Business Case for the Chief Data Officer

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Summary

An increasing number of organizations are creating or thinking about creating the role of chief data officer. This research will help your organization, and IT leaders in particular, to decide whether or not it needs a CDO by asking the questions that need to be answered for the business case.

Overview

Key Findings

Interest in the chief data officer (CDO) role continues to rise, as indicated by Gartner search analytics, inquiry and conference presentation attendance.

Legal and regulatory, human resources, and finance executives understand the need to manage and protect data, so clearly see the need for a CDO. Sales and marketing, research and development, engineering, customer service, and supply chain leaders are quick to see the business case for data exploitation when presented with examples from other organizations.

Most CIOs and senior IT leaders interviewed by Gartner are supportive of the business case for a CDO and understand the need. Many are actively campaigning for this role to be created in their enterprises.

Recommendations

Consider data governance issues, the proliferation of data-focused programs and roles, industry trends, and best practices as potential business drivers for the creation of the role when investigating the need for a CDO in your organization.

Systematically address and quantify the impact a CDO will have on each of the business drivers that you find.

Involve colleagues in other divisions when building the business case for a CDO, such as legal and regulatory, human resources and finance executives, sales and marketing, product development, and supply chain leaders.

Involve CIOs in the shaping of the CDO role and actively involve them in candidate recruitment and selection.

Strategic Planning Assumptions

By 2025, 75% of top firms will be those with the highest industry digital platform control.

By 2016, 30% of businesses will have begun directly or indirectly monetizing their information assets via bartering or selling them outright.

By 2017, 33% of Fortune 100 companies will experience an information crisis due to their inability to adequately value, govern and trust their enterprise information.

Analysis

Business Drivers and Business Impact Assessment for a CDO
When building the business case for a CDO in your organization, prioritize the most important business drivers to make the business case. All are quantifiable and can be used as a basis for determining the need for creating a new role, as well as the return and benefits the organization will receive.

**Business Value of Data**

Getting value from data is not a new idea and is as long standing and well established as the customer loyalty card, one of the first examples of data monetization. Organizations need to manage their data just like any other corporate asset, building the value of the data into their ROI calculations. Digital technology has manifested a new set of intangible assets, and for the most part, they are not being managed systematically.

Business and IT executives regularly claim that information is one of their companies' greatest assets, but they fail to measure or fully leverage its value. There is also a lack of coordination and an over-emphasis on technology when it comes to data, big data and analytics projects. Finding these efforts in your enterprise — because there will be many, both inside and outside of IT — and identifying common themes and work able to be leveraged, will help in your CDO business case. The coordination of resources and the creation of processes should fall to the CDO.

Gartner has recently laid out its important position on how information technology will revolutionize industries over the coming decade. CEOs and CIOs must assume that every industry will be digitally remastered. We have stated:

"A small number of industries so far, have been deeply disrupted and fundamentally redefined as a result of digitalization, and examples include music, newspapers, travel agencies, local advertising, and photographic film. In each case, customer needs are now being served in completely new ways, such as downloading and streaming for music, or search- and advance advertising on the Web instead of printed telephone directory advertising. However, it has been customary to assume that the impact of such deep digitalization will be limited to a small subset of "hot industries," where the underlying product has always fundamentally been information.

The "atom" industries — where the product or service is fundamentally a feature of the physical world, such as transporting people in cars, were often thought to be less vulnerable. Some information industries that computerized decades ago, such as insurance and banking, believed they were already substantially digital. The situation has changed and must now those assumptions. Developments over the last five years show that every industry must now be considered susceptible to deep disruption." (Gartner, July 2014).

This digitalization is inevitable and will result in a need for new governance models for the digital data required, as well as an abundance of new data and information that will be created as a result. The CDO trend anticipates this digital remastering and will help to prepare your organization ahead of digitalization. Nothing less than your entire business model may be at stake and the need for new information management roles has never been greater. Creating a CDO role now will help to anticipate and capitalize on digital remastered.

