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Digital Leadership in the C-Suite

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June 2015

Leading Edge Forum

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Digital's challenge in the C-suite

- Digital technology is driving major changes in the way we work and live. Harnessing digital will be critical to future business success, even survival. In this sense, Leadership and Digital Leadership are becoming one and the same

- But Digital Leadership and IT Leadership are NOT the same. The activities commonly referred to as Digital typically sit well outside the traditional scope of the Chief Information Officer and the Enterprise IT function

- Since many C-suite executive teams are not ready to lead major digital initiatives, in some firms a new role is emerging – the Chief Digital Officer

- There are a wide variety of CDO roles, but real CDOs are full C-suite members, and focus on strategy, profitability and digital business transformation

- Soon, every business will be a digital business and every leader will need to become a digital leader, but in the meantime, having a digital champion will be important in many firms

- Executives who abdicate digital to a CDO/CIO will increasingly be on the path to retirement

- To avoid executive obsolescence, companies must make Digital everyone's business and increase Digital IQ at all levels of the firm, but particularly in the C-suite

- CIOs need to adopt this new, digital business outlook, or risk marginalization

Figure 1 – Digital Leadership in the C-suite: Key messages

In August 2014, the LEF report *Leadership and Digital Leadership are Becoming One and the Same* identified the most important sources of digital leadership advantage and described the many ways in which digital leadership differs significantly from traditional business leadership. It argued that no one has a monopoly on digital leadership, and that four parts of the firm – executives, employees, Enterprise IT and the wider business ecosystem – must all play significant roles.

While each of these four areas is vital, digital dynamics are creating particularly interesting tensions in the C-suite. To date, most of the top table focus has been on digital sales, marketing and customer service. But other functions are rapidly catching up. Already we see digital product development, digital manufacturing, digital supply chain, digital finance and even digital HR. Who should drive these initiatives? Who should be kept far away? Is there a need for a Chief Digital Officer? What is the role of the CIO in all of this? In many large organizations, the answers are not yet clear.

This report is the result of our second phase of digital leadership research conducted late in 2014 and early in 2015 to explore the questions above and in particular the Digital drama now unfolding within the senior ranks of the firm. The objective of this report is simple: to provide CEOs and other members of the C-suite with a set of options, recommendations and actions with which to develop the digital leadership needed at the highest levels of their organizations.

Consequently, this paper focuses squarely on the executive leadership, and therefore also the politics of Digital. It avoids both technical jargon and the many IT tactics and strategies that companies are pursuing or considering. But be assured that our analysis is anchored in a deep, practical understanding of what it is like to lead the digitization of traditional large businesses, as well as newer, greenfield firms. The synergies and tensions between these two very different worlds are driving the need for advanced digital leadership today.
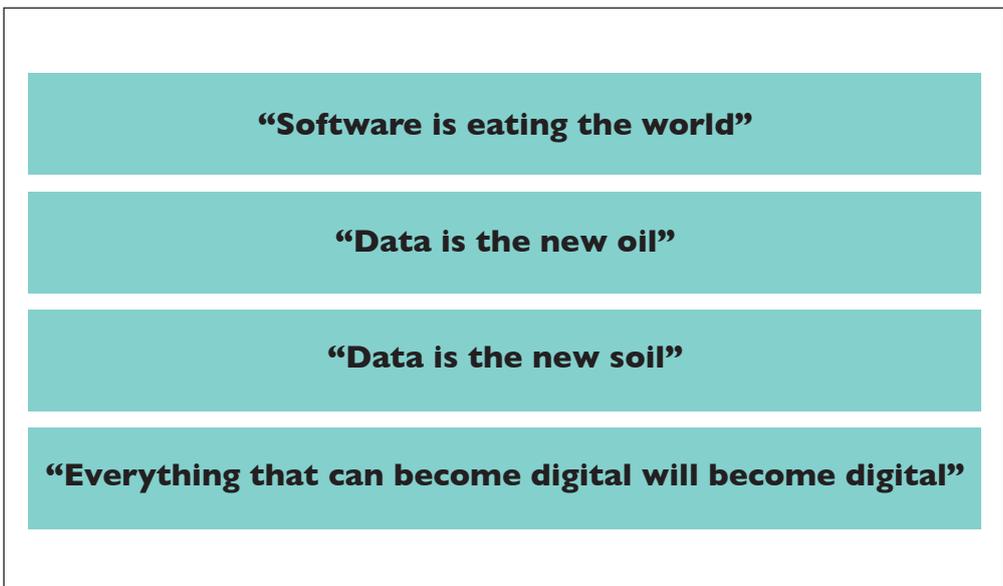
> **"Software is eating the world"**
>
> **"Data is the new oil"**
>
> **"Data is the new soil"**
>
> **"Everything that can become digital will become digital"**

Figure 2 – Some opening thoughts

The quotes in the figure above are widely known (with the exception of the third, which is included partly for its humorous riposte to the second). If you're a CIO or a digital native, you may not care for them or may have heard them too many times. But to the rest of us they tell the basic story of our evolution into the digital age. They define a fundamental set of beliefs that even many IT people haven't fully taken to heart.

'Why Software Is Eating The World' was the title of a seminal essay by Marc Andreessen, the co-founder of Netscape, which appeared in the *Wall Street Journal* on 20 August 2011. Although not a household name, Andreessen is a hugely influential figure in Silicon Valley and has been at the forefront of numerous digital developments and investments. In his essay, Andreessen describes how software and algorithms are increasingly acting as not just enablers but the foundation of important new businesses.

"Data is the new oil," declared Clive Humby at a marketing conference in 2006. Humby is a British mathematician who, with his wife, Edwina Dunn, founded Dunnhumby, a Big Data company that has done pioneering work with some of the world's leading retailers to help them better understand customer habits and loyalty.

No, "Data is the new soil," replied David McCandless with tongue mostly in cheek, at a TED talk in 2010. McCandless, a data journalist and information designer, suggested replacing Humby's crude oil /raw data refinery metaphor with one that recognizes data as a "creative, fertile medium" that we can "irrigate … with networks and connectivity."

The final quote, "Everything that can become digital will become digital," anticipated today's digital revolution way back in 1993 and comes from Benny Landa, a prolific Israeli inventor, entrepreneur and visionary who is often viewed as the father of digital printing.

These four quotes capture the spirit of our times, and the powerful changes now under way. They describe the mindset that digital business leaders must increasingly embrace, but which is still alien to the decision-making of many C-suite executives.

Success = opportunity + strategy + execution + ???

- Significant thought and effort are being expended on formulating the digital opportunity, imperative and appropriate strategies ... but resulting actions, if any, are often narrowly focused and not always coherent

- There are many bumps in the road around digital execution ... few of these are technical issues

- Major realignments of power and influence are bubbling in the C-suite ... some overdue but others, perhaps, premature and not thought through?

Our research and experience in the field tells us that many firms lack sufficient digital leadership at the top table

Figure 3 – Digital is new and exciting ... but what is it?

Marketing executives are rubbing their hands – sometimes in glee, and sometimes in anguish – at the potential of it. Product development directors are dreaming up new applications for it. CEOs are envisioning how their business will be transformed by it – or if they miss the boat, how they will get eaten alive by it. Consumers are spending their hard-earned cash on it, with it and through it. The media is full of it and indeed is transforming itself into it.

We are, of course, talking about *Digital*. But what is Digital and what's really new about it?

Revealingly, CIOs and others in Enterprise IT often struggle the most with this question. They ask: "What's the big deal? Surely Digital is just a new, more fashionable label for IT (Information Technology) which itself was just a more fashionable label for IS (Information Systems) and before that DP (Data Processing), and before that EDP (Electronic Data Processing)! We're already responsible for managing all of that. So why all the fuss?"

Is Digital just a case of old wine in new bottles? We don't think so. While linguistically it is true that the differences between IT and Digital are somewhat semantic, in the real world there is a crucial distinction. *What we call Digital is often precisely those things that firms don't necessarily think should be managed by the Enterprise IT department in the traditional way.*

In many firms today, smart products, online sales and marketing, customer apps, social media interaction, mobility, advanced analytics, new business models and the like are simply too core to the future mission of the firm to be left to traditional IT. But as described in the figure, many companies are struggling with issues of coherence, execution and authority. We believe that the increasing use of the word *Digital* signals growing concerns about the future leadership of the firm, as neither traditional executives nor traditional IT seem well suited for the unpredictable but potent challenges that lie ahead.
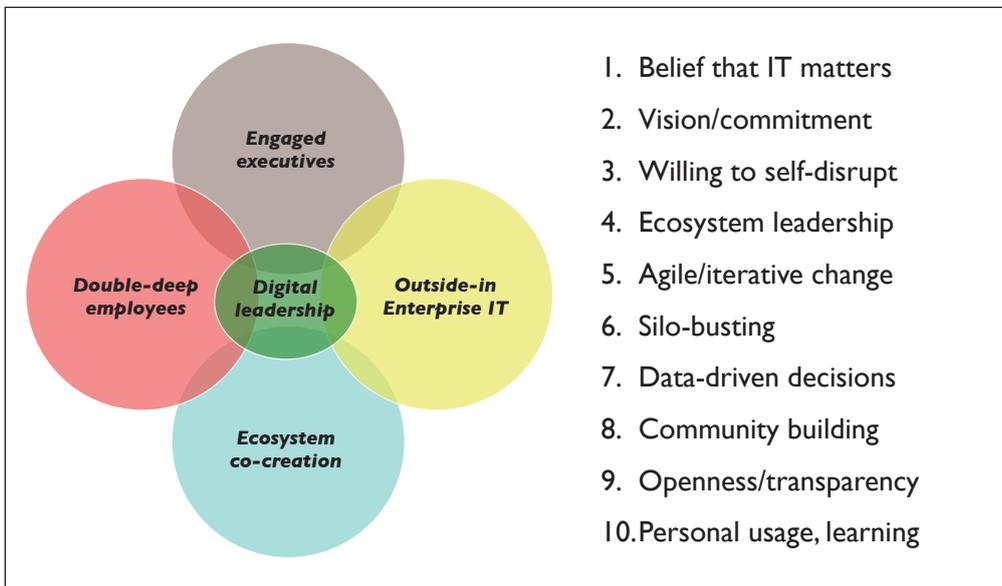
1. Belief that IT matters
2. Vision/commitment
3. Willing to self-disrupt
4. Ecosystem leadership
5. Agile/iterative change
6. Silo-busting
7. Data-driven decisions
8. Community building
9. Openness/transparency
10. Personal usage, learning

Figure 4 – In our 2014 report, we described how leadership and digital leadership are becoming one and the same

The figure above summarizes two main points that came from our first wave of digital leadership research. First, while leadership and digital leadership are converging, they have very different roots. Ten examples of how digital leadership is different from traditional leadership are provided on the right side of the figure, and each of these was explored in our earlier report.

Here, we just want to emphasize that digital leadership requires important new skills and behaviour. This was perhaps best summed up by one healthcare executive who looked at the list above and observed that his firm's senior business (non-IT) executives didn't do any of these things.

