

CEOs: Foster The Software Teams And Talents Your Firm Needs

How CEOs Should Lead The Most Important — And Perplexing — Corporate Domain

by John R. Rymer and Jeffrey S. Hammond

February 21, 2019

Why Read This Report

Ultimately, application development and delivery (AD&D) leaders and CIOs don't hold the keys to the fast, high-quality software delivery that is so crucial to digital business success — CEOs do. Culture, organization, and metrics are the province of CEOs, and many software leaders say that cultural and organizational barriers and counterproductive metrics limit their progress. So rather than just watching from the sidelines and hoping for good results, CEOs must actively foster the software capabilities their firms need. Read this report to learn how.

Key Takeaways

In The Digital Era, Software Delivery Is A Domain That CEOs Must Master

Digital business demands lots of new software that developers or vendors deliver with unprecedented speed and quality. While most enterprises have improved their base software delivery capacity, software leaders need deeper executive support to increase velocity and responsiveness to business needs.

CEOs Must End The Madness Of Software Metrics By Imposing Business Measures

With their arcane, indirect measures of success and ROI, software developers and teams confound conventional management techniques. CEOs must insist that everyone in software delivery gauge success with business measures such as higher margins, new revenue, and improved customer experience.

What's Really Needed: A Digital Partnership

CEOs won't directly manage software delivery but must create a new partnership with their software leaders. This partnership should focus on clear business goals, teamwork, experimentation and learning, support for creative talent, flexible funding, trust, and the alignment of software delivery to business goals.

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Digital Transformation Makes Software A CEO's Concern

Omnichannel shopping (even within one location), bots that serve customers, equipment that phones home, and self-service everything are changing AD&D leaders' remit. CEOs are pushing digital transformations at their firms, elevating software delivery from an arcane cost center to a strategic concern. This isn't limited to banks, trading firms, tech vendors, telecommunications firms, and other traditional voracious consumers of IT. A retired CEO of a national restaurant chain told us, "We struggled to understand the importance of technology strategy to our brand." And the CEO of a professional services firm expressed her and her peers' frustration with software delivery: "Getting my software leader to understand how to set priorities and flow for the business is pretty darn hard."

Why the increased CEO focus? Digital transformation is a fancy term for customer innovation and operational excellence that drive financial results — the measure of a CEO's performance. Because software fuels digital transformation, poor software capability is now a barrier to CEOs' success — reason enough for CEOs to engage with software leaders to ensure that they align and progress.

CEOs Should Care About Software Because They Own Half Of The Barriers To Progress . . .

Neither AD&D leaders nor CIOs can catapult their software organizations into the digital era without the right executive support. CEOs' actions, or lack thereof, can stymie progress to deliver the software capability that digital business demands. Why?

- › **Software success depends on factors under CEOs' control.** CEOs' control starts with funding for buying, building, customizing, and integrating software and modernizing what's outdated. Aligning software investments with strategic objectives and then measuring the return on those investments is a black art that few CEOs practice well. The resulting unclear executive priorities; misaligned budgets and success metrics; and destructive organizational silos and cultures all frustrate the efforts of even the most accomplished software leaders. We've tracked software leaders' views of the top 10 barriers to improved software delivery and highlighted the elements that CEOs own (see Figure 1).
- › **Software metrics don't focus on business results.** Using traditional metrics as guardrails to keep projects from veering off track discourages flexible action by development teams. Despite producing a top-rated consumer app, the head of mobile development at a large financial services firm got criticized by IT leaders for "doing Agile the wrong way." The message: The app's business results mattered less to management than adherence to a prescribed process.
- › **Organizational silos slow progress . . .** In the digital era, teams of developers and business professionals create software. Collaboration on shared goals and trust among teammates are vital to quickly deploy quality software that produces business results. One CEO sees one of his key roles as prompting new collaborations to keep projects moving: "The CIO, CMO, and I need to constantly collaborate. I sometimes push our roles together to create an atomic reaction."

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- › . . . as do software delivery silos. Many development shops still have function-based command-and-control structures. Testing centers of excellence, project management offices, design, architecture, and development all report to functional leaders with role-specific goals that make end-to-end delivery speed an afterthought.¹
- › **Reinvestment and renewal are dirty words.** Even born-mobile startups have legacies and must continually renew and reinvest in their products, processes, and personnel. Established enterprises may have a larger pile of outdated assets, but they too must reinvest and renew faster than ever before. The CEO of an insurer that modernized its core systems told us that he committed to clearly communicating with his board and staying engaged: “You have to know what questions to ask to know if you are on track financially and in quality.”