**Chief Data Officer and Chief Digital Officer**

Exploiting information proactively is becoming a competitive differentiator. Another driver is that investors are starting to pay attention to "infocentric" organizations. Gartner studies show that organizations demonstrably investing in information are rewarded by investors. These companies command a two-to-three times higher market-to-book value than others (see "Maverick* Research: The Birth of Infonomics, the New Economics of Information" (http://www.gartner.com/document/code/239784?ref=grbody&refval=2876417) ). The result is that CDOs can drive shareholder value directly.

In response to this trend, we are seeing several new roles relating to the management of information. In addition to the CDO, another kind of information leader is emerging. When we originally began writing about these emerging roles, we identified two new C-Level titles, chief data officer and chief digital officer.

Where there is more opportunity for information and technology to add value in the front office beyond transactional and mid- and back-office processes, we see a parallel title — chief digital officer. CDOs are focused on value creation (as opposed to risk reduction) tasks. That picture has changed somewhat. We are now seeing CDOs charged with helping to glean additional value from data, instead of simply focusing on the risk and compliance side of the equation.

This is especially true for business intelligence and analytics where chief data officers are now being tasked with realizing additional value from data (see "Why Your Organization Needs a Chief Data Officer [and Maybe a Chief Digital Officer, Too]") (http://www.gartner.com/document/code/247969?ref=grbody&refval=2876417).

**Chronic Systemic Information Governance Issues**
Organizations surveyed by Gartner in 2013 estimated that poor quality data is costing them per company, on average $14.2 million annually (see "The State of Data Quality: Current Practices and Evolving Trends" (http://www.gartner.com/document/code/255625?ref=grbody&refval=2876417). The most current survey data from Gartner, due for publication in 4Q14 puts this figure slightly lower, at $13.5 million per organization per year. Furthermore, all organizations in all vertical industries suffer from data governance problems and these are only getting worse with the advent of big data, cloud deployment models, mobility and social data.

There are several reasons for this:

Data is not managed as an asset that crosses organizational boundaries, so that one group's optimized data is another's unusable data (see "Twelve Ways to Improve Your Data Quality" (http://www.gartner.com/document/code/259288?ref=grbody&refval=2876417).

There is an overemphasis on technology rather than a focus on organizational culture, people and processes.

Few organizations attempt to use a consistent common language for understanding business information and the semantics around it, instead, maintaining divergent and often conflicting definitions of the same data.

Traditional IT leaders tend to be project focused rather than architecturally focused, meaning that to achieve project goals, data definitions are created every time, because it's faster that way.

The CDO can address these challenges in several ways:

By realizing that managing data is part of business operations, and data management is on the same level, organizationally, as financial management and technology management — and just as important. The CDO is a peer of the CIO, but practices a different discipline.

By having a cross-functional and cross-organizational role, the CDO drives consistency in the business use of information, including agreements about business semantics and definitions, information ownership, business rules, targets and goals. This creates and maintains consistency in all these areas across projects and organizational boundaries.

By becoming an advocate for information, and not just a governor of it. Increasingly successful information governance is about advocating for and encouraging use of information as a source of value, not just controlling and monitoring it.

The CDO is not primarily a technologist, but focuses on the human resources needed to realize information governance and value, along with the processes and standards that define and drive this value. Ultimately the CDO will take high-level responsibility and accountability for data availability and reliability, by setting policies and standards that are then enforced by data stewards and other front line custodians (see Note 1). This will give the organization something to manage and measure.

To tie this into your business case, research shows that 40% of the anticipated value of all business initiatives is never achieved. Poor data quality in both the planning and execution phases of these initiatives is a primary cause. Poor data quality also effects operational efficiency, risk mitigation, and agility by compromising the decisions made in each of these areas.

In "Measuring the Business Value of Data Quality," (http://www.gartner.com/document/code/218962?ref=grbody&refval=2876417) a methodology is provided to calculate and quantify the business value of data quality for your organization. Use those calculations as a part of your CDO business case. We offer methods (and a worksheet) to calculate a data quality index for each of the 12 dimensions in "Toolkit: Assessing Key Data Quality Dimensions." (http://www.gartner.com/document/code/234884?ref=grbody&refval=2876417)

### Proliferation of Data Management Use Cases and Data-Focused Projects

What are the use cases or projects that would justify the creation of the CDO role? From freedom of Information acts for government, to "know your customer" projects for banks, all companies have an ongoing set of use cases or projects that are data driven. Many individual projects driven by privacy and regulatory or legal concerns are dependent on better data management.