The left side of the figure shows our overall framework for conceptualizing and addressing these challenges. There are four main sources of digital leadership: engaged senior executives who believe in IT; *double-deep* employees who embrace the use of IT to do their jobs; tech-savvy customers and partners who inject innovation across the end-to-end industry ecosystem; and an Enterprise IT function that anticipates and supports these developments.

The second key message is that no one has a monopoly on digital leadership. This implies more than just the need for teamwork. Since information technology affects virtually every aspect of the modern firm, employees, managers, executives, Enterprise IT and even customers can all become digital leaders within their respective and highly inter-related domains. As the figure suggests, we see all four leadership sources as being of roughly equal importance.

Of course, there is no one digital leadership formula. Indeed, the balance between executive, employee, ecosystem and Enterprise IT leadership goes a long way toward defining the technology culture of the firm. However, most firms have one thing in common: the differences between leadership and digital leadership are narrowing. Those firms that develop effective digital leadership dynamics will enjoy substantial advantages in the technology-intensive marketplaces of the future. Those that do not – and there will be many – will likely suffer.
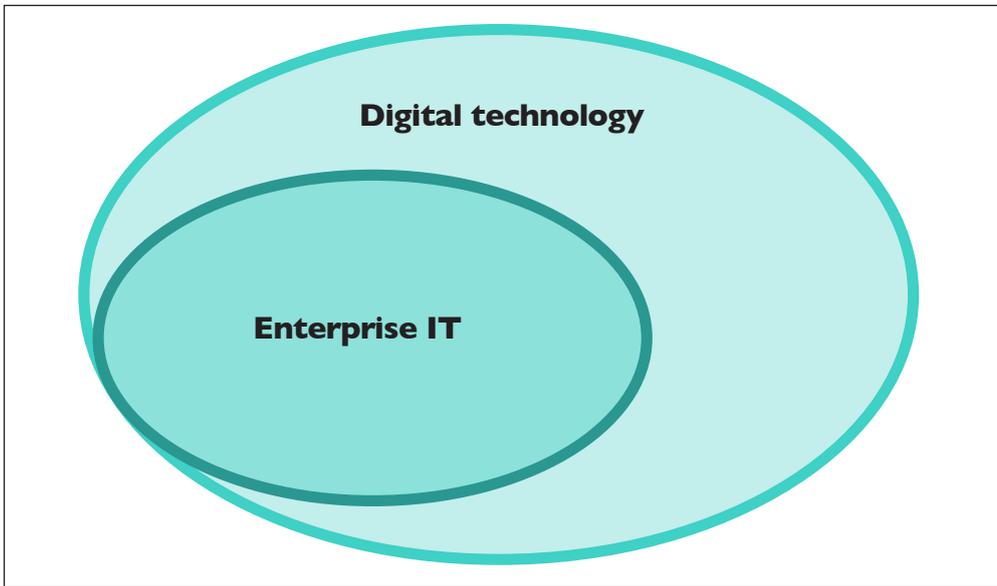
Figure 5 – However, digital leadership and IT leadership are in most cases not the same

Since many – but certainly not all – CIOs struggle with the notion that Digital is anything more than the latest wave of information technologies, it's not surprising that they often say things like, "Surely the approaches, leadership and organizational arrangements that we have refined over the last 40-plus years to manage information technology in the enterprise should be sufficient? Absorbing and integrating the latest innovations in IT is business as usual."

But, as noted earlier, we believe that thinking only in this way misses the point – and it's a very big point: *the types of technology commonly referred to as Digital typically sit well outside the traditional scope of the CIO and Enterprise IT function.*

Digital is more than just devices such as smartphones, tablets and wearables. It covers smart, internet-enabled home appliances like TVs, refrigerators and thermostats. It also includes the telematics, processing power and intelligence increasingly being built into sophisticated equipment such as wind turbines, jet engines, elevators, MRI scanners and, closer to home, the family car. Perhaps even more importantly, Digital spans all the apps, software and social media content that run on these devices and enable them to function in previously unimaginable ways.

Enterprise IT, on the other hand, is still often associated with clunky corporate standard laptops and desktops, fortress data centres and network firewall management, as well as corporate email, ERP, CRM, financial consolidation and other corporate applications rooted in the past. Traditional IT is hardly known at all for digital marketing or embedded technologies, let alone for spending time thinking about the digital customer experience or how to generate new, profitable streams of revenue. Many IT executives don't even use the major forms of social media themselves in any significant way.

Put simply, while all of this Digital 'stuff' is indeed information technology, it is very different from the typical scope of Enterprise IT and therefore extends well beyond the focus and remit of most CIOs. This is why in most firms today, digital leadership and IT leadership are definitely not the same, as further discussed on the next page.
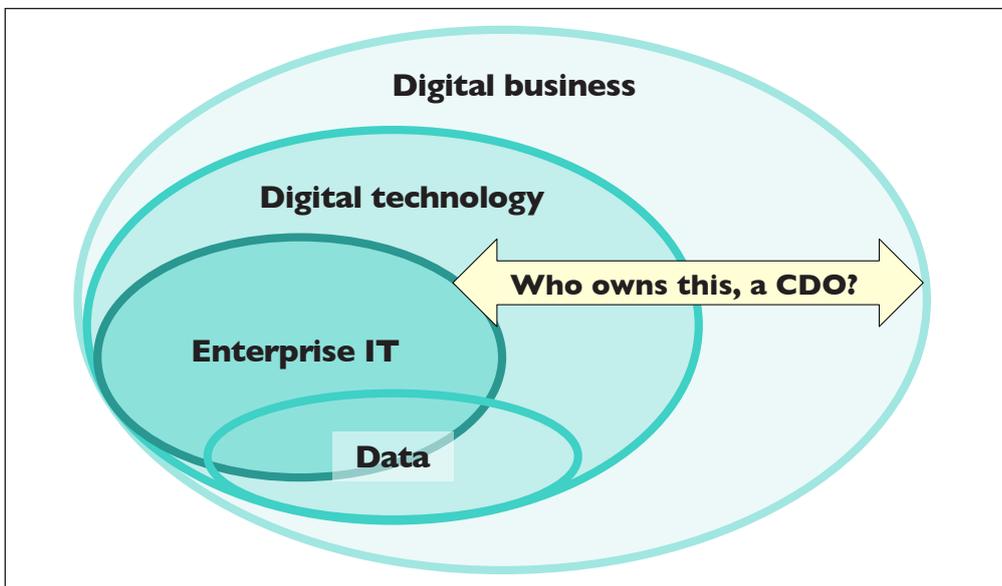
Figure 6 – Digital and IT leadership are not the same (continued)

Adding data into the equation makes the distinction between Digital and Enterprise IT even starker. Enterprise IT sees corporate data as its core business. It spends much of its time gathering, transforming, storing, processing, analyzing, manipulating and reporting structured, well-defined data from diverse corporate domains: financial, product, sales, manufacturing, supply chain, HR and so on.

But in the Digital world, the largest and fastest-growing segment of data lies beyond the traditional boundaries of Enterprise IT. This data is increasingly being generated and streamed in real time from digital sources inside and outside of the firm. It ranges from the sentiments expressed by consumers on social media to the sensor-based feeds from sophisticated industrial equipment. It is the explosion of this type of information in volume, variety and velocity that defines the current Big Data movement.

So, while Digital is a form of information technology, much of what it involves in terms of both technology and data sits well outside the traditional scope of the CIO and Enterprise IT function. Hence our view that Digital leadership and IT leadership are not the same in most firms today. As new sources of information become the foundation of new services and business models, this gap could widen – or narrow if the mandate of Enterprise IT expands.

No surprise then that while they are strong candidates, at least on paper, *the CIO and the Enterprise IT function they lead are by no means the only or even the most obvious choice to lead their organization's Digital efforts*. That's especially true in companies where Enterprise IT's reputation for responsiveness and innovation is not strong. But as we shall see, if Enterprise IT is highly regarded, CIOs can expand their influence into the digital space. In such cases, CIOs can wield enormous influence over the future of their firms.

With this view of how Digital is both similar to and different from traditional IT, let us turn to the current drama in the C-suite and the main players competing for the digital leadership mantle today.
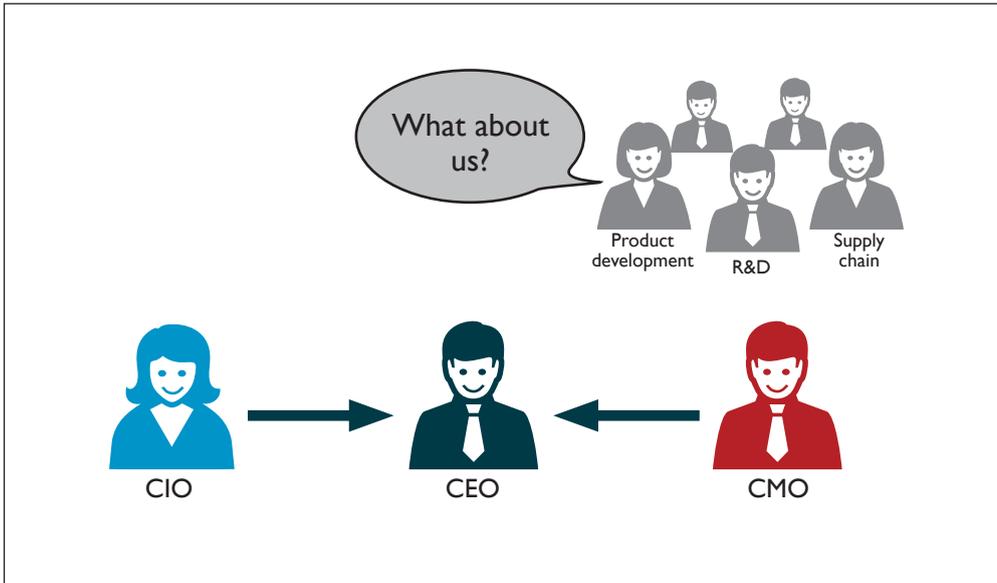
Key players in the Digital drama

Figure 7 – There's a new Digital drama unfolding in the C-suite

Digitization is disrupting companies out of existence and transforming whole industries. What Amazon and Apple did to the book, music and retail industries, and the likes of Expedia did to travel agencies, is well known. These Digital pioneers are themselves now being fundamentally threatened by the advent of streaming media services such as Spotify, sharing economy pioneers like Airbnb, and major global players such as Alibaba.

While most of the action has been in the consumer marketplace, the B2B world is not immune. For example, a market-leading engineering products company wondered why its best-in-class components were not used in one of Google's high-profile devices. The reason was that Google's design engineers, drawn from the millennial generation, didn't behave like engineers in traditional product development shops and consult component catalogues or the engineers' bibles where this company's products featured prominently. Instead they searched online.