FIGURE 1 CEOs Need To Address Five Of 10 Top Questions To Enable Better Software Delivery

1	What are the new trends in working to deliver faster, higher-quality applications and output that contribute to successful business outcomes?	AD&D leaders, CIOs
2	How do we continuously evaluate and improve by using the most appropriate tools and processes?	AD&D leaders
3	What do we need to know about and how should we plan for AI/cognitive computing and IoT?	AD&D leaders, CIOs
4	How do we effectively communicate, collaborate, and partner with internal business and other IT stakeholders?	CEOs, CIOs, AD&D leaders
5	How do we build the right software better and faster to meet and exceed customers' needs and expectations?	AD&D leaders
6	How do we overcome cultural challenges to embed Agile within the organization?	CEOs, CIOs, AD&D leaders
7	What are the new skills, competencies, knowledge, and talent that we need to acquire and develop?	CEOs, CIOs, AD&D leaders
8	Are we measuring the right things to drive the right kinds of actions?	CEOs, CIOs, AD&D leaders
9	How do we communicate the importance of projects, some of which may not have obvious business benefits?	CEOs, CIOs, AD&D leaders
10	Where do I go from here? How do I articulate my strengths and accomplishments and identify areas of development for my next role?	AD&D leaders

Source: Forrester AD&D Leadership Board

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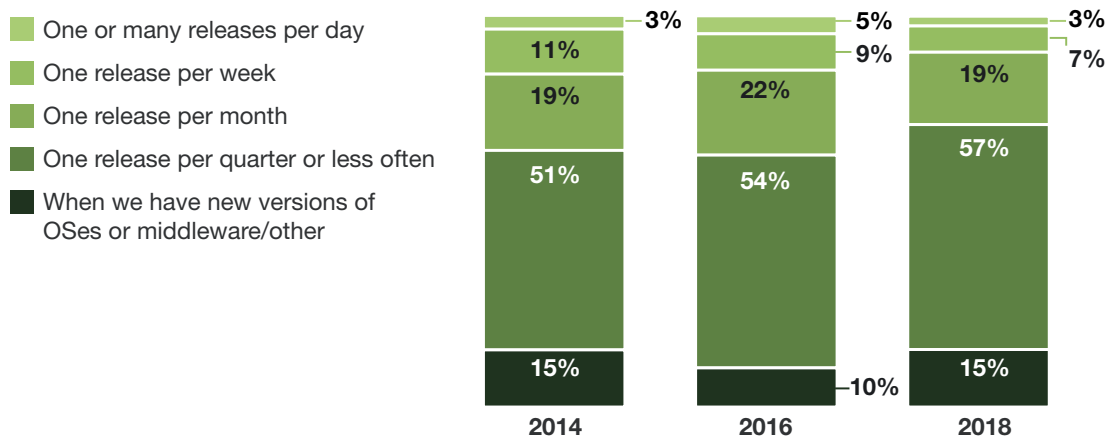
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... And Because Delivery Is Stuck

During the past five years, developers have made scant progress in delivering software faster (see Figure 2). Competitive opportunities usually can't wait a year for the first release of software to capitalize on them. The same is true of competitive threats; as the professional services CEO told us, "Things are moving so fast in our market; I live in terror of being left behind." Speed of software delivery is a leading indicator of health and vitality in a development organization and signals that an AD&D team's digital transformation is underway.

FIGURE 2 Software Delivery Progress Is Stuck

2-1 "How often does your team (or teams) release applications?"
(Percentages may not total 100 because of rounding)