Perform the following exercise:

Inventory all data management projects such as master data management, legacy information clean up, e-discovery improvement, to demonstrate an across-the-board strategic approach, versus a project-driven siloed approach.

Extract the common elements from these projects, for example, the need for legal and regulatory research, the need for (common) data definitions, and executive management oversight of resources. Count each instance of duplicated effort.
Estimate the cost of the duplication of effort and function — how many people are working on these separate projects — to arrive at a full-time equivalent number. Tie this into your business case by reducing this duplication.

Proliferation of Data Management-Focused Roles

The emergence of roles such as privacy officer, head of data management, information or data governance manager, chief digital officer, director of data services, head of analytics, big data managers, data scientists, head of master data management, head of social media analytics, head of data quality, data stewards, records managers, content managers, and so on, point to a need to create at least a data governance board, if not a single point of responsibility.

The existence of a data or information governance board is evidence that the organization is getting serious about data as an asset. However, it is unlikely that a governance board without a leader will never reach consensus, unless the members work in an extremely consensus-driven culture.

If you already have a data governance board, how is it functioning? Is it getting anything accomplished, or does it need a leader able to enforce agreement between the regularly conflicting needs of various members of the board. Simply count the roles inside and outside IT that appear to be devoted to some form of data or information management. If there are more than 10, for example, and they are scattered in various places in the organization, include this in your business case as evidence of the need for data management. It is a logical next step that productivity and management gains can be made by giving these people a domain-specific leader — the CDO.

Increasing Data Dependent Risk

Data risk comes in many forms, from outright breaches to privacy violations, litigation, regulatory investigation, and many others. The more of these risks that apply to your business and the more you can quantify them in terms of time or money lost, the stronger your case for a CDO position becomes. If a company is both highly regulated and faces significant litigation, either offensive or defensive, an investigation into the costs associated with regulatory investigation and litigation can be used as a baseline number.

There is ample evidence in the marketplace that highly regulated companies and those that face significant litigation are at the forefront of creating the CDO role. This is supported by Gartner research in other contexts (see “Risk Framework for Master Data Management” (http://www.gartner.com/document/code/262457?ref=grbody&refval=2876417) and “Toolkit: Assess the Risk Across Your MDM Program” (http://www.gartner.com/document/code/252399?ref=grbody&refval=2876417).

The Need for IT Modernization, Data Migration, and Application Retirement

IT is staggering under a burden of outdated applications, point-to-point integration, increasing data storage costs, and issues caused by inconsistent data semantics. Reconciling data sources, and finding authorities for definitions and other factors, add time and cost to project budgets. Data migration projects present an opportunity for IT professionals to eliminate redundant, outdated and trivial data by up to 60% in some cases, to decrease data management costs and legal and regulatory risks. Application retirement creates a similar opportunity to reduce maintenance and development costs.

In building the business case for a CDO, pay attention to projects that propose data migration and application retirement. Establish how many there are, and whether there is difficulty in finding the right people accountable for the disposition of the data in existing applications. If your organization is lacking the expertise to bring such projects together and advise on the data governance issues around them, this can be cited as a reason to create a CDO position. An active CDO can also streamline such decision making to gain the financial benefits of a more modern infrastructure, cloud storage and similar cost-saving projects.

Industry Trends and Best Practices

One of the most common kinds of questions from Gartner clients is “What are others in my industry doing?” Citing the CDO trends in your industry, and more generally, should be a component of your business case. Survey data from CEOs indicates that 17% of them plan to create the role of CDO by the end of 2014. Gartner is predicting that 25% of companies in heavily regulated sectors, along with government bodies, will have CDOs by 2017. Currently, the role is concentrated in financial services, government, and information service verticals, but we have noted representation from most verticals, including pharmaceuticals, oil and gas, and retail.

Our own estimates may be conservative. Other sources show up to 18% of organizations already having CDOs in 2013 and 60% were planning on hiring one in the next year. For further information relating to associated documents and source material, see the Evidence section of this analysis.
There is an increasingly strong argument to be made that having a CDO is quickly becoming a best practice in heavily regulated and highly litigious industries, given the interest in data, the difficulty of managing it, and the high risks associated with not managing it correctly.

