

The C-suites at many organizations are increasingly focused on the business outcomes that can be achieved via a transformed digital foundation.

The Evolution from Digital Transformation to the Digital Business Era

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Written by: Jim Mercer, Research Vice President, DevOps and DevSecOps; and Nancy Gohring, Research Director, Future of Digital Innovation

Introduction

For many organizations, digital transformation has been the primary focus for technology investment over the past several years. Digital transformation efforts optimize technology investments, improve processes, and eliminate technical debt. However, with much of that work underway or completed, the C-suite is now looking at how that digital foundation can be used to deliver on crucial business outcomes.

Rather than positioning technology investments as enablers of technology-centric outcomes — such as reducing the time between code commit and deploy — the C-suite is thinking about business-centric outcomes, such as growing revenue, improving customer satisfaction, and enabling improvements to internal processes that result in measurable cost savings or create whole new businesses. We've entered the digital business era, with enterprise technology investments increasingly targeted at running a viable digital business.

This strategic shift must be implemented across the organization, including the C-suite, technology teams, and lines of business. IDC research indicates that technology teams expect to evolve their targeted outcomes from IT focused to business value oriented. When we asked technology professionals about the degree to which their DevOps/software delivery teams drive business value, the percentage of respondents who said "high degree" more than doubled between the current state in 2021 and the anticipated state in 2023 (see Figure 1). More than 37% of respondents expect that by 2023, their DevOps teams will drive a high degree of business value in their companies. To get there, technology teams need visibility into their operations and strong collaboration with the business to connect software delivery to business outcomes.

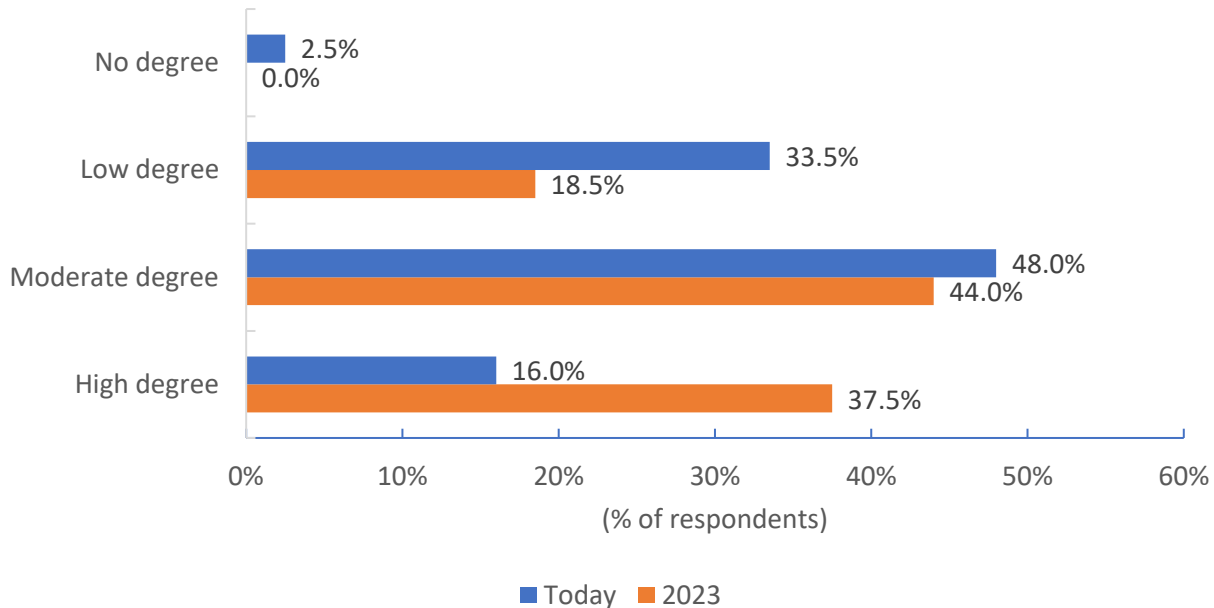
AT A GLANCE

KEY STATS

- » By 2023, more than 37% of organizations expect their DevOps teams to drive a high degree of business value in their companies.
- » By 2026, enterprises that successfully build digital innovation are expected to derive over 25% of revenue from digital products, services, and/or experiences.