Unfortunately, the engineering company had not worked to ensure that its products would appear prominently – or at all – in online searches. This realization triggered a major cross-functional Digital strategy effort that has led to a multi-year Digital transformation programme. We have seen similar stories in B2B areas as diverse as ball bearings and medical supplies. Increasingly, B2B and B2C online customer expectations and behaviour are the same.

Members of the C-suite have a huge stake in leading such transformation programmes, but also in Digital efforts more broadly. The potential of Digital, for both glory and disaster, is clear. *Digital will soon be part of everyone's job*, not just those of digital specialists. In the meantime, Digital is new enough and different enough to justify serious consideration of how it should be led – and by whom.

Recognizing the generalizations involved and the fact that the drama is playing out differently in different organizations, we broadly see three C-suite executives most actively engaged in Digital, and by extension the digital leadership debate today.
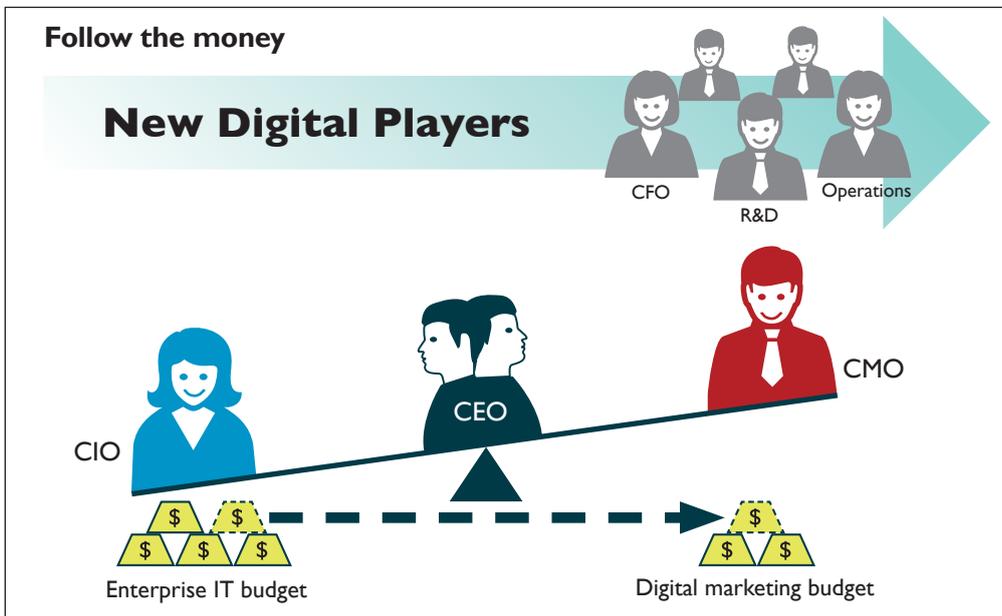
Figure 8 – The shifting balance of power

The Chief Executive Officer, often supported by a Strategy Director, is very keen to ensure that the top leadership team is harnessing the Digital opportunity appropriately, watching out for new threats from both traditional and non-traditional competitors, and telling a convincing Digital story inside and outside of the firm.

More often than not, Chief Information Officers (CIOs) see Digital as a logical and almost routine extension of their existing Enterprise IT leadership responsibilities, sometimes to the point of disdain for anyone else who might feel the urge to drive or own key initiatives. They have grown used to advocating the advantages of centralized coordination and control, and often have a pejorative view of 'shadow IT' in other areas of the business.

Of the other major functional leaders, it's more often than not the Chief Marketing Officer (CMO) who is most excited about Digital today, largely due to the many digital marketing levers that have emerged since the dawn of the internet era (digital advertising, social, local, mobile, marketing analytics, e-commerce …) and provide the opportunity to connect directly with end customers, sometimes for the first time. New, more sophisticated digital channels are also reshaping the customer experiences and the digital journeys, creating large spaces for design, innovation and orchestration.

This excitement, frequently combined with disdain for what is seen as a plodding Enterprise IT function, has led many marketing functions to launch their own digital initiatives independently of IT, often involving third-party digital agencies and with the full knowledge and blessing of other members of the C-suite. As Digital rises in strategic importance, C-suite peers not surprisingly often look to the CMO as a source of digital advice and wisdom, perhaps before turning to their CIO.

But looking ahead, product development directors, R&D, manufacturing, supply chain and other leaders will soon be getting actively engaged, if they aren't already. The work these groups are doing should not be viewed as 'shadow IT'. It is critical to the future success of the firm – more so than many back-office systems. CIOs would be wise to avoid the use of this term, which reflects an increasingly obsolete balance of power.
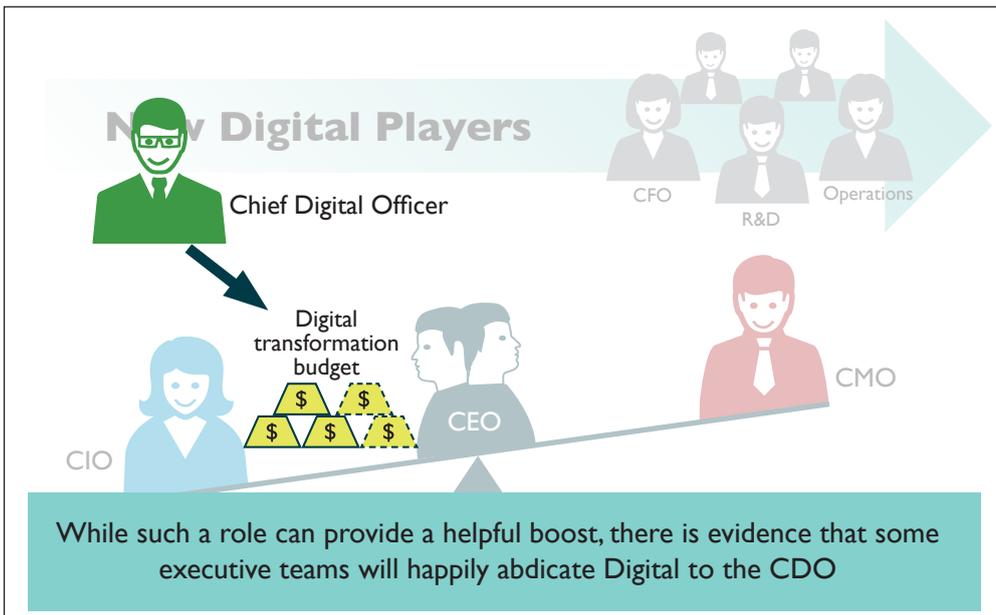
Figure 9 – In many organizations, a new role is emerging

The idea of having a Chief Digital Officer (CDO) has become fashionable over the last few years. While far from universal, your firm's senior leadership may already be contemplating whether to appoint a CDO or something like it. Currently, this role isn't well defined beyond the fact that it has everything to do with Digital. We'll be dealing directly with the question of whether your firm needs a CDO throughout this report.

(Note that in some industries, particularly advertising and marketing services, there is a different role that also goes by the name of CDO: the chief of the business line responsible for building, selling and delivering digital marketing services. This is not the type of CDO or digital leadership that we focus on in this report.)

As we shall see, the arrival of a CDO affects top team dynamics along many dimensions. One of the most tangible is that money is allocated to the CDO to shape and launch a digital agenda for the company. And since those funds need to come from somewhere, other budgets are effectively raided. While we believe strongly that firms should think about *digital business investments* rather than *IT spending*, in reality CDO funding often comes from the existing IT budget.

Of even greater concern is the tendency we observe in some C-suite teams that have brought CDOs on board for executives to breathe a sigh of relief and believe that they no longer have to concern themselves with this 'new-fangled digital stuff' because someone else is here to take care of it for them. Put simply, some top teams are falling into the trap of abdicating Digital to the CDO or CIO. As we shall see later, this is a dangerous career move, and often puts such executives on the path toward retirement.

The bottom line is that with funds and resources go prestige, influence and accountability; and thus the arrival of a CDO should be expected to substantially affect C-suite team dynamics.

- Big spender
- Critical to daily business operations and broader business efficiencies
- Traditional focus on the back office, internal users and automation
- Rarely seen as a driver of breakthrough business innovation – but always seen as a cost centre
- Invariably under pressure – on costs, service and projects
- Often unloved in the C-suite – may not even be a full member

CIO

- Even the best and most prized CIOs are likely to be known more for globalization, rationalization and cost-reduction than for innovation, growth or industry-disrupting ideas
- In real danger of being marginalized in the new world …
- … but also can be ideally positioned and equipped to help shape and drive the digital business agenda
- Real opportunity to embrace digital opportunities and transformation

Figure 10 – Key players in the drama: the Chief Information Officer

It's difficult to imagine a business today that doesn't see the CIO and Enterprise IT as critical to its ongoing operations. But CIOs are also seen as big spenders with a focus on automating the back office. The old refrain that IT costs too much, takes too long and often doesn't deliver (generally unfair but sometimes well deserved) is still making the rounds. Worse, the CIO is often unloved in the C-suite and may not even be a full member. But whether at the top table or not, CIOs are invariably under pressure – on costs, services and projects.

Given this context, are CIOs well placed to take the lead in driving the digitization of their businesses? Most CIOs would like the answer to be yes. Some – the ones who think Digital and IT are the same thing and all the territory of Enterprise IT – are nonplussed that the question is even being asked. But even the most highly regarded CIOs are finding that it's not necessarily a given for them to get the digital leadership role in their company.

As the Group CIO of a global insurance company told us, "Notwithstanding the typical perception of Enterprise IT and the poor reputation left by my predecessor, my IT leadership team and I now have an outstanding reputation for globalization, rationalization and cost reduction. Services are efficient and effective. Costs are better than the industry benchmark. And by and large, projects deliver on their promises, on time, in full. For the most part, the business agrees. But here's the crunch: while we are now known for efficiency and delivery, Enterprise IT is far from having a reputation for agility, business innovation or growth. Yet that is where all of today's Digital action is. So unfortunately, the answer is no! Even in my case, I, as CIO, am not the obvious or even the leading candidate to drive our Group's Digital agenda in the coming years."

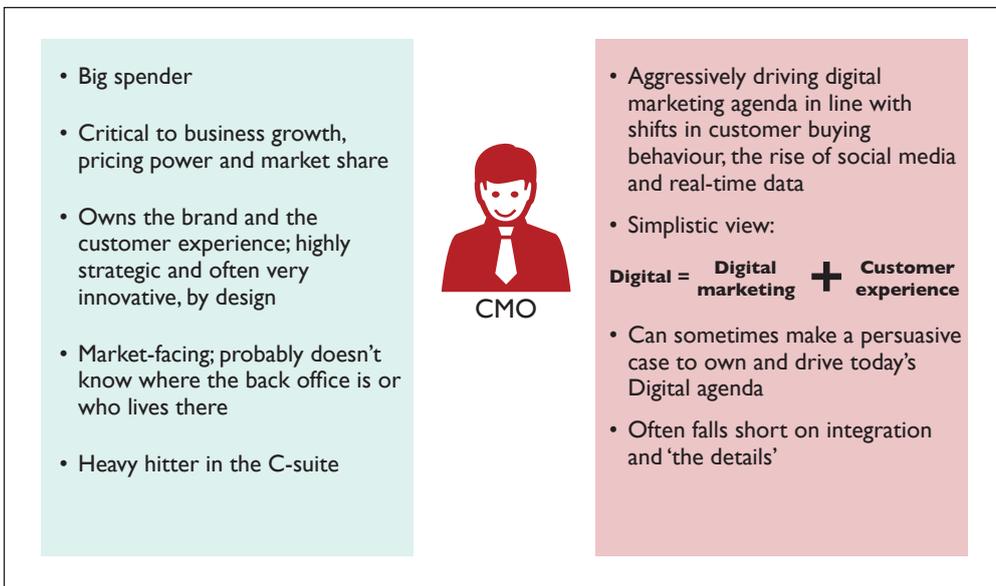This is an excellent summary of the CIO and Enterprise IT challenge today.