**Benefits Analysis for the CDO**

Each business driver, with its accompanying business impact, should be converted to a tangible or intangible business benefit. Remember that financial benefit alone is rarely sufficient. The financial case for the CDO has tangible as well as intangible outcomes. Intangible benefits can always be described, and in many cases, can even be quantified — although not always in terms of money, which is only one of many possible metrics.

Most things can be monetized, but in many cases, monetization comes through a complex chain of causality and logic. Risk is a classic case. A statement like "The CDO role can help reduce the risk of a data breach," while possibly true, is also unquantifiable — and if a data breach does not happen, it may or may not be down to the CDO.

There are several ways to demonstrate the value of the CDO role against the costs of creating and maintaining the position. Here are some examples, although this is far from an exhaustive list:

- **Exploitation of key information assets.** Identify and prioritize governance of key information assets to positively impact key performance indicators that information is tied to, such as revenue maximization, customer engagement, service delivery time, and time to market. Create improved relationships with customers, suppliers and partners through the exchange of information assets.

- **Cost-benefit analysis.** The classic analysis and one which will work if you find significant, quantifiable data quality problems.

- **Productivity gains.** Which processes are shorter, and how many roles can we combine or eliminate? How much time can we free up for people working to correct data or process problems?

- **Opportunity and risk costs.** What happens if we don’t create a CDO? What data will remain unexploited, what is the reputational or monetary cost if we don’t reduce the risk of privacy or data breaches? CDOs can help chief information security officers by delivering consistent semantics and data flows. This is somewhat speculative, but still quantifiable. In addition, if the organization does not have a coordinated effort around leveraging data assets to create business value, it is essentially leaving money on the table. We know many organizations are involved in information innovation, but these efforts are seldom coordinated, as they would be under a CDO.

- **Recurring (and unpredictable) expense versus the cost of creating an internal position.** If you are overly reliant on professional services (such as lawyers, certified public accountants, and business consultants) to help you solve regulatory issues and interpret regulations, the CDO can help you to avoid such costs. The management of information will be subject to more and more government and regulatory scrutiny, making customers and other stakeholders increasingly concerned about issues concerning the management of their data. Having internal resources to help manage these issues makes sense over the long term.

- **Monetization of information assets.** A CDO might be chartered to monetize customer and product-related data. Realistically, after delivering data and governance improvements, a CDO can focus on extracting more value from existing data assets. The CDOs we have interviewed have had personal revenue targets. They are asked to extract more services and money from business data assets (see Note 2 for the spectrum of data monetization).

**Collaboration Will Build a Stronger Business Case for the CDO Role**

Once you have identified the business drivers and impacts, and as a parallel effort, you should identify all stakeholders with a possible interest in the creation of the CDO role. These are the people who will reap the benefits. When discussing the business case with the stakeholders, focus on how the business will achieve changes relating to data processes and people. There are several obvious candidates. Two things are relevant for everyone else in business: the true state of their operations and the ease of access to data that helps them manage those operations. The following paragraphs contain examples of what specific organizational units and individuals can gain from creating the office of the CDO.

The specific nature of collaboration and its engagement with such bodies (as outlined in the following sections) is shaped by the scope of the CDO role and specific use cases that are being addressed.

- **Sales and marketing.** Better data, achieved from creating better data governance, can be used to streamline existing processes, shorten sales cycles, decrease the cost of sales, and determine the efficacy of marketing campaigns, for example. Proving the connection between data and these outcomes will help marketing and sales colleagues to understand what the CDO can do for them, both now and in the future. An increasing amount of customer data is being gathered from emerging sources, such as mobile, social, advanced Web,
and product sensors. This contributes to a big data problem that also has the potential to be a major opportunity. As an example, incorporate customer data analytics into information your customers or constituents can leverage for their business purposes (see Recommended Reading for further information).

**Corporate IT.** CIOs understand the cost structures and delivery concerns associated with data. Moreover, data problems, such as inconsistent semantics, lead to systemic errors in systems that include transaction processing, ERP, CRM and data warehouses. Finally, data accessibility for legitimate business purposes is made more complex and expensive with inconsistencies in data definitions and implementation. Such information about data access and use problems undergirds CDO requirements.