FIGURE 1: *Focus Shifting to Business Value*

Q *Beyond the IT value, to what degree do your DevOps/software delivery teams drive business value in your company?*



n = 200

Source: IDC's Accelerated App Delivery Survey, August 2021

Running a Viable Digital Business

Enterprises must meet several requirements to realize business value from their software development teams. One of the most important requirements is ensuring visibility into software development operations to be able to measure outputs. The goal should be to measure both the efficiency of the software development operation and whether the software deliverable achieved targeted business outcomes. To improve software development efficiency and gain visibility into operations, organizations should do the following:

- » **Invest in automation tools and developer self-service platforms.** The software development process should be highly automated, potentially including tools such as CI/CD offerings, automated instrumentation for observability purposes, and self-service cloud deployment tools. With these techniques in place, teams not only move faster but also gain visibility into the software development process, enabling analysis of stages that slow down the release of quality production features. Automation also ensures that software development complies with company policy.
- » **Implement a software deliverables feedback loop.** Some tools that offer automation and provide visibility into the software development process can also be used to provide feedback to developers about new features and capabilities they roll out to end users. Combined with techniques such as feature flags, this kind of insight can support developers aligned with targeted business outcomes, allowing them to swiftly determine if a new capability is achieving those outcomes and quickly roll it back if it's not.

- » **Build strong collaboration between business and technology teams.** Implementing a business outcomes-oriented feedback loop requires strong collaboration between business and technology teams. In many organizations, technology teams are laser focused on technology deliverables, lacking insight into the value that the technology is intended to bring to the business. The key to building strong collaboration between business and technology teams is alignment between the teams on the concept of agility. There's often a mismatch between Agile processes adopted by technology teams and agile business processes such as Lean Six Sigma, slowing delivery of applications and leading to frustrating collaboration experiences between the teams.

Taking these three actions has additional benefits. Ongoing and accurate measurement of the software development process and the delivery of business value provides technology leaders with data that can be used to defend investments in software development. In addition, measuring the software development process and assessing its ability to deliver business value is key to the increasingly complex buy-versus-build decision-making process. An organization must understand the cost associated with internal software development to determine when to build a digital deliverable in-house.

The Innovation Factor

To remain competitive, most enterprises must invest in foundational technology, which typically falls into the digital transformation category, as well as technology that allows them to compete, such as an ecommerce platform or supply chain systems. However, in IDC's view, the most successful organizations will be those that also deliver innovative digital capabilities on an ongoing basis. IDC research indicates that mature digital innovators have the following characteristics:

- » A C-suite that is invested in digital innovation
- » Interest in external partnerships and a recognition of their potential value
- » A culture that supports innovation
- » The adoption of processes and tools that support ongoing data-driven decision making
- » The ability to recognize and pursue new opportunities resulting from the development of digital capabilities

Depending on the organization, some of these characteristics will be harder to implement than others. IDC recommends identifying one or two characteristics of a successful innovator that will be the least challenging for your organization to adopt. For instance, if your organization has successfully built an internal partnership that supported the delivery of an innovative digital capability, you may be able to leverage that success story to gain acceptance of other partnerships that might similarly spur innovation.

Benefits

IDC research indicates that enterprises expect a growing portion of their revenue to be generated via digital technologies. IDC anticipates that by 2026, enterprises that successfully build digital innovation will derive over 25% of revenue from digital products, services, and/or experiences.

Other benefits of building a viable digital business are as follows:

- » **Resiliency.** The pandemic proved that organizations with strong digital foundations were able to quickly respond, creating new avenues for customer engagement and revenue generation.

- » **Velocity.** Agile software development processes and the ability to analyze data to make informed decisions allow an organization to continually iterate digital capabilities to meet and exceed customer and competitive demands.
- » **Efficiency.** The adoption of Agile software development as well as tools that allow for the measurement of the development process supports ongoing work to drive efficiency into the software development process. As the digital landscape grows at most enterprises and as the technology skills shortage becomes more acute, the efficiency and effectiveness of software development become more important.

