultural initiatives typically involve data literacy programs and attempts to inculcate data-driven decisions across the organization. However, these cultural activities also involve behavioral change and may be slow to come to fruition. Therefore, CDOs should take on cultural change only in a measured fashion if they have not already brought about substantial value through other means.

Build analytics and data infrastructure if your organization is sophisticated. Some CDOs in relatively advanced analytics and AI companies emphasized that completing key projects alone is not enough. They felt that CDOs eventually need to build an infrastructure to accelerate the use of data, analytics, and AI throughout the company.

Todd James, who leads data and AI for 84.51°, the data science subsidiary of The Kroger Co., said that: "A set of strategic use cases is not enough. That creates a set of point solutions. You've got to be able to scale by having a set of reusable analytical capabilities... We're trying to create a composable [built from modular components] set of analytics and AI applications that are accessed through APIs." Similarly, one leading bank's head of enterprise data and machine learning is focused heavily on scale and infrastructure development for machine learning. He noted in an interview: "With ML, we are moving toward platforms that everybody can take advantage of, with both standardization and automation. We want to root out arbitrary uniqueness, and get rid of temporary ML platforms." The bank is also building a feature store: a repository of reusable variables for ML models.

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There is little doubt that organizations need chief data officers and that the job is here to stay as long as its incumbents add value. Some are clearly doing so. The job may have short average tenures, but 30% of the CDOs in our survey had already occupied their jobs for more than six years. If CDOs adopt these and related approaches to producing tangible value with data, analytics, and AI, they will be instrumental in transforming their organizations into more digital and data-driven competitors. As Bill Groves, a veteran CDO who held the role at Walmart, Honeywell, and Dun & Bradstreet put it, “This [the CDO function] is not a service organization; it’s a transformation organization.”

Thomas H. Davenport is the President’s Distinguished Professor of Information Technology and Management at Babson College, a visiting scholar at the MIT Initiative on the Digital Economy, and a senior adviser to Deloitte’s AI practice. He is a coauthor of All-in on AI: How Smart Companies Win Big with Artificial Intelligence (Harvard Business Review Press, 2023).

Richard Y. Wang is a Principal Research Scientist at MIT, and the Founding Director and General Chair of the Chief Data Officer and Information Quality (CDOIQ) Symposium. His research on the effectiveness of Chief Data Officers (CDOs) has been used by organizations across the world to create CDO positions.

Priyanka Tiwari is a product marketing leader at Amazon Web Services (AWS). She focusses on connected storytelling across AWS databases, analytics and machine learning services and solutions.