

strategy&



*The right
CDO for your
company's future*

&

The five
archetypes of a
chief digital officer

Contacts

Düsseldorf

Roman Friedrich
+49-170-2238-165
roman.friedrich
@strategyand.de.pwc.com

Frankfurt

Michael Pachmajer
+49-151-624-59-688
michael.pachmajer
@de.pwc.com

Dallas/Fort Worth

Chris Curran
+1-214-754-5055
chris.curran@pwc.com

About the authors

Roman Friedrich is a leading practitioner of strategic technology-based transformation for Strategy&, PwC's strategy consulting business. Based in Düsseldorf and Stockholm, he has focused on strategic advice within the global telecommunications sector for more than 20 years, currently with a specialty in digital transformation.

Michael Pachmajer is a director with PwC Germany based in Frankfurt. He focuses on company-wide digital strategy and transformation across industries, especially in medium-sized and family-owned enterprises. He jointly leads the consulting team with focus on digital transformation in the middle market and family business sectors.

Chris Curran is a principal with PwC US, based in the Dallas/Fort Worth area. He is the chief technologist for the firm's advisory practice, with responsibility for emerging technology strategy, digital architecture and innovation, and the development of thought leadership. He leads PwC's emerging technology labs and the firm's ongoing Digital IQ* research.

*Digital IQ is a registered service mark of PwC United States.

Jennifer Kint, a consultant in the digital transformation middle-market team at PwC Germany, also contributed to this report.

Executive summary



As companies move to catch up with the digital future, they are taking a close look at what kind of executive they need to lead the way. More and more frequently, that executive is the chief digital officer, or CDO — although there are some variations in the actual title. It is that person's task to define the company's digital strategy and execute its cross-functional transformation into a fully digital enterprise.

But companies that are still searching for a CDO (and even some that have already appointed a digital leader, if only temporarily) continue to struggle to find the executive who best fits their strategic goals, digital business model, and current and digital capabilities and operations. It is, after all, a tall order, and the executive must step into this newly created position with the experience, personality, leadership abilities, and aggressiveness needed to carry out the necessary transformation.

The key question for these companies: What do they want their digital leader to accomplish? In order to help companies in their efforts to find the right CDO, we have defined five CDO “archetypes” — the progressive thinker, the creative disrupter, the customer advocate, the innovative technologist, and the universalist. These model types are not meant to be examples of specific executives a company might hire, but rather to serve as an indication of the CDO's potential range of roles and responsibilities.

Choosing the right digital leader is critical to true digital success. At the same time, to attract the best talent, companies must demonstrate to candidates that they have the top-level commitment, digital strategy, governance model, and transformation road map in place to enable the CDO to succeed in his or her mission.

The right stuff

Executives in virtually every industry are finally coming to understand just how extensively the digital revolution is restructuring their competitive landscape. They recognize the advantage of not merely participating in the transformation but leading the way. They realize that digitization means changing the ways they interact with customers, partners, and suppliers, and dramatically rethinking their internal practices, behaviors, and processes to accomplish this. And they have come to acknowledge that digitization isn't just about revamping IT and marketing. The demands of digitization will ultimately force companies to transform virtually every aspect of their business.

However, unless companies can clearly define their paths to digitization, and the capabilities they will need to get there, they will likely fail to implement the necessary transformation of their strategy, their operations, and their cultures. That's where the chief digital officer comes in. We define this executive as the digital leader, no matter the title — CDO, chief information officer (CIO), chief marketing officer (CMO), vice president of digital, or something else — whose presence is critical in defining his or her company's strategic direction and bringing about its cross-functional transformation into a fully digital enterprise.

Yet many companies are at a loss when it comes to defining that role as it applies to their current level of digital maturity, or Digital IQ, as defined in our annual Digital IQ Survey¹: that is, their digital strategy going forward, and the extent and direction of the transformation required to set them on the proper course. And defining the position clearly, even at companies that have already put a CDO in place, is becoming increasingly critical. Companies are spending more and more money on digital technologies outside the CIO's traditional IT domain — in 2015, 68 percent of all digital spending came from non-IT departments, while in 2014 only 47 percent came from outside IT.²

And when it comes to CDOs, one size does not fit all. Every company must carefully decide on the type of digital leader that best fits its strategic goals, its digital business model, and the current and future state of its digital capabilities and operations, as well as the candidate's

experience, personality, and transformational aggressiveness. Many companies have turned to one or another executive already in place — the CIO or CMO, for instance — to perform this function, in hopes that this person can expand his or her current role to cover the demands of digitization across the entire company. But many, we believe, will continue to look for a true digital leader who can really unite the business and technology sides of their operations, across all functions and business units — and this might require looking outside for the right person.