- Big spender

- Critical to business growth, pricing power and market share

- Owns the brand and the customer experience; highly strategic and often very innovative, by design

- Market-facing; probably doesn't know where the back office is or who lives there

- Heavy hitter in the C-suite

CMO

- Aggressively driving digital marketing agenda in line with shifts in customer buying behaviour, the rise of social media and real-time data

- Simplistic view:

Digital = Digital marketing + Customer experience

- Can sometimes make a persuasive case to own and drive today's Digital agenda

- Often falls short on integration and 'the details'

Figure 11 – Key players in the drama: the Chief Marketing Officer

For the reasons we've already explained, Digital is reinventing many aspects of the marketing agenda – internet advertising, search engine optimization, mobile apps, advanced analytics, social media and so on. CMOs are embracing these changes and the opportunities they present to build new and deeper customer relationships, capture greater share of wallet, and spot trends and growth opportunities before the competition. Clearly, marketing has been one of the pioneering functions in the adoption of Digital in business.

But the CMO typically has a narrow lens on the Digital agenda. In the CMO's view it revolves around (a) Digital promotion, including techniques such as digital and search-based advertising, social marketing and loyalty; (b) customer insight, based on tracking and analyzing customer behaviour across channels and social media; and (c) the digital customer experience, or how smooth and appealing the customer's digital journey with the company is – whether searching for a product or for information, making a purchase or a return, complaining or raising a service request, or whatever the interaction might be.

For many companies today, these digital marketing levers, perhaps coupled with a digital commerce sales channel, represent the core of the Digital agenda. No surprise then that CMOs can often make a persuasive case for owning and driving the Digital agenda.

But this approach is constrained along two dimensions. First, many digital marketing initiatives – such as those involving billing, delivery and customer support – inevitably require significant support from Enterprise IT. Even more importantly, marketing's early digital lead is rapidly fading as smart products, embedded technologies, sensors and the internet of things move into the Digital spotlight. These areas also need to be integrated with core company systems, a task that few marketing executives are either skilled at or interested in.

In short, marketing has been in the limelight thus far, and has a growing feel for *things digital*, but it typically lacks the skills and mandate to manage the complex cross-company initiatives that will define the Digital business future.
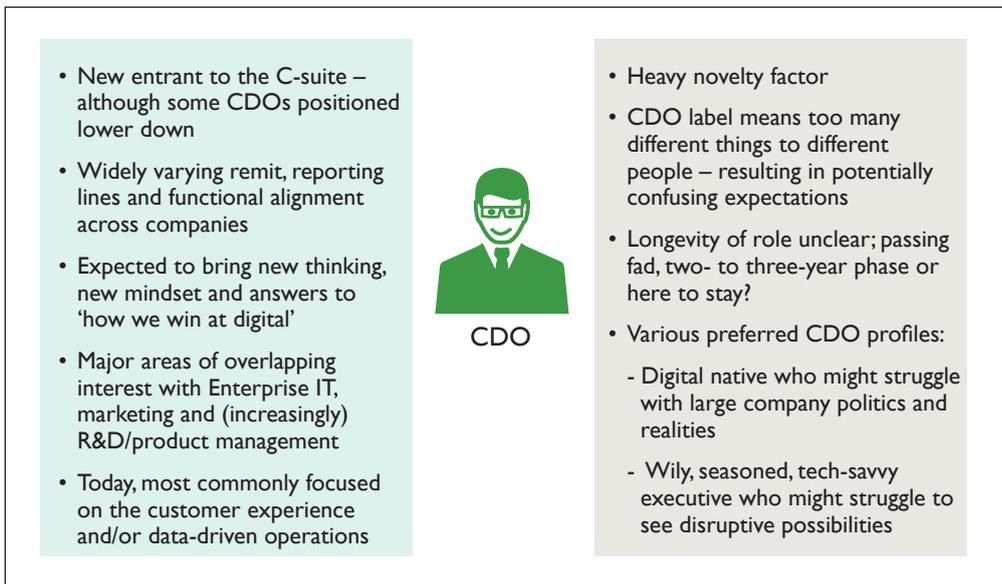
- New entrant to the C-suite – although some CDOs positioned lower down
- Widely varying remit, reporting lines and functional alignment across companies
- Expected to bring new thinking, new mindset and answers to 'how we win at digital'
- Major areas of overlapping interest with Enterprise IT, marketing and (increasingly) R&D/product management
- Today, most commonly focused on the customer experience and/or data-driven operations

CDO

- Heavy novelty factor
- CDO label means too many different things to different people – resulting in potentially confusing expectations
- Longevity of role unclear; passing fad, two- to three-year phase or here to stay?
- Various preferred CDO profiles:
  - Digital native who might struggle with large company politics and realities
  - Wily, seasoned, tech-savvy executive who might struggle to see disruptive possibilities

Figure 12 – Key players in the drama: the Chief Digital Officer

Although still relatively rare, many companies have either chosen or are considering establishing this new Chief Digital Officer role, or its equivalent, to guide them into the digital age. Every day, new job adverts for CDOs are being posted, as well as for Chief Data Officer (which, confusingly, also abbreviates to CDO), a variant of narrower scope typically focused on information management, Big Data and advanced analytics.

The CDOs that have been appointed to date have widely varying remits and reporting lines (as shown in the next figure). Some, as the title would suggest, are genuine chiefs, members of the C-suite with a scope of interest that is truly enterprise-wide. Others may have the title but live further down in the organization, perhaps with a particular functional alignment. As a result, the CDO title means many things to many people. The common denominator is that they are all expected to show how their companies can and will win in the digital world.

It's a new title and a new job, and there is a strong novelty factor associated with the role, as well as the question of whether CDOs are here to stay or whether this is a passing fad that will disappear in a few years' time. As we shall see, we lean toward the latter, as most successful 21st-century executives will need to be digital-savvy.

A more practical question relates to the preferred candidate profile for the CDO role. Should established companies take the high-risk approach of appointing a digital native, probably from outside the firm and perhaps with tech start-up experience? Or will they be better off selecting a more seasoned, often internal, executive who has enough tech-savvy to be credible in the role? The former is likely to be better able to see disruptive opportunities and threats. The latter, on the other hand, will almost certainly be better able to navigate the realities of large company politics and making change happen in complex organizations.

Before we try to address these questions head on, let's examine how today's CDOs are being positioned within their firms.
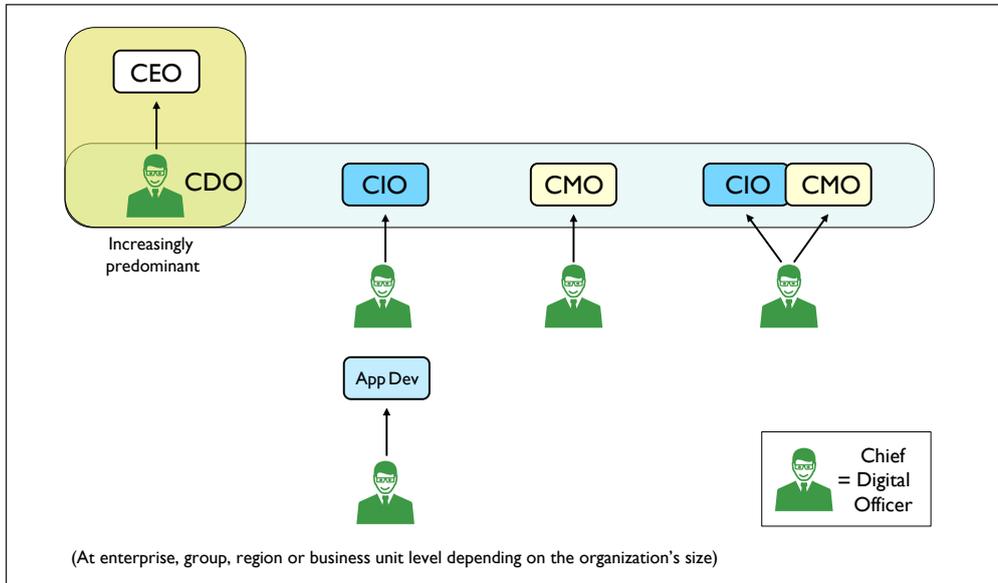
CDO reporting line possibilities

Figure 13 – Examples of Chief Digital Officer reporting lines

Partly because the role itself is not consistently defined, the reporting lines of today's CDOs vary widely across different companies.

Some CDOs are embedded within the marketing function, reporting to the CMO and focused on digital marketing issues – in essence, they are heads of digital marketing and, perhaps, digital channels too. We have observed this model in several consumer products companies, for example, where digital is creating potentially breakthrough marketing opportunities to connect with end consumers. But, as noted earlier, this role is not our main concern.

A small number of CDOs are also to be found within the Enterprise IT function, usually reporting to the CIO, but in one case positioned lower down in IT, reporting to the head of Application Development. The CIO of the pharmaceutical company that adopted this model confessed that doing so was something of a pre-emptive move by Enterprise IT to stake its claim to the Digital space. Similarly, at a specialist global financial services company, the CIO is already positioned and seen by his peers as the obvious executive to lead the Digital agenda and, rather than adopting the new CDO title himself, has chosen to push it down a couple of levels in the organization.

There are also hybrids: for example, at a major European utility, the CDO's role is focused squarely on the digital customer experience and reports jointly to the CIO and the firm's CMO equivalent.

For consistency and simplicity of communication, we recommend that for organizations choosing to adopt the title, the *Chief Digital Officer (CDO) should be a C-suite executive with enterprise-wide responsibility for the Digital agenda.* By implication, the CDO will most likely report directly to the Chief Executive Officer. (Something similar could be replicated at an individual business unit level without changing the intent of this role.)