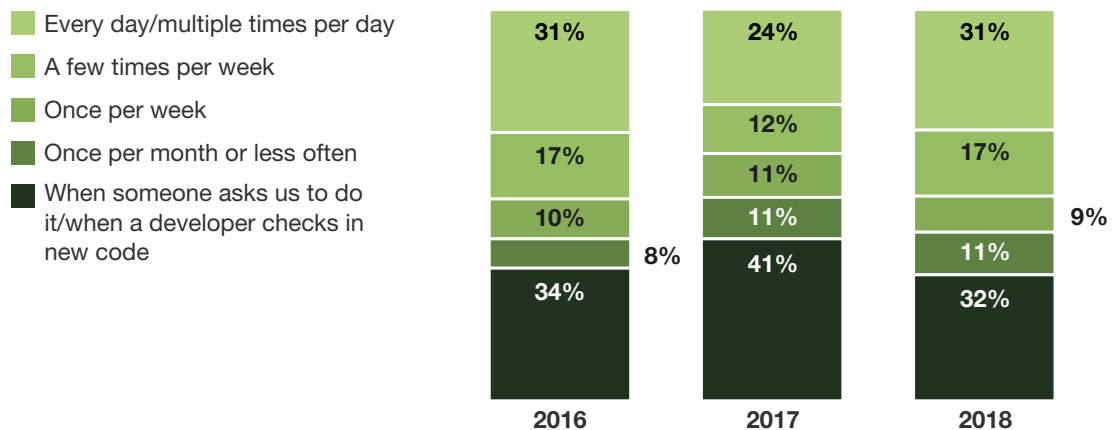


Base: 637 to 2,727 global developers who work for a software company as a game developer, for internal IT, in the digital or design services industry, or in the tech services industry

Source: Forrester Analytics Business Technographics® Global Developer Survey, 2014, and Forrester Analytics Global Business Technographics Developer Surveys, 2016 and 2018

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FIGURE 2 Software Delivery Progress Is Stuck (Cont.)**2-2 “How often does your team build a new version of your applications?”**
(Percentages may not total 100 because of rounding)

Base: 546 to 2,727 global developers who work for a software company as a game developer, for internal IT, in the digital or design services industry, or in the tech services industry

Source: Forrester Analytics Global Business Technographics® Developer Surveys, 2016, 2017, and 2018

CEOs Must Support The Software Delivery Revolution

CEOs rely on software development leaders and CIOs to run software delivery, and CEOs who appreciate the software delivery revolution underway will better support it. Digital business demands that software leaders balance two conflicting mandates: Deliver software quickly enough to respond to customers' needs and deliver loads of high-quality, high-performance software to facilitate the response. To meet these demands, AD&D leaders are revolutionizing software delivery by:

Software is the fuel for digital transformation, so poor software capability is now a barrier to CEOs' success.

- › **Restructuring software architectures, processes, and practices.** Everything that CEOs understand about software delivery is outdated. Buying a key application suite to run the business? Not anymore. Instead, AD&D subscribes to dozens of cloud applications (i.e., software-as-a-service) and quickly integrates and customizes them. Pushing a handful of key applications and a few custom development projects per year? Not anymore. Teams now produce dozens of services and products — each completed in weeks or months, not years.

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- › **Measuring success as achieving business innovation and results.** High-performing software teams judge success on their ability to create new digital products and services, improve margins, and establish new channels. They reject traditional measures like meeting project milestones, cost savings, and developer utilization. That's right: Many developers and leaders want to be judged on common business metrics. Innovations in metrics like value stream management are productive attempts to plan and measure software delivery in business terms.²
- › **Collaborating with business experts, partners, and customers for speed.** Speedy software delivery puts working prototypes in front of customers, partners, or employees within days of the first requirements conversation.³ Software pros can course-correct quickly, always aligning with real requirements to deliver production apps in a matter of weeks or months. Communication among team members, including constituents, about schedules, requirements, results, priorities, and budgets must be immediate, flexible, and copious. Everyone in the process must deliver business results with software: no more finger-pointing.

Challenge: Software Resists Traditional Management Techniques

CEOs must include software among the domains they lead through policies, purse strings, and people. Most CEOs don't relish this responsibility because they've risen through sales, finance, or operations and feel ill equipped to manage technical domains. Worse, software delivery is a difficult domain to manage, because it:

- › **Confounds business value measures to justify investments.** Measuring the business value of software delivery is difficult, which is why so few firms do it well. Firms measure software delivery by the business value it delivers in the form of revenue growth and higher margins; greater numbers of new customers and lower customer churn; and improved indicators of customer experience such as customer satisfaction and Net Promoter Scores.⁴ So budgeting must be dynamic, which is an oxymoron to some. The CEO at an HR solution provider measures the effectiveness of software (and tech) investment by how well it solves customer problems. An integrated financial services firm measures software value using business measures like risk reductions and margin increases. Innovation flows when execs judge development teams on these terms.
- › **Is the least trusted business domain.** Years of failures and disappointments from IT in general and AD&D in particular have killed many organizations' trust in software delivery. Explanations for these failures and disappointments that are arcane at best and unfathomable at worst don't help. The word "trust" becomes meaningless, and AD&D leaders can no longer avoid collaboration with their business peers. A willingness to use technologies like low-code and serverless platforms — which abstract technical complexity — can help.⁵
- › **Cycles through technologies and techniques at ridiculous speeds.** It's not just the jargon on display in consumer media, although that doesn't help. Software teams seem like groups of kids that never get enough money and toys. Are you thinking that you've learned enough to plan and