If companies are to find that executive, whether internally or from outside, they must consider several factors: the roles and responsibilities required; how their organization is structured, and how it should be; the governance model needed to give the CDO the authority to carry out the digital strategy and transformation; the cultural hurdles the new CDO will face; the new digital technologies needed; and even how to measure the success of their digital transformation. And they must bear in mind that the CDO position is so new that they can't rely on past experience in finding one, as they would in searching for a new chief operating officer (COO) or CIO.

Instead, the best way to approach the role is with a fresh perspective. First you develop a complete understanding of the digital trends disrupting your industry and business, and the transformational challenge the company faces as it works out the existing and future differentiating capabilities needed to carry out a winning strategy for the digital age. Only after identifying all of these details should a company define the profile of the executive whose experience and expertise best fit the bill.

Digitization is more than just a technology trend; it's a transformation of society and the economy as a whole, and it requires immediate action by every company to keep up with the pace of change. A CDO can provide this needed sense of urgency. Only by choosing the right CDO for the job at hand can companies hope to lead the way to the digital future.

Five archetypes

As of early 2015, less than 10 percent of companies worldwide had hired a high-level executive to oversee their efforts to digitize, according to our research,³ although many companies have appointed executives from their current ranks — often the CIO or CMO — to lead the effort as they settle on their digital strategy.⁴ Consumer-oriented companies led the pack in hiring CDOs, whereas B2B firms typically lagged, which perhaps explains why half of all CDOs came from marketing and sales backgrounds. Moreover, more than 40 percent of those CDOs were members of their companies' C-suites, which indicates just how critical their role has become — even as that role will likely remain in flux as companies gain digital maturity.

As companies start recognizing the importance of a digital strategy, many senior executives are asking what kind of expert it will take to lead that strategy. That's not the right way to begin, however. Instead, before they try to identify the right person to be CDO, they should determine what that person will need to accomplish — i.e., what are the objectives of their digital strategy and investments? Growing revenues? Creating better customer experiences? An increase in operational efficiency? Cost reduction? Entry into new markets? Some combination of the above? Every company must determine its own specific organizational needs and strategic objectives, and then choose a CDO who can best help it reach its goals.

To that end, we have drawn from our experience five CDO “archetypes” — descriptions of typical roles CDOs might play, and often are already playing, at the many different companies we have worked with, from global players and large corporations to medium-sized and family-owned enterprises, as well as public-sector organizations. Each of these archetypes fulfills a more or less specific need, depending largely on the company's current Digital IQ and its digital strategy and ambitions. The archetypes are not intended to describe specific characteristics of the CDO any particular company should hire; instead, they are best thought of as the “primary colors” each company can mix in the right proportions to create a picture of the CDO that best suits its needs.



The progressive thinker

This executive's mission is to think imaginatively about how the business could be transformed through digitization, and to provide the inspiration as the company moves to a fully digital strategy and operating model. Preferably working directly with the CEO, the progressive thinker will typically focus on the development of digital strategy and innovation throughout the company, while pursuing innovative ideas and methods from the world at large as well as the industry in question.

Industrial companies and others in more traditional industries, such as chemicals, oil and gas, and mining, which already have a stable and strong set of differentiating capabilities but have yet to benefit fully from digitization, should consider hiring a progressive thinker. This is a CDO who can bring the inspiration and expertise needed to further digitize a company's current strategy.



The creative disrupter

As opposed to the progressive thinker, the creative disrupter offers a more hands-on approach to the continuous development of new digital technologies and business models and solutions. A creative disrupter can be especially valuable in companies facing severe and dramatic changes as a result of digitization in consumer-oriented industries, such as publishing and retail. He or she will have to work directly with the CEO on a business-driven approach to generating the competitive differentiation that will lead to revenue growth and increased profitability, often by incorporating ideas and technologies from outside their traditional industry structures and conventions.