**Corporate legal.** No matter if a company is large or small, litigious or not, as key risk managers, its lawyers have a stake in information governance. In the absence of a CDO or an executive with accountability for data, clients report that their legal departments are setting restrictive policies that focus heavily on the risks of data loss, privacy and reputation without necessarily having a full understanding of the technical issues involved. Having a partner with specific expertise in the overlap of legal and technical positions will be welcomed by many.

When asked about potential litigation or new regulations, the chief legal officer (CLO) explains the impact on the business. CDOs can help the CLO map legal opinions to business data and help with understanding the legal and regulatory protocols associated with data management practices, such as those underpinned by a lack of semantic consistency in regulatory reporting.

**Corporate finance.** With constant and stringent reporting requirements as their responsibilities, CFOs have an interest in data quality and data management. In faithful jurisdictions, the Organisation for Economic Co-operation and Development (OECD), states that CFOs have a fiduciary duty for accurate accounting of the business finances. Moreover, many jurisdictions, for example, publicly traded entities regulated by the U.S. Securities and Exchange Commission, require a CFO to personally attest to the accuracy and validity of financial reports. Legal escape hatches notwithstanding (for example, "to my best knowledge and belief"), a CFO is then jointly (with the CEO and Board) — and severally — liable for financial data quality. Therefore, a CFO is likely to readily appreciate how a CDO brings value to book keeping through proper data governance and management. If the report production process is taking too long, with constant reconciles of various versions of the truth, and staff are being overtaxed (quarterly and annually), financial departments will benefit from better data management.

**Human resources.** As the keepers of some of the most sensitive data in the company, HR departments understand the value of data privacy and protection. They may run disciplined operations, but HR leaders can identify with and support the creation of a CDO role to develop processes and frameworks that help HR to comply with regulatory and legal prescriptions. These include private records management, and data disposition policy.

**Compliance and risk.** In many verticals, risk managers constitute their own function. Assessing risk is multi-faceted, with each company facing unique risks. No risk can be assessed without facts about how the business is running, and what its policies and procedures are in addition to its data drivers. The CDO is the risk manager's partner delivering data that allows the risk assessors to isolate and mitigate business risks.

**Other line management.** Ownership of data is one of the key tenants of contemporary thinking about how to manage it. In addition to the groups mentioned in earlier sections, product development, R&D, engineering, customer service, and supply chain management, are all typical of the organizational units with some interest or stake in the management of data as part of their fiduciary responsibilities as managers.

In making the business case to other managers, focus on data that helps them to understand and achieve business results. In a business case, tie a CDO’s principal obligations (specifically, well-managed data, clear policies and common business terminology and metrics) to several influential managers’ business operations using some of the measures described in the first section.

**CIOs Do Not Own the CDO’s Responsibilities**

There are four fundamental reasons why CDOs and CIOs should have distinct and separate roles.

The most important issue is the complexity and scope of data. It is as information technology was in the 1980s and 1990s. Data has become so complex as business and technology issues that solutions will not arise without executive focus — and just as CIOs were critical to the management and control of IT infrastructure and operations years ago, CDOs are critical to the management and control of data now.
Secondly, the job of a modern CIO is overloaded with responsibilities. In addition to managing the IT estate, staffing, sourcing, outsourcing, security, development and so on, CIOs are also explicitly or implicitly tasked with running change management programs, digital innovation, digital strategy, digital marketing, transformation, and more. Put in simple terms, the CIO has enough to do.

Thirdly, the skills and capabilities needed to be a CDO are different from those of a CIO. A CDO needs, among other things, a background that includes legal and compliance or risk management responsibilities, an understanding of "data as an asset," a domain-specific business background in the vertical industry worked in, and knowledge of the tools and techniques of data modeling (see "Toolkit: Chief Data Officer Job Description" [http://www.gartner.com/document/code/251849?ref=grbody&refval=2876417]). Finding all of this, as well as the technical knowledge required of a CIO, is almost impossible — and even when rarely discovered, as mentioned earlier, CIOs have enough to do. Experience and know-how are different from what can be accomplished in any given job role. Variations of the question "but isn't that the job of the CIO?" (or if the CIO is asking the question, "isn't that part of my job") are frequently raised. The answer in both instances is no. There are similar questions and conflicts that arise over data versus process owners (see Note 3).