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measure investments in web applications? New mobile apps will force you back to square one. Are you trying to get Agile development up and running? Now you need to implement Agile-at-scale or post-Agile. As the professional services CEO noted, if you miss a software innovation, there's a real risk that a competitor will one-up your firm, and you'll lose business.

- › **Is more art than science.** Creating applications is as much a creative exercise as an engineering discipline. Why? People rarely know enough about what they need and want from an application to give developers accurate specs. Worse, we can't describe our half-baked understanding of requirements with any kind of precision. And unlike bridges and buildings, software needs to change a lot. It is, after all, a manifestation of our business activities and our customers' preferences. We shouldn't grumble that software changes so much, but we do.

Create A CEO And Software Leader Partnership For The Digital Era

CEOs can't run the specialized domains of their business any more than software leaders can run the company. Software capabilities that serve the enterprise's needs depend on a new partnership between CEOs and AD&D leaders (or an equivalent role). This replaces static planning, a focus on cost-cutting, failed software processes, and a lack of transparency and trust with a dynamic understanding of software's role in achieving the CEO's goals and prompt software responses to implement the CEO's objectives. While the partnership does not require CEOs to become software experts, they do need to be curious and committed enough to ask tough questions of software and technology leaders and take actions that accelerate their software revolutions.

Define A Digital Software Partnership

The new partnership between CEOs and AD&D leaders focuses on five shared values (see Figure 3). It should:

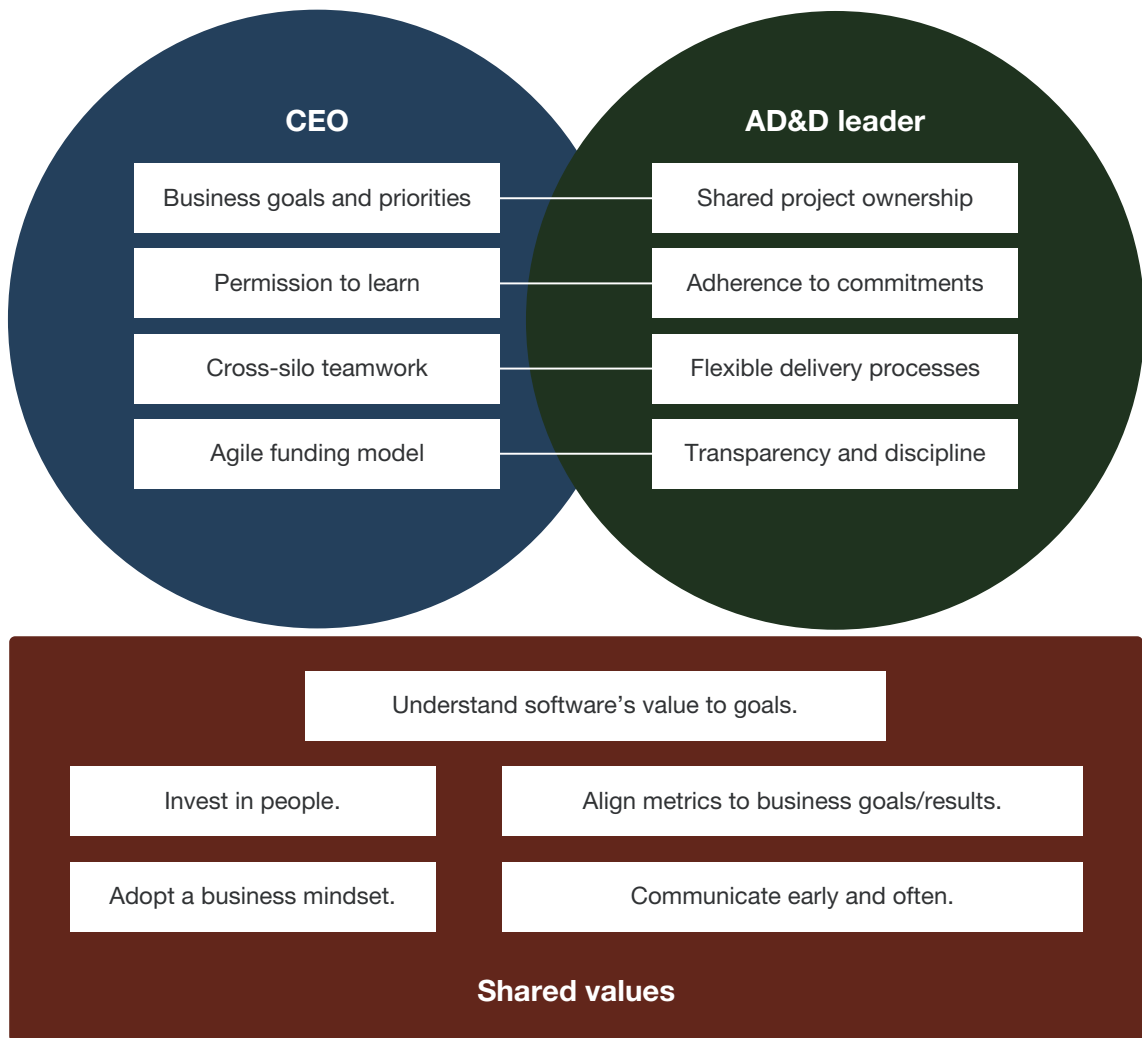
- › **Jointly define software's contributions to the CEO's goals.** CEOs' communications about goals and priorities are crucial but not enough. Software leaders must properly interpret and contribute to those goals and priorities. CEOs must also meet with their software leaders as often as needed if alignment is poor or the business is in a high state of flux.
- › **Establish a few vital measures of success.** After ascertaining shared goals and a process for keeping them critical and current, determine business metrics. CEOs and software leaders must identify one or two measures of progress toward strategic goals. Software leaders then create the detailed metrics to run their software organizations. CEOs must trust their software leaders to fully implement this approach.
- › **Ensure that everyone adopts a business mindset.** CEOs' and software leaders' metrics and interactions must always focus on business progress, success, and problem solving. So CEOs must partner with software leaders who can function in this role. As the CEO of the HR solutions provider put it: "The technology leader has to be a senior business executive. If not, you're dead meat."