Most recent CDO appointments follow this model. Of course, the positioning and reporting lines are tightly linked to the nature of the role, and that's what we look at next.
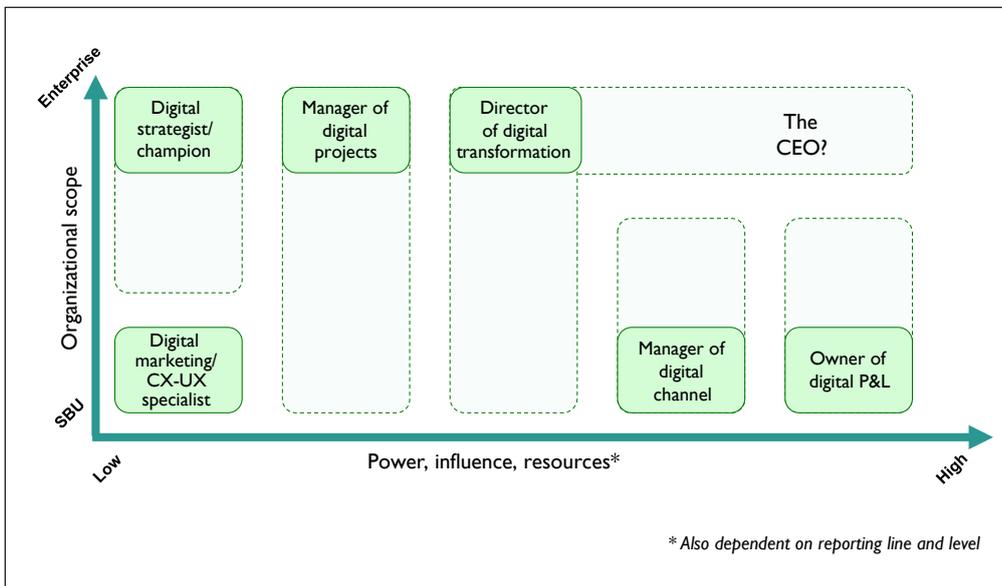
Figure 14 – Chief Digital Officer archetypes

There is a wide variety of CDO roles today. We have encountered six main variants that, as shown in the figure, tend to trade off scope against authority. What is perhaps most interesting about this figure is that none of these CDOs has both full scope and full authority. Only the CEO is in this position, and, of course, in many dot.com-style firms the CEO/founder is in effect the firm's Chief Digital Officer. But in traditional firms, we have seen the following CDO roles:

• **Digital strategist/champion.** This CDO is responsible for scanning the digital horizon for disruptive opportunities and threats, identifying ways to exploit digital to transform business performance, and seeking new, profitable, digitally-enabled revenue streams. A proven strategist, this type of CDO also needs to be a visionary with the ability to evangelize.

• **Digital marketing specialist.** This is a narrower role that, while maintaining some level of strategic focus, lives squarely within the marketing function and is primarily responsible for shaping and driving the digital marketing agenda. This type of CDO may also have responsibility for online channels. Expertise with e-commerce, mobile, customer/user experience (CX/UX), search engine optimization and analytics are often the key attributes.

• **Digital channel manager.** If the online channel is a significant part of the business, it may make sense for a more senior person to be dedicated to its success. This type of CDO 'in the line' is quite distinct from a CDO charged with finding new ways to exploit the potential of Digital across business lines and channels. The CDO as channel manager is mostly seen in traditional retailers and others who connect directly to the consumer.

• **Owner of digital P&L.** This CDO is an extension of and significant step up from the channel manager CDO above. Where the online channel is a core element of the business rather than an adjunct, it often makes sense to run it as a business unit with its own staff, management team, ways of working and P&L. Some companies have chosen to call the head of this business unit the CDO.
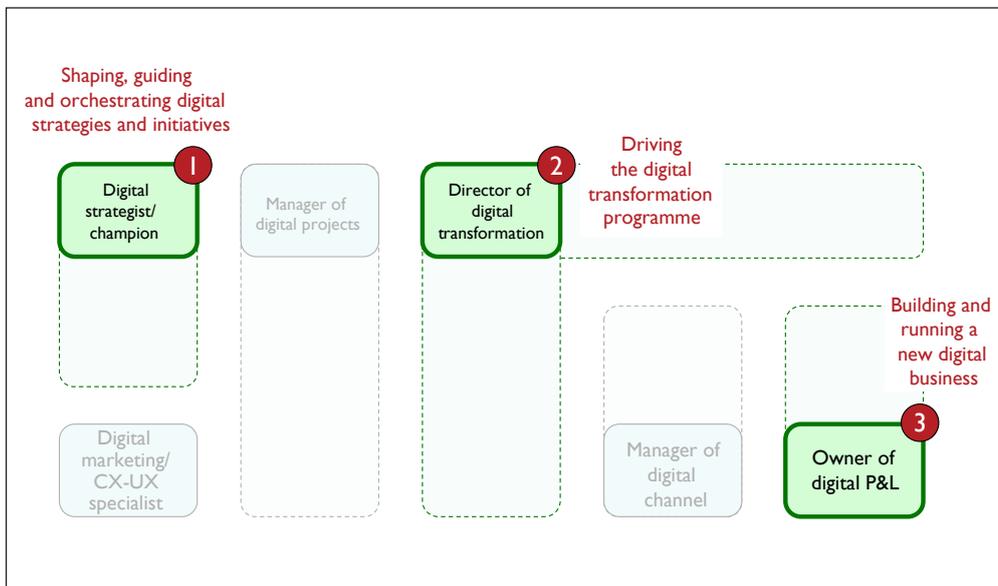
Figure 15 – Three roles appear dominant

Continuing to navigate around the previous figure:

- **Director of digital transformation.** Another increasingly important role, this CDO is responsible for shaping the programme of work and driving the digitization and digital transformation of the enterprise. Transforming businesses is a major endeavour. In addition to possessing sufficient digital smarts and credibility within the organization, this type of CDO needs to be adept at managing large, complex programmes, navigating the politics of cross-functional initiatives and making change happen.

- **Manager of digital projects.** A mini version of the digital transformation director, this type of CDO sits one or more levels below the C-suite and is responsible for managing a portfolio of digital projects. Depending on the focus of the projects, there may be a strong alignment to one function such as marketing or it may be a cross-functional, 'special projects' type of position.

While all six types of CDO are to be found in corporations today, we see the three types of Chief Digital Officer numbered in the figure above beginning to dominate. As a result, we expect two additional and exciting CDO career paths to continue to strengthen.

First, once the strategic opportunities, options and imperatives are sufficiently clear, there is a real opportunity for a type 1 CDO to shift *from digital strategist to digital transformation leader.* Although many fine strategists are not necessarily cut out to be effective business change and transformation leaders, those that can do both, with a digital flair, are likely to be in great demand.

Second, under the right circumstances, there will be opportunities for some Type 3 CDOs to shift *from owner of a digital P&L to CEO*, whether of the whole enterprise or of a meaningful part of it. As digital comes to represent more of the revenue stream and the operating model, it's only natural that those leaders closest to its deployment and exploitation are tapped to take on greater responsibilities. If software really is "eating the world" (see Figure 2), it is only natural that people coming from this background will increasingly assume command.
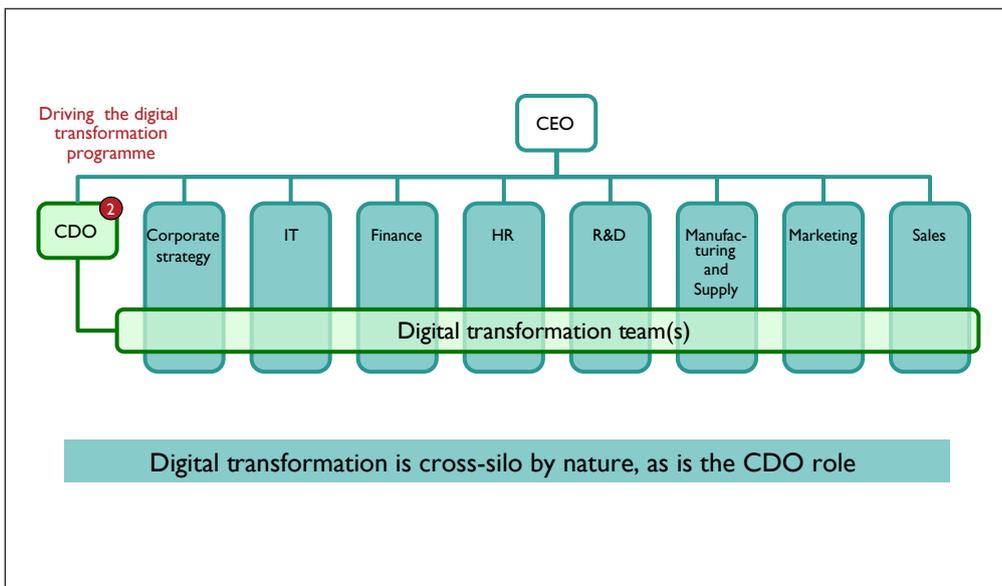
Figure 16 – Type 2 CDOs will predominate in the next two to three years

The CDO role as a pathway to CEO is already becoming a reality in a few highly digital firms. The current UK head of a leading global publishing house, for example, was initially the group's Chief Digital Officer (type 2) and then ran a digital business unit (type 3) prior to becoming CEO of the UK business. In the advertising, publishing and marketing services industries – all early adopters of CDO-like roles – there are many such examples.

For companies that have recently or are just in the process of embarking on their Digital journey, the lessons we have learned about how to and how not to drive fundamental business transformation lead us to predict that type 2 CDOs (digital transformation leaders) will predominate in the next two to three years, leading cross-functional programmes that deliver transformational change through line management structures.

We believe this is the case because most industries now need to be an integrated combination of 'bricks and clicks', to use a phrase from the early internet years. But whereas in the past the clicks were often subordinate, today we are increasingly in a *digital first* world, and this requires the sort of workflow and cultural changes implicit in the phrase 'digital business transformation'. The ability to work across traditional silos is especially critical, as most major future digital initiatives will not be limited to existing functional areas.

For example, we are working with a medical supply firm whose existing structure is a large physical supply chain and face-to-face sales. The company is now shifting to an -as-a-Service model in which its customers' experience will be primarily digital and data is used in new ways. This poses huge challenges in skills, management and cross-silo working. The CIO is leading this transformation initiative – essentially playing the CDO role – with the full support of the management team.
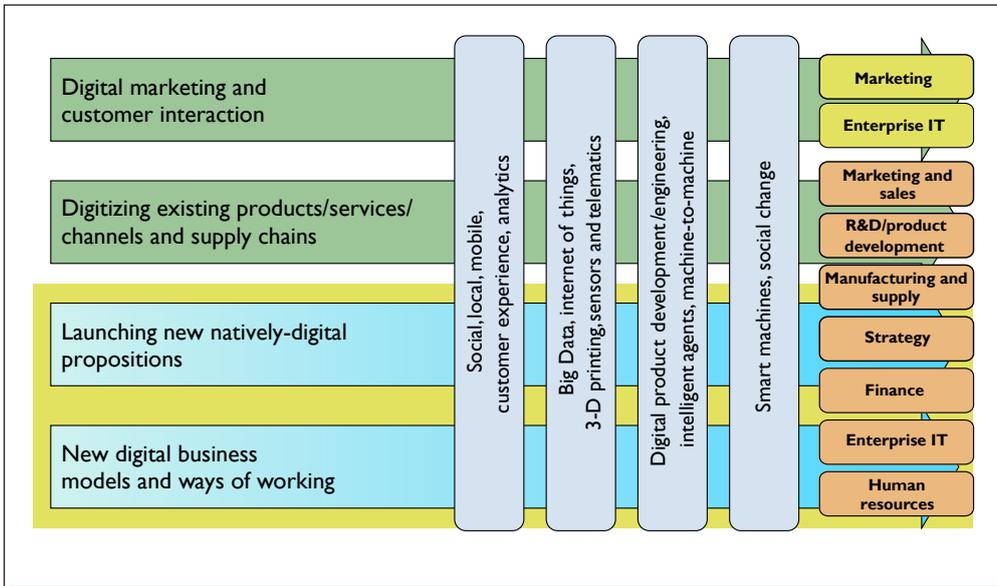
Figure 17 – Soon, everyone in the C-suite will need to be leading Digital. Abdicating digital to a CDO/CIO will be equivalent to retiring

From a C-suite perspective, digital technology appears to be coming in relentless waves of change. Whilst the early waves have mostly affected marketing and sales (e-commerce), the future is now shifting to the product side of the house. Machine intelligence, 3D printing, peer-to-peer connectivity, the so-called *Internet of Things* and many other digital innovations already in the pipeline will transform businesses in ways that are difficult to predict.