Finally, the CDO role requires deep familiarity with business operations. A business background in sales, marketing, finance, customer service or risk department management experience, and a deep understanding of cross-business functions is highly desirable in potential CDOs. Both CIO and CDO jobs require some technical knowledge, but CDOs are not generalists and must understand the business in ways that historically CIOs do not, to get the job done. It is the difference between user requirements knowledge and process knowledge.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.


Evidence

The following information was extracted from "CIO Advisory: The Chief Data Officer Trend Gains Momentum." [http://www.gartner.com/document/code/254672?ref=grbody&refval=2876417]

In 4Q13 we carried out a secondary data analysis of 105 active CDOs in large enterprises worldwide, resulting in the following observations:

There are over 100 CDOs (most having that actual job title) serving in large enterprises today. That’s more than double the number we counted in 2012.

Banking, government and insurance are the first three industries to adopt the CDO role, and in that order. However, we are now seeing other industries following. For example, we saw the first significant appointments in the advertising industry in 2013.

Most CDOs (65%) are in the U.S. while 20% are in the U.K. However, there are CDOs in more than a dozen countries now.

Over 25% of all CDOs are in New York or Washington DC, validating a regulatory, catalyzed trend — at least in the early stages.
Over 25% of CDOs are women, almost twice as high as for CIOs (13%).

Our analysis of the trend is rather conservative because we count only those who are operating at the level of chief officer with whole-enterprise scope. There are many more senior information management professionals operating at VP level and spanning several departments (managing only customer data, for example). We expect that some of these individuals will be elevated over the next few years, as the value of role is proven by experiment.

A 2012 survey by Accenture indicated that two thirds of firms surveyed (600 in total) reported having a senior figure to lead data management in analytics, with a large majority (71%) indicating that they would do so in the near future.

A 2013 survey by Datavarsity discovered that over 60% of respondent organizations needed, or were in the process of hiring, a CDO or senior executive in charge of data.

A 2013 survey by Skytree, with over 500 responses, showed that 18% of respondents already had CDOs.

A survey by GoldenSource showed that 60% of respondents stated that they had created (or were working toward creating) the role of "data steward" and (eventually) planned to create a CDO position.

Note 1

Differences in Data Roles

There is a distinction between information stewards, a line of business (LOB) role, and information custodians, an IT role. LOB roles usually have no accurate idea of the route their data took to get to them or their business process. Therefore, stewards need IT support, as well as an IT person or people to help the business data stewards to understand the current technical shape of the data.

For example, one former CDO told us that he served as chief data steward for the global business and was consequently the chair of the data governance council. The reason for this was that the company had several huge systems that served the entire organization, rather than a LOB or other organizational entity, so it made sense for him to be the chief steward. However, he also mentioned that he needed assistance from the IT system manager for these global applications. The moral of the story is that the job can get too big — and having both data management and IT management/understanding in large global organizations might constitute a point of failure.

Note 2

Spectrum of Data Monetization

Data monetization can be direct or indirect, for example:

Indirect monetization

Using data to improve efficiencies

Using data to develop new products and markets (digitalization)

Using data to build and solidify partner relationships

Direct monetization:

Bartering/trading data with partners for goods and services

Enhancing existing products by saturating them with data

Developing and introducing new information products as enhanced information (preanalyzed/aggregated) such as reports.

Branded indexes and special reports
Note 3

Should Process Owners be in the Data Management Organization?

The relationship between data and process and the relative importance of each is complex. In truth, both are important and both deserve focus and attention. Of the two, process has received the majority share of the focus for the last 20 years. While there is still work to be done on business process efficiency — there is much in the way of best practice, methodology and expertise in process optimization — it is not so with the professionalization and focus on data.

However, to answer the question; if the process owner is responsible for the business outcome, then they should also be responsible for the data. This means that it is the business outcome, the measurable key performance indicators, and the person accountable and responsible for these in each case that should also be accountable and responsible for the data that drives the process and the outcome. The difficulty is when data is optimized for one process or department and systems spring up in isolation to support it. The CDO is the executive responsible for making data work across processes.

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