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- › **Communicate about priorities, plans, and progress early and frequently.** Businesses face changes and challenges every day, many of which require fast action in software. Both the executive team and software leadership must communicate about the meaning of events to their shared priorities as often as needed. For many, traditional monthly reviews will be far too infrequent.
- › **Make the talent pool essential.** CEOs must focus on leaders and advisors, including board members, who drive an effective software strategy. Software leaders must then ensure that their software pros develop new skills to keep their talent pool fresh and current.

FIGURE 3 A New CEO And Software Leader Partnership



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Complete The Partnership With Four Pairs Of Principles

With these values as a base, four pairs of principles will define the working partnership between CEOs and AD&D leaders. Most CEOs must change their behavior, taking on a greater role in driving their company's software strategy. But AD&D leaders must also change to put these principles into action:

- › **Set business goals and priorities; implement shared ownership.** The CEO's responsibility is to set clear, concrete goals for the business. In some cases, the CEO's goals may include new ways of doing business; and in others, these may be operational improvements. The AD&D leader's role is to commit to a clear understanding of priorities as they evolve and to implement shared ownership with business leaders in delivering software that executes on those priorities.

Shared ownership of software outcomes supports speedy delivery by ending the blame game when inevitable issues arise. The change will demand challenging commitments of time and resources from business leadership. At one big financial firm, these working adjustments unfolded over two years before settling into a pattern with which everyone was comfortable.

- › **Give permission to learn; keep all commitments.** To get effective software capabilities, CEOs need to give teams permission to learn. As one CEO said, "You're going to have some whiffs; you need to be ready for that." Software acquisition and development are learning activities. *Learn* is a more appealing term than *fail*, but learning requires experimentation and sometimes failure. Modern software technology reduces the business and financial risks of failure on the path to delivering effective software solutions.

In exchange for this permission, AD&D leaders must fulfill commitments to keep the lights on, maintain the technology landscape, and deliver new apps as promised. And they must create space within their budgets to enable research and learning on their teams without compromising those commitments to the business and the CEO. AD&D leaders must also structure software delivery efforts to keep the cost and risk of failure low.