The customer advocate

These executives, who typically report to the CMO and head of sales — or could even replace them — are mainly market-driven and customer satisfaction oriented. As a result they are best suited for companies in customer-facing industries such as retail, banking, and travel, particularly if digital thinking has not yet penetrated the daily lives of their sales and marketing people. The customer advocate focuses on the development of a convenient, engaging, and seamless customer experience using design thinking across all channels, digital and physical. As such, he or she is responsible not just for the online sales

function, but for the follow-up maintenance and post-sales service operations as well. Companies with product portfolios already differentiated through digitization could limit the CDO role to that of customer advocate and experience transformer.



The innovative technologist

Much like a highly innovative and business-focused CIO or chief technology officer (CTO), this CDO promotes the use of new digital technologies to transform the company's entire value chain, providing the technological groundwork for new digital business models through technologies such as the Internet of Things (IoT), mobility, social media, and analytics, while improving internal efficiency and finding ways to cut costs. The goal of the innovative technologist is not typically to disrupt the company by introducing ways of doing business from other industries, but rather to work within industry boundaries while leveraging digital technologies to gain competitive differentiation through speed, efficiency, and the development of new business models based on combining digital services with physical products.

Companies in manufacturing industries, for example, should consider turning to these executives to further optimize their supply chains and bring digital technologies to factories and to key production steps such as design and prototyping. Variously known as the Industrial Internet or Industry 4.0, the digitization of manufacturing will have a significant impact on these companies, and the innovative technologist will be instrumental in their ability to benefit from this transformation.



The universalist

This CDO's mission is typically to manage all aspects, and all value-creation levers, of a complete digital transformation. The most visionary of the five archetypes, the universalist can succeed only by having a forceful mandate from the CEO and full execution power. Reporting directly to a wholly supportive CEO, the universalist can oversee the spectrum of possible digital tasks: guiding the development of digital strategy as part of overall corporate strategy; devising new business models; overseeing digital marketing and the customer experience; implementing digital technologies; boosting operational efficiency; and digitizing the ways in which employees do their work. The universalist should also be in charge of the internal organizational and cultural change management process.

The universalist is especially well suited to companies in any industry that find themselves behind the curve in their efforts to adapt to the digital world, and therefore need an executive who can carry out a rapid and comprehensive transformation.

Exhibit 1 (pages 11 and 12) shows key roles, responsibilities, organizational and governance mechanisms, and cultural requirements for each CDO archetype at the present time. Naturally, some parts of the job description will evolve as the CDO carves out his or her place within a company.

Exhibit 1
Job descriptions of the five CDO archetypes



**Progressive
thinker**



**Creative
disrupter**



**Customer
advocate**



**Innovative
technologist**



Universalist

Roles and responsibilities

<p>Innovation as it relates to digital strategy</p> <p>Internal and external expansion of digital partner network</p> <p>Digital thought leadership</p> <p>New services and business model development</p> <p>Use of technology and IT to enable strategic capabilities</p>	<p>Product, service, and business model development</p> <p>Digital operations development including co-creation and incubation</p> <p>Challenging and cannibalizing core business</p>	<p>Digital marketing and customer engagement</p> <p>CRM</p> <p>Digital user experience design</p> <p>Customer-centric service innovation</p>	<p>Technology and innovation investments</p> <p>Selection of IT and technology partnerships</p> <p>Bimodal IT, managing both legacy and new (agile) activity</p> <p>All mobility solutions, data management, and analytics</p> <p>Sets standards, owns data and analytics platform</p>	<p>Digital strategy and innovation</p> <p>Change management</p> <p>Digital standards definition</p> <p>Choosing digital technologies and partnerships</p> <p>Digital marketing, customer experience, and communication</p>
---	---	--	--	--

Organization and team structure

<p>Reports directly to CEO (member of executive board)</p> <p>Heads small team with distinguished senior executives and business analysts and researchers</p> <p>Optionally, head of innovation and digital experience group</p>	<p>Reports directly to CEO</p> <p>Heads mid-sized team of innovation and technology leaders, creatives, user experience and interface designers, data scientists, digital trend scouts</p> <p>Runs prototype lab, digital experience center, partner ecosystem management (co-creation platform)</p>	<p>Reports directly to CMO/CSO (or even to CEO)</p> <p>Heads mid-sized team of creatives, marketers, user experience and interface designers, customer trend scouts</p> <p>Runs digital experience group</p> <p>Agile IT resources to realize customer-centric innovation quickly</p>	<p>Reports directly to CTO/COO (sometimes to CIO depending on CIO status)</p> <p>Heads large team of distinguished senior IT and digital technology specialists, data scientists, digital enterprise architects, tech trend researchers, developers</p> <p>Runs big data and IoT in emerging technology labs</p>	<p>Reports directly to CEO and requires strong CEO mandate</p> <p>Heads cross-functional group, equipped to transform the organization</p> <p>Mixed team of strategists, creatives, marketers, technology and data specialists, change agents and people developers</p>
--	--	---	--	---

