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Who to Hire: A Data Scientist or CDO?



Robert Plant, Associate Professor, School of Business Administration, University of Miami
6/19/2013
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Big data is increasingly an HR issue -- so let's come to grips with three essential new roles: Data Scientists, Chief Data Officers and Chief Digital Officers.

The Data Scientist

The Data Scientist, promoted in the Harvard Business Review as the sexiest job of the 21st Century, is defined as a quantitative specialist with heterogeneous skills that include computation, artificial intelligence, machine learning, modeling, and high-performance computing (and of course, they need to be great communicators).

Leading analytics companies like LinkedIn and Facebook have embraced the concept, and recognized its value early on in their lifecycles. Jonathan Goldman, LinkedIn's point person on their project analytics team, used his quant skills -- he holds a PhD in Physics from Stanford where he worked in quantum computing and a BS in physics from MIT -- to create new data-driven products, including matching LinkedIn members with people they may know, and achieved a click-through rate in excess of 30 percent.

Another Data Scientist is Nachum Shacham, who works to identify business value in large transactional, behavioral, and systems performance data sets at PayPal. Like Goldman, Shacham holds a PhD -- his is in EECS from UC Berkeley -- and has a BSc and MSc in EE from Technion. Prior to being at PayPal, he was engaged at eBay to analyze the performance of their large data platforms.

While the Data Scientist role has recently made headlines, other organizations are approaching the big data problem from another HR talent angle -- through the creation of a CDO. The CDO title has two uses, one is the Chief Data Officer, the second is the Chief Digital officer.

The Chief Data Officer

The Chief Data Officer title is closely related to the data that a business captures, retains, and exploits in relation to the business and its processes, and thus has very strong ties to the business. The Chief Digital Officer has a longer history than the newly-minted title of Data Scientist, however, it is worth noting that a PhD in the field of Management or Decision Sciences with an AI focus is actually the same thing as a Data Scientist.

Peter Aiken, in his new book, The Case for the Chief Data Officer, suggests that the Chief Data Officer title was first used in association with Cathy Doss when she was at Capital One from 2002 to December 2005, where she played a key role in their data-driven strategy and architecture (Capital One was one of the first companies to use micro market segmentation strategies, and link customer segments with credit scores, among other attributes).

Another Chief Data Officer is Usama Fayyad, Yahoo!'s CDO and an executive Vice President of Research and Strategic Data Solutions. Holder of a PhD in Computer Science and four other technical degrees from the University of Michigan, Ann Arbor, he is responsible for "Yahoo!'s overall data strategy, architecting Yahoo!'s data policies and systems, prioritizing data investments, and managing the Company's data analytics and data processing infrastructure."

Both of these CDOs illustrate the technical nature of the role, and its close association with the business, its strategic direction, and governance policies. In essence, while a highly-technical function, the CDO has a broader, more applied role that includes executive corporate oversight and related activities.

The Chief Digital Officer

The Chief Digital Officer is an emerging title used to denote a person in the organization responsible for the transformation of traditional lines of business into digital ones, through an understanding of the confluence of social media, cloud, mobile, and information. The Chief Digital Officer function has gained corporate and media attention after it was discussed at the Gartner Symposium/ITExpo 2012. At this conference, David Willis, vice president and distinguished analyst at Gartner, stated: "The Chief Digital Officer plays in the place where the enterprise meets the customer, where the revenue is generated and the mission accomplished. They're in charge of the digital business strategy." Gartner also predicts that by 2015, 25 percent of organizations will have a Chief Digital Officer.

In this context, the traditional CIO is going to find it hard to compete, but perhaps that's not the goal. More likely, the CIO will be a partner in the process at the C-Level with the Data Scientists and the CDOs, but taking more of a functional role overall. While there will be considerable resistance to hiring a

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Data Scientist or a CDO, with the usual hesitant arguments about having technology lead strategy, or not needing more PhDs and their associated high price tag, a clear case can be made for hiring one or more of these data experts.

The need for excellence in human capital

First, companies that don't pursue this HR strategy will clearly be at a strategic disadvantage. As data becomes the new currency, understanding the data you have, the data you generate, and the data you need, will become more important until it becomes the only mechanism through which decisions are made. Second, "flying by the seat of the pants" as a management philosophy is over; only data-driven companies will succeed. This is because micro segmentation of the markets will increase as product life cycles reduce, necessitating agile organizations that trust and operate around their data.