- › **Insist on cross-silo teamwork; implement flexible delivery processes.** Modern software is a team sport, with the best ideas and results coming from collaboration across disciplines. The CEO's role is to insist on teamwork and sometimes even force it. One CEO cited his ad hoc silo-busting as one of his most important contributions to his firm's software strategy.

The AD&D leader's matching commitment is to employ delivery processes that can flex to meet unpredictable business schedules and multiple stakeholder perspectives. Adding business-savvy product managers who own and sustain software initiatives within functional domains is crucial to developing consistency and trust with the CEO and business leaders.⁶ At one firm, AD&D leadership acceded to demands from business leaders to staff the product manager role!

- › **Implement an Agile funding model; commit to transparency and discipline.** Software that gets developed or implemented piece by piece is a poor fit for fixed annual funding regimes. With business measures and product management in place, CEOs can delegate more financial control

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to software leaders in the form of budget envelopes that they adjust on a monthly or quarterly basis. They can also measure the value of many small projects to either meet a business goal or deliver a product or service using value stream management.

Given the ability to manage spending within product (or other) envelopes, the AD&D leader must commit to being transparent with the CEO and the business. For the CEO, the key is progress toward his or her goals and measures of business return on software investment. Functional business leaders will require more detail about software in their areas. Disciplined software activities are crucial to squeezing the highest possible value from every invested dollar and automating to free up funding for innovation.

Recommendations

Grow New Leadership Muscles To Get Vital Software

AD&D pros know that even if CEOs wrote code in college, most don't understand how to foster effective software delivery. CEOs in the financial services, professional services, and food industries told us that software has become an anxiety-laced topic in the councils of which they're part. CEOs know that they need to do more but don't know how. Having a framework of principles will help start and guide the journey toward a more productive leadership role for CEOs. They should also take these steps:

- › **Determine the value of software to their strategy.** Every enterprise is a software company, but not all in the same way or to the same depth. Thus, CEOs must calibrate their leadership of the software domain to company and digital needs. The CEO of one communications services provider boned up on platform-as-a-service technologies to help in committing to a multimillion-dollar product because it was a foundational investment for the firm's core business. In contrast, the CEO of a restaurant chain delegated key technology decisions for a new digital platform to a services partner. The chain viewed the digital platform as support for its core business, and the CEO's job was to ask good questions to guide the project.
- › **Get at least one board member with software expertise.** This is a great way to get help in understanding and thinking about software strategy and execution at your enterprise. Technology-focused board members are becoming more common but are not yet universal. The roles that these board members play vary widely as well. At a big wealth management firm, the vice chairman of the board actively participates in executive management meetings, often meeting with the CEO three or four times a day. Another person on the boards of two firms seeks to meet at least quarterly with key tech leaders to both advise on and understand evolving challenges.
- › **Implement a management framework to communicate objectives.** One big failing in the relationships between CEOs and AD&D leaders is that software leadership poorly communicates or misinterprets CEOs' objectives. Structured and ongoing communication and tracking of CEOs' priorities are essential to success. Most enterprises benefit from a management framework to

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communicate and measure software priorities. Each framework has strengths and weaknesses. But pick one from the list: objectives and key results; the European Foundation for Quality Management; specific, measurable, attainable, relevant, and timely (SMART) goals; the four disciplines of execution; Balanced Scorecards; key performance indicators; or management by objectives.

A large wealth management firm uses business capability maps to describe its future state and both plan and measure progress toward that future. Alternatively, a European financial services CEO wrote a book for internal distribution and regularly meets with employees to discuss his vision of the firm's future.

- › **Insist on investments in software staff.** Investment in people is sacrosanct in your digital strategy. One CEO opened labs in New York City and London to obtain crucial new talent in those locations on the advice of his CTO. Vital new roles also depend on timing — you may need mobile developers today and data scientists tomorrow. Talent management and time for staff development are critical too. Also enhance developers' experience through platforms, tools, processes, governance, facilities, opportunities, and rewards.

What It Means

Coming Soon: Assessments Of CEOs' Focus On Software

Boards of directors have begun pressing CEOs on technology broadly, and software delivery specifically in some cases. Expect this scrutiny to grow as digital businesses expand and evolve, demanding more software innovation than ever. Assessing the value of software delivery with business metrics is hard but emerging as a possibility. A next step will be gauging the effectiveness of CEOs in creating the conditions, structures, and leadership for winning software capabilities. Those metrics don't yet exist for enterprises outside of the software industry, but they're inevitable.