Governance

<p>No P&L responsibility or decision-making authority</p> <p>Primarily a senior advisor and strong influencer</p>	<p>Innovation group, especially as related to new services and business models</p> <p>Considered an important opinion leader in CEO's decisions</p>	<p>May hold P&L authority for customer-related functions or some businesses</p> <p>Considered an advisor and important opinion leader in CMO/CSO's decisions</p>	<p>No P&L responsibility or decision-making authority</p> <p>Considered a senior advisor to CTO/COO or even CIO)</p> <p>Role focuses on understanding technology and IT as enabler</p>	<p>P&L responsibility</p> <p>Considered an important opinion leader in CEO's decisions</p>
---	---	--	--	--

(Continues on next page)



Progressive thinker



Creative disrupter



Customer advocate



Innovative technologist



Universalist

People and culture

Promotes open, dialogue-oriented culture
Industry-wide reputation as thought leader
Early adopter
Change agent

Promotes open culture: innovative, agile, experimental
Young, software-oriented culture

Promotes open culture: responsive, adaptive, customer-centric
Client advocate

Promotes open, agile culture
Change agent

Promotes open culture, dialogue-oriented and flexible
Industry-wide reputation as thought leader
Leading ambassador for change

Competencies

Methodologies, storytelling, research and evaluation

Includes new business model design, business model innovation, prototyping, data and analytics

Digital marketing, CRM, user experience design
Strong customer orientation

Includes IT strategy and implementation, including agile, bimodal IT
Deep understanding of disruptive technologies: social media, mobile, cloud, IoT, analytics

Holistic competency in strategy, marketing, communications, IT management

Tools and systems

Research databases
Collaboration platforms
Communication channels including social media

Business model design tools
User experience, interface design, and prototyping tools
Collaboration and communication tools and platforms

External collaboration and communication tools and platforms
CRM
Social media
User experience, interface design, and prototyping tools

Big data platform
IoT platform
Developer environment
Prototyping tools

Holistic tool set knowledge ranging from databases to collaboration platforms to technological systems

Key performance indicators

Number of ideas
Number of prototypes
Speed of new digital product penetration

Revenue and profit of new products and services
Number of ideas
Number of prototypes
Number of internal and external co-creation initiatives
Speed of new digital product penetration

Customer satisfaction
Number of ideas
Number of prototypes
Number of customer co-creation initiatives

Number of ideas
Number of field and lighthouse projects
Number of optimized IT processes
Operations spending reduction as percentage of revenue

Revenue and profit targets
Organizational acceptance of digital approach
Number of ideas
Number of prototypes
Number of field and lighthouse projects
Customer satisfaction
Operations spending reduction as percentage of revenue

Source: Strategy& analysis

Great expectations

As critical as the CDO role has become, our experience suggests that there are already more companies looking to fill the position than there are qualified candidates. This shortage has led to a war for talent. Attracting the right CDO to your company will require more than offering a high salary. The best CDOs, we believe, are motivated not as much by money as by their internal desire to carry out change — to transform businesses by bringing them into the digital age, and to see their efforts succeed through real competitive differentiation. The kinds of companies that strong CDO candidates are likely to join must make it clear that they are ready and willing to set forth on that transformation. If they can't do so, they are likely to lose candidates to rivals or promising startups.

Therefore, when looking for the right CDO, don't expect the ideal candidate to be someone who fits your traditional definition of the senior or top-level executive hire. By its very nature, digitization requires a different mind-set, a person who is familiar with a variety of new technologies that may be quite unfamiliar to your current executive team or company owners, and who can bring an entirely fresh eye to the challenges involved in your digital transformation.

So it's quite likely that the right candidate is not an internal hire. He or she could — indeed, perhaps, *should* — come from another company, or possibly from an entirely different industry. The best candidate may also be quite a bit younger than you might expect, since “digital natives” will be most likely to have a high degree of comfort with digital technologies, connected thinking, and their potential for transforming your company.