Key Trends

IDC projects that 750 million cloud-native apps will be created worldwide by 2025. That number is stunning, but so are application counts at individual enterprises. Heineken is running 4,500 applications across its worldwide operations. In just one private cloud, JPMorgan Chase supports 1,522 applications (and 15,000 deployments a day).

Other notable trends are as follows:

- » **Technical skills shortage.** IDC's *Worldwide Developer Forecast* anticipates that the shortage of full-time developers will grow from 1.4 million in 2021 to 4 million in 2025. But developers aren't the only skills in short supply. Enterprises are struggling to hire data scientists and engineers with experience using cloud-native technologies, among others. Challenges in acquiring these skills are not only slowing down some enterprises but also influencing decisions around investments in tools such as automation that support the efficient use of existing resources.
- » **Macroeconomic forces.** Inflation and supply chain challenges (related to both the pandemic and the war in Ukraine), as well as the potential for a recession, are putting pressure on most businesses to closely examine spending to cut any wasted expenses. Senior technology leaders are being asked to justify their investments.

As enterprises rely on software more than ever and face skills shortages and pressures to cut costs, the build-versus-buy decision becomes more important. Technology that is foundational or supports the enterprise's competitive standing can often be purchased: cloud services or SaaS, for instance. But applications designed to be innovative will need to be produced using internal resources. An efficient software development process can be measured to show the cost associated with delivering business outcomes. In addition, technology leaders who can demonstrate the relationship between their software development investments and business value delivery will have better success sustaining and even growing their budgets.

Considering CloudBees

CloudBees, founded in 2010 by Sacha Labourey and Francois Dechery, is best known for the popular Jenkins CI/CD solution. The company is well established as a DevOps pioneer with a decade-long history of software delivery that has evolved into a digital software delivery platform. The CloudBees Software Delivery Platform takes organizations from building code to delivering software — that is, from code to cash. The company states that the platform is now used by 60% of Fortune 100 financial services companies and 67% of Global 2000 software and technology companies.

CloudBees' platform supports rapid delivery of software for digital transformation through four higher-level areas: software creation, continuous improvement, continuous compliance, and visibility and intelligence. Organizations can access tools in each area to develop digital solutions and deploy them to various deployment platforms.

At its core, CloudBees has been in the software creation space since its founding in 2010. It started with offering the Jenkins CI/CD solution and expanded with the 2018 acquisition of CodeShip to broaden the company's CI/CD and software build and delivery capabilities with more self-service and ease-of-use capabilities. Today Jenkins has over 1,800 community-contributed plug-ins to support building, deploying, and automating almost any software development project and includes integrations with Tekton pipelines for cloud-native application delivery.

Strategic Acquisitions

In 2019, CloudBees completed strategic acquisitions of Rollout and Electric Cloud, which added key continuous improvement capabilities to the platform. Rollout's feature flags enable modern software releases by allowing granular distribution of features by a specific feature, group of features, and so on. This feature toggling approach allows fast verification of software updates that can be easily enabled or disabled simply by changing the status of the feature flag. The Feature Management offering has been incorporated into the larger CloudBees Software Delivery Platform to provide feature management connected to the underlying code and software creation.

CloudBees acquired Electric Cloud to add comprehensive application release orchestration (ARO) to the platform, enabling new visibility and intelligence capabilities. Since CloudBees CD/RO (formerly known as CloudBees Flow) sits on top of an organization's development tools stack, it can also orchestrate heterogeneous DevOps pipelines that include DevOps tools from other vendors or even homegrown utilities. For instance, it can be used for test orchestration, enabling multiple tests to run in parallel, which could reduce cycle times significantly.

Further, CloudBees CD/RO enables organizations to automate deployments and orchestrate the entire release process while collecting data that can be used for insights. The insights from CloudBees CD/RO provide visibility and intelligence that feed the CloudBees DevOptics solution. DevOptics assembles a holistic view of an organization's digital delivery pipeline showing the delivery of value to end customers. It is designed to serve as a single source of truth for analyzing and continuously optimizing the value flow, and these analytics form the basis for value stream management.