For now, CEOs' annual letters provide a proxy for how much attention they're giving to their firms' software capabilities. In a sampling of 2017 and 2018 annual reports from top Fortune 500 firms, some CEOs gave technology products their attention. For example, Walmart CEO Doug McMillon highlighted the retailer's investments in eCommerce and an AI partnership with Google. But CEOs rarely mentioned the state of their software capabilities. Big tech firms were an occasional exception among the CEOs' letters.

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Supplemental Material

Survey Methodology

The Forrester Analytics Global Business Technographics® Developer Survey, 2018, was fielded in March and April 2018. This online survey included 3,228 respondents in Australia, Canada, China, France, Germany, India, the UK, and the US. Forrester Analytics' Business Technographics ensures that the final survey population contains only those with significant involvement in the planning, funding, and purchasing of business and technology products and services. Research Now fielded this survey on behalf of Forrester. Survey respondent incentives include points redeemable for gift certificates. Please note that the brand questions included in this survey should not be used to measure market share. The purpose of Forrester Analytics' Business Technographics brand questions is to show usage of a brand by a specific target audience at one point in time.

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The Forrester Analytics Global Business Technographics Developer Survey, 2017, was fielded in February 2017. This online survey included 2,062 respondents in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US. Forrester Analytics' Business Technographics ensures that the final survey population contains only those with significant involvement in the planning, funding, and purchasing of business and technology products and services. Research Now fielded this survey on behalf of Forrester. Survey respondent incentives include points redeemable for gift certificates. Please note that the brand questions included in this survey should not be used to measure market share. The purpose of Forrester Analytics' Business Technographics brand questions is to show usage of a brand by a specific target audience at one point in time.

The Forrester Analytics Global Business Technographics Developer Survey, 2016, was fielded in January 2016. This online survey included 1,867 respondents in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US. Forrester Analytics' Business Technographics ensures that the final survey population contains only those with significant involvement in the planning, funding, and purchasing of business and technology products and services. Research Now fielded this survey on behalf of Forrester. Survey respondent incentives include points redeemable for gift certificates. Please note that the brand questions included in this survey should not be used to measure market share. The purpose of Forrester Analytics' Business Technographics brand questions is to show usage of a brand by a specific target audience at one point in time.

The Forrester Analytics Business Technographics Global Developer Survey, 2014, was fielded to 1,716 business and technology decision makers in Australia, Brazil, Canada, China, France, Germany, India, New Zealand, the UK, and the US from small and medium-size businesses and enterprise companies with two or more employees. This survey is part of Forrester Analytics' Business Technographics and was fielded from February 2014 to April 2014. Research Now fielded this survey on behalf of Forrester. Survey respondent incentives include points redeemable for gift certificates. Please note that the brand questions included in this survey should not be used to measure market share. The purpose of Forrester Analytics' Business Technographics brand questions is to show usage of a brand by a specific target audience at one point in time.

Endnotes

- ¹ To better understand the dimensions of the change for development and operations (DevOps) and create a plan that combines Agile with DevOps, see the Forrester report "[Organize Your App-Dev Teams With Agile And DevOps.](#)"
- ² "With VSM, organizations implementing Agile-plus-DevOps will better understand the value they deliver, the efficiencies they gain, and the further optimization possibilities for each software product in their delivery pipeline." For more on the approach, see the Forrester report "[Elevate Agile-Plus-DevOps With Value Stream Management.](#)"
- ³ Learn how experimentation platforms can shorten time-to-value by enabling developer teams to test ideas directly with customers, experiment with functional parameters, and release service components in a safe, controlled manner. See the Forrester report "[AD&D Pros: Stop Guessing And Start Experimenting.](#)"
- ⁴ "Customer experience (CX) transformation requires companies to quantify the quality of experiences and their link to the organization's overall metrics." For more on Forrester's approach to CX measurement, see the Forrester report "[Establish A CX Measurement Program In Seven Steps.](#)"

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- ⁵ Many AD&D pros view technology that abstracts complexity to speed application delivery with suspicion — if not outright hostility. The belief is that these products are not flexible enough to serve and control every aspect of software delivery, which is often an unfair standard for considering them.
- ⁶ To explore the importance of the product manager role and accelerate your transition to software product management, see the Forrester report “[Put Product Management To Work In Software Development.](#)”

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