These changes will continue to give rise to all manner of 'born-digital' disruptors. Some of these firms are already household names: Facebook, Google, Amazon, Twitter. The latest generation includes companies such as Uber, Airbnb, Oculus VR, Fitbit, Bitcoin and businesses such as Evolv (now part of Cornerstone OnDemand), which uses predictive analytics and machine learning to support hiring talent and performance management. More such firms are launched every day.

As the internet pours into every aspect of business and society, it is clear that just about every business function will become digital, one way or another. And by extension, everyone in the C-suite will need to be leading Digital. Once this point is reached, abdication of the Digital agenda to the CDO or CIO will neither be politically acceptable nor a real career option. It will be the equivalent of retiring.

This is perhaps the biggest drama in today's C-suite. How will the leaders of today's global industry giants make the transition to digital leadership? Will current executives need to be replaced? Already we see firms looking for new pools of leadership talent, often in Silicon Valley itself. Companies are bringing in executives from firms such as Microsoft, Cisco and Oracle because such individuals have grown up in the digital world, and have a more intuitive sense of what digital transformation means. How well they will fit into existing company cultures is another matter altogether.

Firms that ignore these changes and do nothing are taking a far greater risk, yet it appears that large numbers of them are reluctant to step up to today's Digital challenges. The consequences could be severe.

Digital leadership action plan

> How equipped are your company's business leaders to harness and lead digitization?
>
> ~4 / 10

Figure 18 – To avoid mass early retirement, companies must increase Digital IQ at all levels, particularly in the C-suite

It's all very well to say that everyone in the C-suite – and by implication key members of their teams – will need to be leading Digital in the near future. But are we anywhere close to being ready for this?

In the informal survey that we conducted with over 45 CIOs, CDOs, CMOs and other C-suite executives as part of this research project, we asked the question: "How equipped are your company's business leaders to harness and lead digitization?" The answer, as you can see in the figure above, is worryingly low. Even more worrying, this is probably an over-estimate because there were some particularly digitally savvy businesses in the sample.

We know that Digital is real. It's a big deal, is often already here, and there's a lot more on the way. While some companies have made huge strides, our research shows the majority of C-suite teams have yet to genuinely come to grips with the digital leadership imperative, and need to do so urgently, before their competitors gain advantage or their sectors are disrupted in front of their eyes.

Essentially, companies are telling us that the lack of sufficient digital leadership at the top table is now a major barrier to future success. In too many organizations, the status quo persists – a CIO largely focused on complex back-office requirements, CXOs who are not sufficiently digitally savvy, and no clear plan to improve the situation.

Already, we can see that the C-suite turnover in the ranks of the *Fortune 1000* is accelerating, and given the leadership gaps we are seeing, this trend appears unlikely to be reversed. This section of the report lays out the five main actions we recommend that clients take to address this growing digital leadership imperative.
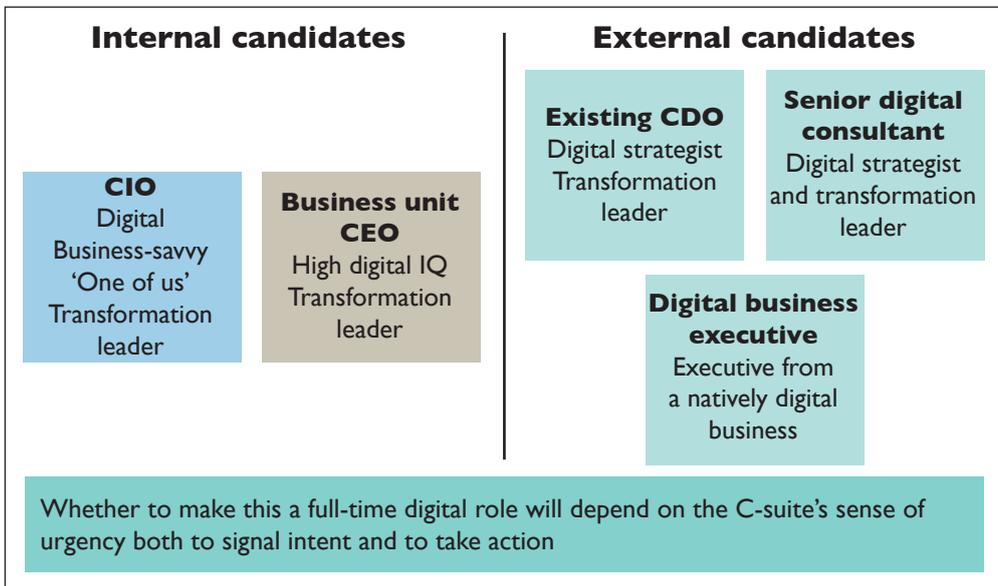
Internal candidates	**External candidates**
	Existing CDO Digital strategist Transformation leader
CIO Digital Business-savvy 'One of us' Transformation leader	**Business unit CEO** High digital IQ Transformation leader	**Senior digital consultant** Digital strategist and transformation leader
	Digital business executive Executive from a natively digital business

Whether to make this a full-time digital role will depend on the C-suite's sense of urgency both to signal intent and to take action

Figure 19 – Action 1: Appoint or recruit a C-level Digital champion, ideally a future enterprise-wide digital transformation leader

As a first step for firms needing to hot-wire their Digital plans, we recommend appointing or recruiting a C-level Digital champion, accountable for kick-starting, orchestrating and building momentum in the first stages of the organization's Digital journey. This Digital champion may come from inside or outside the firm.

The strongest candidates are likely to have an existing cross-functional role; a deep understanding of the business model and what drives profits; warm acceptance within the C-suite; and credibility in the broader organization, as a leader and as someone who 'gets' Digital. A track record for business innovation and implementing major strategic initiatives, typically through business transformation programmes of some sort, adds hugely to the appeal.

Looking internally, if your CIO has these attributes, they would be an ideal candidate. They are likely to have the passion to do the job well. But many CIOs are not completely credible in the C-suite and across the broader organization for driving business innovation. Another strong internal candidate might be the head of one of your existing business units who has a passion for Digital. Few other internal candidates, including the CMO and Chief Strategy Officer, are likely to bring the necessary combination of breadth and depth.

Looking externally, three types of candidate stand out: (1) an existing CDO at another company; (2) a highly regarded consultant skilled in technology-enabled business strategy and innovation and, ideally, with a strong track-record of driving transformational business change programmes; and (3) a senior business executive at a 'born digital' business, perhaps but not necessarily one based in Silicon Valley, who brings fresh thinking and few of the old-style constraints.

The third type will almost certainly be the highest-risk option. Digital natives often struggle and find themselves losing patience with large company politics and realities. These barriers are particularly acute in the C-suite. But if you urgently need to send a market signal that you are taking Digital seriously, this is perhaps the option with the greatest short-term impact. It is also most likely to generate radical Digital strategies.
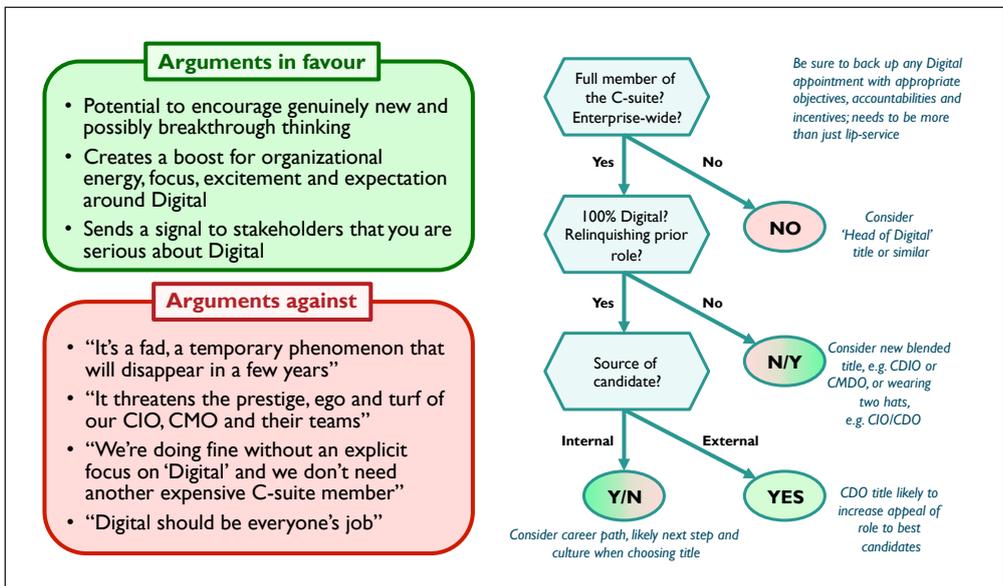
Figure 20 – Does your firm need a Chief Digital Officer?

Having identified your C-suite digital champion, the next question is whether they should take the title of CDO. Given that all the members of your C-suite will have to become digital leaders in the coming years and that no one individual should maintain a monopoly in this space, we at the LEF are not strongly attached to the title. Unlike many other top roles, there is no need for every C-suite to have someone called a CDO, so long as the Digital agenda is being appropriately led. But we also recognize that there are situations in which it does make sense to adopt the title.

To decide what is needed in your organization, we recommend you use the guidance in the figure above. First, bearing in mind the specifics of your company's situation, consider and then score the following arguments in favour and against adopting the CDO title:

Arguments in favour:

- Potential to encourage genuinely new and possibly breakthrough thinking
- Boosts organizational energy, focus and expectation around Digital
- Sends a signal to stakeholders that you are serious about Digital

Arguments against:

- "It's a fad, a temporary phenomenon that will disappear in a few years"
- "It threatens the prestige, ego and turf of the CIO and CMO and their teams"
- "We're doing fine without an explicit focus on 'Digital' and we don't need another expensive C-suite member"
- "Digital should be everyone's job"

 Are the views of your organization more pro or anti appointing a CDO?