Finally, the time to hire is now. This is because right now, only a few high tech and thought-leading companies are embracing this concept. The earlier your organization does this, the longer you will have to utilize the data, transform the business processes, and become the nimble, agile company that can survive going forward.

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 Edwin Willems, User Rank: Exabyte Executive
6/28/2013 | 3:44:44 PM

Re: CDO or CAO or Data Scientist.
If D stands for Data and I for Information, shouldn't we than rather talk about a CKO, because at the end of the day, data is just data, and information is just information. It's only when it's applied that it becomes Knowledge (and when acted upon Wisdom, to complete the Maslow chain). In the case of CIO, the I never stould really for Information, but rather of IT. I'm looking forward to the era where the CIO/CDO or whatever is compensated by the value it brings to the business rather than the infrastructure and applications that are put in place...

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 AlphaEdge, User Rank: Exabyte Executive
6/27/2013 | 1:37:57 PM

Re: CDO or CAO or Data Scientist.
I think the position has to have the focus on analytics aspect. Otherwise, the CTO position would have a great overlap with CDO.

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 Saul Sherry, User Rank: Blogger
6/27/2013 | 11:47:59 AM

Re: CDO or CAO or Data Scientist.
First point - strong communication skills. This is a theme when people are talking about this position. Is it possible it's based on data positions in the past being no good on the communication front?

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 Daniel Gutierrez, User Rank: Blogger
6/25/2013 | 5:17:37 PM

Re: CDO or CAO or Data Scientist.
Here is an interesting take on the CDO position, click [HERE](#). Apparently, lots of people are talking about this subject.

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 Pradepta Mishra, User Rank: Exabyte Executive
6/25/2013 | 1:54:00 AM

Re: CDO or CAO or Data Scientist.
@Saul, yes, the bigger the organization, the more would be the degree of specialization. hence for bigger organizations handling multiple projects various specialized designations are created to take care of any one particular aspect. for smaller organizations even a data scientist can act as data office and analytics officer as well.

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 Debera Harward, User Rank: Exabyte Executive
6/21/2013 | 11:21:59 AM

Re: CDO or CAO or Data Scientist.
Saul, According to me requirement of both CDO and data scientist go simultaneously . work of data scientist is analysis and work of chief data officer is to organize , manage and arrange it . Structuring the data is important before analysing it in this case work of chief data officer comes first rather than data scientist. Work of CDO include data integration, data management , business intelligence etc in many organisations data is distributed in different departments and CDO collects the data and make it available to data scientist for analysis.

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 Saul Sherry, User Rank: Blogger
6/21/2013 | 10:16:12 AM

Re: CDO or CAO or Data Scientist.
So the bigger the business the more a role for CDO appears Pradepta? Is that because they fall more into an organizational position?

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Saul Sherry, User Rank: Blogger
6/21/2013 | 10:06:24 AM

Re: The evolution is afoot...
Sounds gloomy... although CIOs who have done their data homework will probably be able to shift over to the CDO role?



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Saul Sherry, User Rank: Blogger
6/21/2013 | 9:44:09 AM

Re: The evolution is afoot...
I'm sure there's a data set that could be visualized to make people see that!



Sometimes the hype-froth that coats big data seems to brain wash the C-level in to dumping cash on the situation... so I guess I see similarities with the 'internet will change life' proclamations made in the lead up to the .com explosion (and subsequent implosion)... Having said that, the internet has changed life, so maybe those messy financial ruinations are all part of the creative process.

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Pradeepta Mishra, User Rank: Exabyte Executive
6/21/2013 | 4:51:27 AM

CDO or CAO or Data Scientist.
I think the designations like CDO is more appropriate for big organizations and the Data scientist role is appropriate for both small and big organizations. In this context there is another role coming up "Chief Analytics Officer (CAO). The data scientist role is limited to the data and algorithm, however the Chief Analytics Officer role can go beyond uptill the business implication of the Analytics solutions. How good a model may be it has to have business value and implication then only the data scientist or the CDO role can be justified.



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