Moreover, given the difficulty of attracting the best CDOs, it has become critical for companies to demonstrate to candidates that they are willing to change, and that the new CDO's efforts will actually bear fruit. To that end, companies should first ensure that they have taken the following steps on the path to digitization, and then be able to demonstrate where they stand to any promising candidate for the position.

Top-level commitment. Perhaps most important, companies must be able to demonstrate that the CEO is fully committed to the digital strategy and transformation, and has an explicit mandate from the executive board and/or company owners and major shareholders. This must include the willingness at the C-suite level to change traditional behavior patterns to develop a company-wide culture willing to carry out the digital strategy. And, finally, the company must be open to integrating people/partners from the outside with new, required digital competencies and mind-sets.

Strategy. Companies must have a carefully thought-out and ambitious strategy for their digital transformation. It must be fully aligned to and integrated with the business strategy, but flexible enough so that an incoming CDO can adjust it as goals and circumstances change.

Governance. Define clearly — for yourself, and for prospective candidates — the responsibilities and tasks of the CDO; the role he or she will play when it comes to working with other top executives like the COO, CMO, chief strategy officer (CSO), and CIO; and the governance structure that will enable the CDO to carry out the digital mandate. This must be worked out in advance, as the CDO's role will invariably cross many corporate functions, and thus overlap with current functions and job descriptions, and the potential for disagreement, and even conflict, is strong. The CIO–CMO relationship, for example, is already relatively weak, as these executives often struggle for resources to put in place their often disparate visions for digitization.

Road map and resources. Lay out to candidates the proposed multiyear digital transformation road map, including the implementation of business capabilities and digital components and processes, and the resources in terms of people and investment budget available to implement it. Set up a structured process to identify and acquire digital technologies and required digital capabilities. Commit to a budget process flexible enough to fund the agile development of new products and services, and the costs of the transformation itself, including any necessary reorganization. But make room for a more systematic experimentation and learning approach, and don't manage or measure your experiments using the same developed return-on-investment (ROI) approach you would use for a traditional customer relationship management (CRM) investment, for example. Once you've tested a new application or service repeatedly and learned from it, you should adopt an ROI-based business case using real data you've collected during the experimentation phase, and use that to get funding to scale an idea into the market or user community.

Conclusion

As the demand for CDOs rises, the competition for the best ones will only intensify. Yet many companies remain unsure of what they want or need in a digital leader. The key lies in understanding where you stand on your path to digital maturity and having the outlines of a strategy and transformation plan that will get your company there. With that knowledge in hand, you will be able to define much more clearly the kind of CDO who will best take you down that path. The five archetypes we have described should provide both a guide to help you define who that CDO should be and a deeper understanding of how the person you hire can best carry out his or her role.

Endnotes

¹ “2015 Global Digital IQ Survey,” PwC, 2015, pwc.com/digitaliq.

² “2015 Global Digital IQ Survey.”

³ Dr. Roman Friedrich, Dr. Pierre Péladeau, and Kai Mueller, “Adapt, disrupt, transform, disappear: The 2015 Chief Digital Officer Study,” *Strategy&*, Dec. 13, 2015), www.strategyand.pwc.com/reports/chief-digital-officer-study.

⁴ “2015 Global Digital IQ Survey.”

Strategy& is a global team of practical strategists committed to helping you seize essential advantage.

We do that by working alongside you to solve your toughest problems and helping you capture your greatest opportunities.

These are complex and high-stakes undertakings — often game-changing transformations. We bring 100 years of strategy consulting experience and the unrivaled industry and functional capabilities of the PwC network to the task. Whether you're

charting your corporate strategy, transforming a function or business unit, or building critical capabilities, we'll help you create the value you're looking for with speed, confidence, and impact.

We are part of the PwC network of firms in 157 countries with more than 208,000 people committed to delivering quality in assurance, tax, and advisory services. Tell us what matters to you and find out more by visiting us at strategyand.pwc.com.

www.strategyand.pwc.com

© 2016 PwC. All rights reserved. PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see www.pwc.com/structure for further details. Mentions of Strategy& refer to the global team of practical strategists that is integrated within the PwC network of firms. For more about Strategy&, see www.strategyand.pwc.com. No reproduction is permitted in whole or part without written permission of PwC. Disclaimer: This content is for general purposes only, and should not be used as a substitute for consultation with professional advisors.