Second, consider the answers to the questions at the right of the figure about the role:

- Will this person be a full member of the C-suite? Will their scope be company-wide?
- Will their focus on Digital be full-time? Are they relinquishing previous responsibilities?
- Are they from within the organization or will this be an external hire?

The flowchart in the figure provides a set of recommendations and guidelines based on your answers to each of these questions.
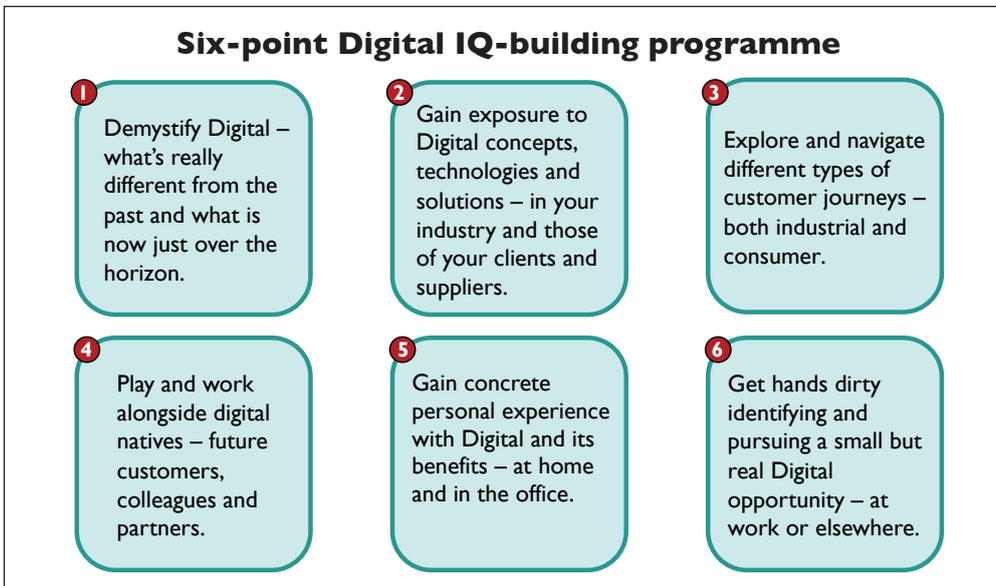
Six-point Digital IQ-building programme

1 Demystify Digital – what's really different from the past and what is now just over the horizon.

2 Gain exposure to Digital concepts, technologies and solutions – in your industry and those of your clients and suppliers.

3 Explore and navigate different types of customer journeys – both industrial and consumer.

4 Play and work alongside digital natives – future customers, colleagues and partners.

5 Gain concrete personal experience with Digital and its benefits – at home and in the office.

6 Get hands dirty identifying and pursuing a small but real Digital opportunity – at work or elsewhere.

Figure 21 – Action 2: Make Digital everyone's business

You need to take steps to equip and enable members of the C-suite to lead in the new world. Raising the Digital IQ of your organization – and particularly of your senior-most colleagues – is critical if your organization is to be able to harness digital opportunities and respond to its imperatives. But there's a paradox.

On the one hand, we observe that the majority of senior executives, even those who might normally be considered to be members of the old guard, have little difficulty getting on with digital platforms. Most have a smartphone and a tablet from which they access their emails and calendars, and it's almost unimaginable these days that any would routinely have their emails printed out. More often than not, they are also happy to shop, use travel services, and research potential purchases and investments online. They probably have a LinkedIn profile and many are connected with friends and family on Facebook, Instagram or similar. In other words, all the trappings of a perfectly adequate Digital IQ are there.

Yet when it comes to thinking through the implications of Digital on the enterprise, much of this seems to go out of the window. Confusion, paralysis, scepticism and an unwillingness to be bold are leading too many C-suite teams to watch disruption take place in other industries but delay decisive action until they have a wake-up call of their own – by which time it is probably too late.

We believe that one of the underlying causes of this paradox relates to a subconscious difficulty or reluctance to *re-imagine and project* certain patterns and trends from our personal lives into the business environment. Most executives don't see the full scope of potential Digital change even as they adopt new digital practices themselves.

To build the C-suite Digital IQ in a way that recognizes and addresses this dilemma, we have constructed the six-point Digital IQ-building programme shown in the figure above. Combining show-and-tell, role-play, practical projects, spending time with digital natives and mixing up work, rest and play, this broad, multi-faceted programme creates a well-rounded appreciation for Digital and confidence in dealing with new, emerging and not-yet-imagined developments.
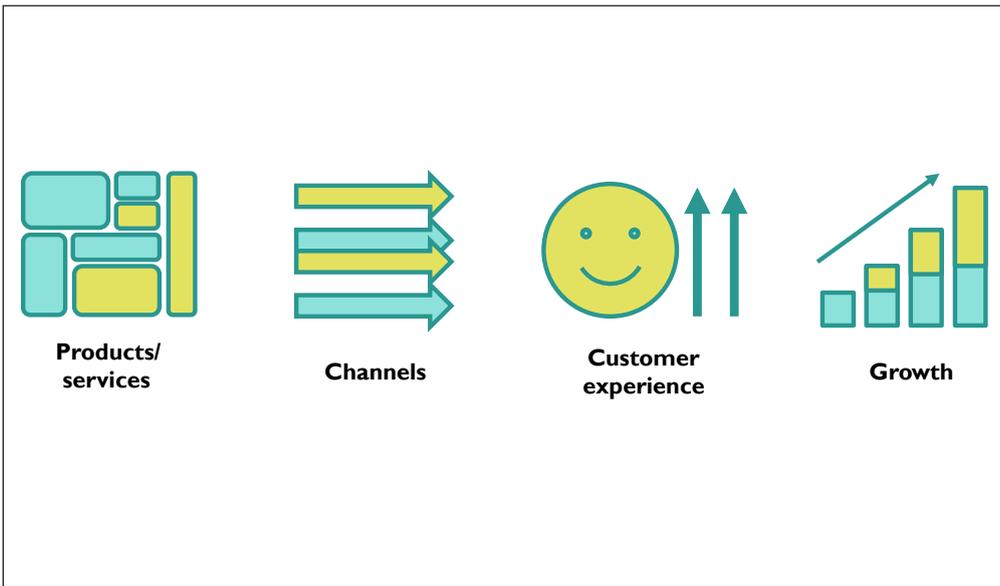
Figure 22 – Action 3: Kick-start the journey to reshape your company's future in the digital world

Once you have established top-level accountability for Digital and developed a senior audience who can appreciate its opportunities and implications, it's time to start laying out a Digital strategy and agenda for your organization.

The detailed process for doing so is well outside the scope of this project and is worthy of a report in its own right. Suffice it to say that a traditional corporate strategy process with a three- to five-year planning horizon is unlikely to deliver what is required and that imagination, experimentation, tactics and strategy feed each other today much more than in the past.

Given the level of digital innovation, change and disruption taking place today, organizations need to employ multiple strategy lenses, metaphors and techniques in parallel to work out how they should best navigate the new and changing landscape. Companies should seek consensus on how best to ride the different waves of digital business change, how to identify where new greenfield ventures have the potential to flourish, and how to decide which disruptions are most likely to transform industries and markets; and think through how the customer experience will change.

As a starting point, we encourage clients to truly embrace the four quotes discussed in Figure 2 – "Software is eating the world", "Data is the new oil", "Data is the new soil" and "What can be digitized, will be digitized." Making these concepts more than just words is at the heart of developing the necessary sense of urgency, and is the most important cultural task that a CDO must pursue.

Once embraced, these ideas can be used to *re-imagine* every aspect of your firm: your products/ services, your industry, your customers, and your sources of growth/profitability. Today, relatively few organizations have done this in a systematic way, and even fewer have articulated a digital business strategy – as opposed to an IT strategy – that is clearly understood across the firm. The LEF has recently been working effectively with a number of clients in this regard.
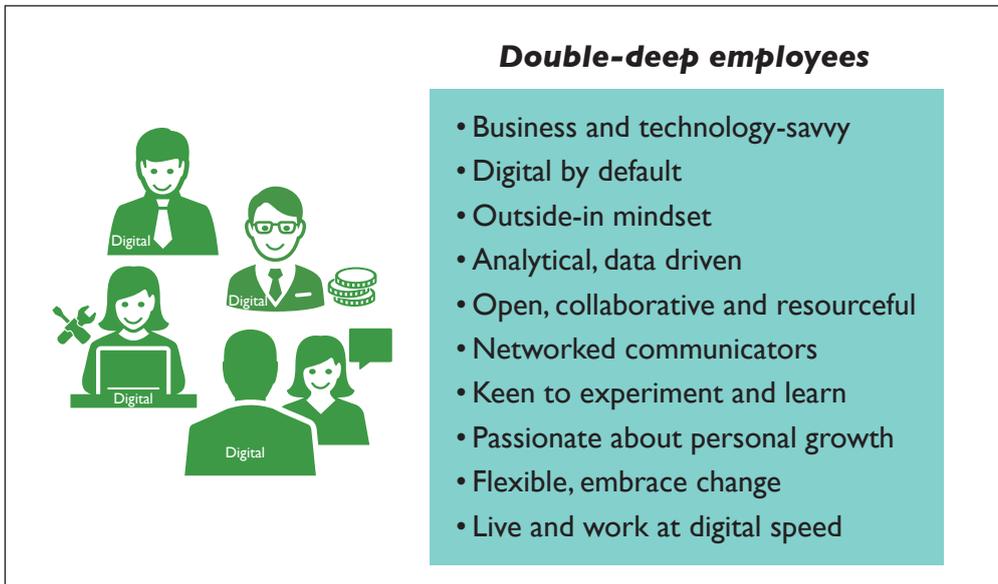
Double-deep employees

- Business and technology-savvy
- Digital by default
- Outside-in mindset
- Analytical, data driven
- Open, collaborative and resourceful
- Networked communicators
- Keen to experiment and learn
- Passionate about personal growth
- Flexible, embrace change
- Live and work at digital speed

Figure 23 – Action 4: Develop and recruit future digital leaders in key functions as C-suite coaches and transformation team members

The race is on for the new talent needed to transform and then run organizations successfully in a digital economy, not just at the top table but within key digital teams. Three specific roles are currently proving hard to secure in sufficient quality and quantity: interface and user experience designers; data scientists and engineers; and experts in modern software approaches. Specialists in domains such as 3D modelling, sensors and machine learning are sure to join the list shortly.

It's very important to be proactive in developing and recruiting future digital leaders in these areas. The most valuable of these digital technologists will have a strong *outside-in* business sense. Business professionals who have a thorough understanding of digital technologies and how they impact work and society will also be needed in great numbers. We call these *double-deep* employees – individuals skilled in both their functional business area as well as the technology aspects of that particular domain. The figure above lists some of their key characteristics.