In 2022, CloudBees added continuous compliance via an earlier acquisition of Neuralprints, which is now branded as CloudBees Compliance. Compliance is architected to provide enterprises with continuous compliance enforcement. It shadows the SDLC checking digital asset configurations in real time to ensure compliance. This constant scrutiny enables the compliance of code, binary artifacts, data, identity, and infrastructure environments. As a result, Compliance highlights issues at the point of failure, giving developers targeted feedback so they can address the issue at the origin and not allowing it to propagate. This compliance feedback also implicitly helps train developers write more compliant application code.

Challenges

CloudBees does face the following market challenges, however:

- » **The misconception that CloudBees is just a CI/CD player.** While this misconception is a legitimate challenge from an awareness perspective, the reality is that CloudBees has composed a platform for building and delivering digital solutions. The product portfolio, comprising the CloudBees Software Delivery Platform and capabilities, offers far greater functionality today than it did a few years ago. It behooves organizations looking to improve their digital capabilities to consider how CloudBees can help them with their modernization efforts.

- » **Challenges from new cloud-native DevOps competitors.** Several new DevOps competitors have entered the market over the past few years, and it is incumbent on CloudBees to continue to enhance its platform. Future platform enhancements might include providing more prescriptive DevOps options that less mature DevOps teams can use to master good software delivery hygiene. CloudBees should promote its ability to be the single platform that manages all application releases for an organization across hybrid environments since some of the newer entrants have come to market initially focused only on the cloud. Having all this data in a single platform also helps when it comes to conducting audits, pulling logs across all pipeline activities, and producing applications in a consistent format.
- » **Competition from larger cloud platform providers.** While the hyperscale cloud providers have different DevOps tools and capabilities, they primarily focus on using those tools to ensure that organizations continue to consume their cloud services. However, most organizations are looking for a standard DevOps tools stack that they can use with multicloud and hybrid cloud configurations. The desire for multicloud solutions can give CloudBees an advantage since it is cloud agnostic with capabilities to deploy to most cloud environments.

Conclusion

An evolution in technology strategy is just beginning, where enterprises are building on the foundation they began as part of digital transformation efforts to create a viable digital business. In IDC's view, the demand for software that supports businesses will only grow. To deliver the volume of software required and to harness the full potential of the software, enterprises must build the internal capacity to become efficient and effective software producers.

About the Analysts



Jim Mercer, Research Vice President, DevOps and DevSecOps

Jim Mercer is a Research Vice President within IDC's DevOps Solutions research practice. In this role, he is responsible for researching, writing, and advising clients on the fast-evolving DevOps and DevSecOps markets. Mr. Mercer's core research includes topics such as rapid enterprise application development, modern microservice-based packaging, application security, and automated deployment and life-cycle/management strategies as applied to a DevOps practice.



Nancy Gohring, Research Director, Future of Digital Innovation

Nancy Gohring is Research Director for IDC's Future of Digital Innovation market research service. She focuses on software innovation programs in the enterprise and their potential to drive efficiencies into corporate processes, generate new revenue streams, respond to customer demand, and improve competitiveness. Her research examines ways that enterprises can best execute on the four pillars of software innovation — plan, source, develop, and distribute — and highlights leading enterprises that have developed successful new approaches to these competencies.

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More About CloudBees

CloudBees provides the leading software delivery platform for enterprises, enabling them to continuously innovate in a world powered by the digital experience. CloudBees enables organizations with highly complex environments to deliver scalable, compliant, governed, and secure software from the code a developer writes to the people who use it. The platform connects with other best-of-breed tools, improves the developer experience, and enables organizations to bring digital innovation to life continuously to unlock business outcomes that create market leaders and disruptors. visit www.cloudbees.com and follow us on [Twitter](#), [LinkedIn](#), and [Facebook](#).



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IDC Research, Inc.
140 Kendrick Street
Building B
Needham, MA 02494, USA
T 508.872.8200
F 508.935.4015
Twitter @IDC
idc-insights-community.com
www.idc.com

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