Identifying available double-deep talent is often only half the problem. Attracting and retaining such talent in an old-world firm can be equally challenging. In addition to the usual levers of hiring and training, a number of innovative approaches are emerging to improve the success rate and accelerate the process.

For example, job exchange programmes with native digital firms provide a significant injection of experience and insights in both directions. 'Gamifying' recruitment and talent management processes can engage potential recruits as well as existing employees who might otherwise be tempted to move to a new age digital business. Acquisitions and investments in promising startups can also improve access to digital talent and ideas, while creating opportunities for existing staff to get involved in something different without having to leave the firm altogether.

Remember: the team that defines the digital transformation agenda of your firm is likely to be the source of your future digital leaders. They will also often be visible, reverse-mentors to your C-suite executives.
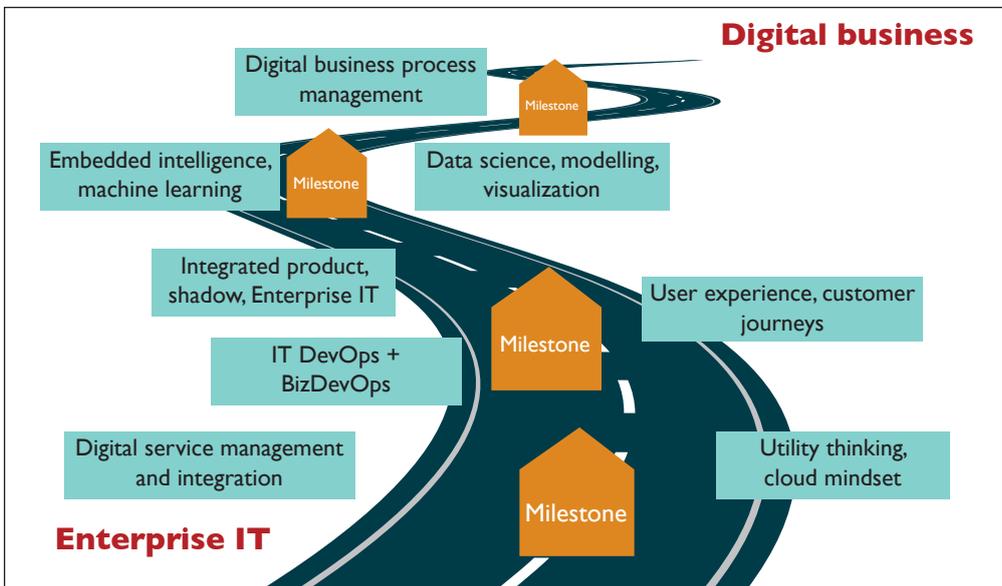
Figure 24 – Action 5: Map how IT and Digital services will be managed in future; lay down the key milestones on the transformation journey from Enterprise IT to digital business

Regardless of who in the C-suite takes ownership of the Digital agenda in the short term, it can cause high levels of career uncertainty for members of Enterprise IT at all levels, from the CIO to the help desk. While much of the new activity – and the associated management attention and funding – is shifting away from Enterprise IT's primary territory, the availability and cost of the firm's core IT systems and services remain critical to business operations, and must not be neglected.

Even more importantly, companies will require ever-rising levels of information integration. Smart products cannot operate in a vacuum. They will need to be linked to core operational systems that manage transactions, customer accounts, customer service, supply chains and more. In most firms this means that future technologies will eventually have to connect into SAP or similar ERP environments. Such integrated IT and business activity (BizDevOps) is the only way to ensure information and operational integrity, and is the main reason why the influence of Enterprise IT is still rising in many firms.

Pursuing innovation while maintaining coherence and focus will require a compelling roadmap for the Enterprise IT function that demonstrates the value placed on it and its role in underpinning and at times overseeing the expected digital transformation. The LEF has been working on this with a number of clients lately in two main ways.

First, our value chain mapping process is being used successfully in many firms to help them better anticipate and understand the likely areas of innovation and evolution within particular digital business areas. When used effectively, these tools can greatly enhance inter- and intra-firm communications across different functional areas.

Second, and equally importantly, companies need to do a better job of digital story-telling. Many companies have both a business and an IT strategy. But in our experience, relatively few have a digital business strategy that is clearly written down and widely understood across the firm. Properly done, such documents can be of great help in unifying the mission of the firm. It's a growing area of LEF/client engagement.

Implications for the CIO

How many of today's CIOs are likely to be tasked with leading the Digital transformation of their company?

<35%

How will the remaining two-thirds of CIOs be spending their time?

Figure 25 – A CIO wake-up call

For every CIO who has wished to broaden the mission of the IT organization – from back-office automation and IT cost optimization, to front-of-the-firm business growth and competitive advantage – the Digital movement should be great news. CIOs are serious candidates to lead digital strategy and transformation. If not already a member, this could be their ticket to the C-suite.

But the digital leadership role will not be the CIO's by default. Enterprise IT as we know it is likely to be increasingly marginalized in the Digital era. If IT simplification, rationalization, standardization and service stabilization dominate the current agenda, it may already be too late. If IT is largely disconnected from what the firm is doing with data analytics, social media or the Internet of Things, the CIO should be very concerned.

Old-style CIOs who don't adapt to the new world won't necessarily go the way of the old 'VP of Electricity', but they will be increasingly relegated to managing the back-office plumbing. They need to ensure that their business peers can imagine them playing the role of a digital business strategist, or the Digital role is probably out of their reach.

In our informal survey of CIOs, CDOs, CMOs and other C-suite executives referred to earlier, we asked, "How many of today's CIOs are likely to be tasked with leading the Digital transformation of their company?" The answer was a shocker: a third or less.

Interestingly, CIOs (representing about half of the respondents) rated their role more harshly than the CDOs and business leaders we interviewed. The latter often admitted that their responses were based more on their CIO's image and reputation than on genuine capability, on which they generally felt poorly qualified to comment and preferred, honourably, to give the benefit of the doubt. But these perceptions still matter.

If it is true that only a third of today's CIOs will be asked to step up and lead the digitization of their business, how will the 'other 66 percent' be spending their time, and who will fill the implicit digital leadership void?

1. Think, act and speak business-first – visibly, audibly and strategically

2. Put the customer journey and revenue model at the heart of nearly every conversation

3. Shift your modus operandi to digital speed as often as possible

4. Proactively drive digital IQ-building for the C-suite and key teams

5. Kick-start digital agenda shaping and strategy formulation wherever not already under way

6. Walk the talk – build digital know-how through pilots and prototypes

7. Embrace 'shadow IT' units; leverage and co-invest resources with other functions

8. Be curious. And imaginative

9. If you do all of the above, you could become the CDO, in name or effect

10. But if not chosen as the Digital lead/CDO, don't sulk! Become a 'Digital CIO' and help the CDO, your company and your teams succeed!

Figure 26 – Recommendations for the CIO and Enterprise IT

We believe that the 'other 66 percent' – those CIOs who currently are not likely to have the opportunity of leading Digital or playing the role of CDO in the short term – need to make a conscious and proactive choice now: become a 'Digital CIO' or make way for fresh leadership in Enterprise IT which is ready for new ways of working. Many CIOs and their teams know that their current operating model is simply too heavy and plodding for today's rapidly shifting marketplaces. There is a real yearning for change.

It's important for your career as well as your well-being that you don't allow your role, and by extension yourself, to drift into irrelevance. It's also incumbent on you as a leader to provide the members of your team and the hungry talent that they manage with the chance to grow and shine in this new Digital world. The corporate IT profession has had a long and impressive history; there is little reason to think this success cannot continue, but real change is required.

The figure above lists the ten main recommendations we have for CIOs who find themselves at risk of being marginalized in the Digital world, and want to do something positive and proactive about it. While many of these suggestions may seem obvious, most of them are broken every day in the firms we work with. This is especially true for a large proportion of Enterprise IT staff.

As always, Enterprise IT must earn its way. The starting point is to get the existing IT workload under sufficient control to gain the confidence of the firm and to provide both senior IT leadership and key IT professional staff with the time, energy and bandwidth needed to actively engage with the wider marketplace. This is the only way that IT organizations can reduce the amount of time they spend looking at their own work and organization, and clearly see the Digital world that is exploding all around them. Helping clients do this is perhaps the single most important mission of the LEF.

Conclusions

1. Appoint or recruit your C-level Digital champion … ideally, a future enterprise-wide digital transformation leader

2. Make Digital everyone's business. Actively equip and enable members of the C-suite to lead in the new world

3. Kick-start the journey to re-imagine your company's future in the Digital world – envision, strategize, plan and transform

4. Develop and recruit future digital leaders in key functions as C-suite coaches and potential transformation team members

5. Map out how IT and digital services will be managed in the future and the journey from Enterprise IT to digital business

Figure 27 – Summary of recommended actions

We don't believe that every company necessarily needs to hire a Chief Digital Officer, although under some circumstances it may be a good idea to do so. We do recommend that someone in the C-suite (maybe the CIO, maybe not) be given formal responsibility for ensuring that the right Digital agenda is formulated and pursued effectively, and that Digital is sufficiently well-understood and pervasive that it becomes part of everyone's job – in the C-suite and across the organization.

To make all of that happen, there needs to be a concerted effort to raise the Digital IQ of the senior leadership team which, in turn, will ensure that the broader organization appreciates emerging Digital opportunities and imperatives. Developing – and where necessary recruiting – digital talent will also be required to shape and deliver the desired transformation agenda.

The alternative is not attractive. We see many firms where the status quo prevails, with an Enterprise IT organization that is disconnected from or can't keep up with emerging digital business activities, a C-suite where 'technology is not my job' attitudes are still deemed acceptable, and isolated pockets of digital activity in marketing, engineering and elsewhere that have yet to coalesce into a real Digital strategy. Such firms will prove to be increasingly vulnerable to rivals who take the potential of digital technologies and digital disruption much more seriously.

Looking ahead, these are exciting times to be a leader. Digital brings huge opportunities for innovation and transformation in the way we all live, work and play. Today's high rates of change will continue for at least another decade, and probably longer, creating all manner of new possibilities.

The five actions shown above will help your firm embrace this emerging world. But to succeed, they must be coupled with insight, wisdom and effective execution. A fair wind always helps too. We wish you all of those things and more, as you and your colleagues seek to make your firm fit for purpose for the coming Digital age.

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About the Leading Edge Forum

The Leading Edge Forum (LEF) is a global research and thought-leadership community dedicated to helping large organizations identify and adopt Next Practices at the growing intersection between business and information technology. We believe that as business and IT become inseparable, virtually every aspect of work and the modern firm will need to be re-imagined, and this creates exciting new digital opportunities.

Through an annual membership programme of research, events, onsite workshops and advisory services, we support Chief Information Officers and other senior digital business leaders in areas such as strategy, organizational change, executive education, staff development and the future of the Central IT function. Members enjoy personalized access to our global network of thought leaders, clients and leading practitioners.

The Leading Edge Forum is part of CSC. For more information, please visit leadingedgeforum.com.