Digital Transformation and the CIO

A point of view prepared by IBM and SAP
Industry convergence is collapsing the barriers between formerly distinct industries. According to “Redefining Connections: Insights from the Global C-suite Study – The CIO Perspective,” produced by the IBM Institute for Business Value, CIOs believe this is the biggest trend transforming the business arena.

They also see it as a double-edged sword. On the one hand, it’s creating new opportunities for growth by allowing companies to deliver cross-sector experiences that combine the best of the physical and digital worlds. On the other hand, it’s allowing both new entrants and agile incumbents to threaten the organization’s core business. And what is at the heart of this industry convergence? Disruptive digital technologies.

Not surprisingly, CIOs are in the eye of this digital storm. Where traditional CIOs were strategists, digital CIOs are expected to be visionaries, entrepreneurs, change agents, and chief data scientists, leading their C-suite colleagues on a journey of innovation through new technology.

What is clear is that other executives would like their IT colleagues to take an even more active role in digital initiatives. And, where they do, the results speak for themselves: 87% of respondents who report that their IT function is more focused on innovation than efficiency say their digital initiatives are effective, compared to 60% of those who say their IT department is more focused on efficiency.1

However, CIOs also have to grapple with changing the existing IT landscape. Agile and responsive IT that can be adapted rapidly to business needs is clearly the goal. The reality is that many CIOs face an existing environment of multiple fragmented systems, a lack of standardization in core processes, incomplete and inaccurate data, and no enterprise cloud strategy. The result is a fragile, expensive, and unresponsive environment.

So where should CIOs focus their attention? In this e-book, we look at the key topics CIOs have outlined as their priorities and discover how solutions from IBM and SAP can help CIOs achieve them.

79%

Of torchbearer CIOs expect industry convergence to have a huge impact on their business compared to 62% of market followers.


Torchbearer organizations comprise the top 4% of all enterprises IBM surveyed. They have a strong reputation as leading innovators and a superb financial track record.

Learn more

Discover where torchbearer CIOs are focusing their attention in order for their organizations to thrive.

Read the IBM report ▸

Learn how IT departments are evolving to meet the challenge of digital transformation.

Access the EIU survey ▸
So how are torchbearer CIOs preparing to take on digital disruption? The answer is that they are focusing on five interrelated priorities that will enable them to drive innovation both in the short term and in the future.

**Delivering insight and intelligence**
The value of delivering insight and intelligence is not lost on torchbearer CIOs. They are acutely aware that Big Data and analytics have the potential to improve decision making, forward planning, and strategy setting throughout the organization.

**Exploiting new delivery channels**
Similarly, torchbearer CIOs are actively helping their organizations explore new delivery channels. They understand that engaging with customers more individually and contextually is the route to generating greater loyalty and value.

**Renovating the core**
At the heart of every company are the business processes that are fundamental to its operation. Torchbearer CIOs know they have to look at how these processes can be streamlined, with 38% of them indicating business process management/optimization is a key investment area for them.²

---

Becoming an agile organization
Torchbearer CIOs place far more emphasis than their colleagues on building an agile culture that supports rapid experimentation and prototyping and moves them toward delivering IT as a service. They recognize that such a culture can help their organizations be first to market with new offerings and stay ahead of competitors.

Securing the enterprise
CIOs know that greater collaboration with partners, suppliers, and customers is essential. But they also recognize that opening up the company’s systems can increase the risk of cybercrime. In fact, it’s their greatest worry, with 76% saying it’s the biggest IT risk they face.³


48%
Torchbearer CIOs are 48% more likely to be exploring new delivery channels.


Learn more

Erwin Verstraelen, CIO of AVEVE discusses the changing role of the CIO.

Watch the video

Discover how IBM and SAP® solutions are helping Indus Motor Company achieve digital transformation and increase its competitiveness.

View the case study

Learn how IBM is helping Kennametal deliver industry-leading services with a platform for rapid insight.

Read the client story
The volume of data organizations have available is growing exponentially and, as the Internet of Things expands, will only mushroom even more. IBM and SAP can help organizations harness the power of this data explosion with solutions that deliver the real-time insights and predictive analytics needed to drive the best possible operational and strategic decision making.

**The SAP HANA® platform**
The SAP HANA® platform has changed the game for analytics. SAP HANA runs analytics applications smarter, makes business processes faster, and simplifies data infrastructures to accelerate the pace of innovation.

Using the SAP HANA platform, companies can:
- Increase intelligence by using advanced predictive analytics to deliver deeper insight into the past, present, and future
- Design and deploy intuitive applications that deliver the right information at the right time to business users
- Access large volumes of data from a variety of sources in real time to unlock insights never seen before
- Discover key customer groups and segments, and accurately identify microsegments on the fly at high querying speeds

**Business analytics**
SAP BusinessObjects™ Predictive Analytics software helps enhance organizational performance by offering advanced mathematical modeling, deep computing, simulation, data analytics, and optimization techniques that help organizations anticipate and shape their business, their relationships with customers, and their operations.
Integrating SAP HANA with Hadoop
Leveraging Hadoop as a service with the SAP HANA Vora® solution and the SAP HANA platform enables companies to implement a hot, warm, or cold data management strategy that reduces maintenance costs. At the same time, organizations gain the benefits of high-performance, interactive analytics across enterprise data in the SAP HANA database and data stored in Hadoop, as well as bidirectional data exchange between SAP HANA and Hadoop.

Cognitive computing
Cognitive computing is another emerging technology that can provide key insights and drive business value.

Using natural language to communicate with people, cognitive computing virtually eliminates the need for users to know complex coding or have specialized IT expertise. As a result, it enables business users and their teams to rapidly understand and extend the insights they gain from massive volumes and diverse types of internal and external data.

Learn more
See how SAP Digital Boardroom provides executives with total, real-time transparency into the business.
Watch now

Learn how cognitive computing helps one company match customers with the right products.
Watch the video

Find out how Meteo Protect, a French participant in the SAP Startup Focus program, is monitoring the weather and helping companies to adjust insurance models based on climate change.
See the video

Discover how Trenitalia uses the SAP HANA platform to analyze data from thousands of sensors aboard its trains in real time.
View the video

Hear how Norwegian Cruise Line simplifies and innovates with SAP HANA to offer customers an unrivaled cruise experience.
Watch the video
Exploiting New Delivery Channels
Reinventing business models and customer experiences

Bringing together the Internet of Things with mobile and other digital technologies offers companies opportunities to engage with customers in new and exciting ways, and provides options for collaborating with other organizations to enhance existing services and develop new ones.

Ariba® Network
Ariba Network, for example, provides a cloud-based community that brings together buyers and sellers in a virtual environment that increases collaboration, speeds transactions, and improves efficiency.

SAP Jam™ Collaboration
SAP Jam Collaboration allows organizations to connect suppliers, partners, and customers with key information and processes securely in the cloud. Its ability to speed communication and improve collaboration can be incorporated into existing applications, accessed on mobile devices, or used as a standalone application.

Going mobile
Mobile technologies offer the ability to both improve customer experiences and enable more-productive employee interactions. SAP has a mobile-first strategy for all its solution portfolios, while IBM has world-class expertise in the areas of user experience and design thinking. IBM Interactive Experience (IBMiX) applies creative design to digital, commerce, mobile, and wearable platforms.
Cloud computing

Cloud computing provides CIOs with the opportunity to offer their business colleagues innovative solutions with maximum expediency and minimum capital investment, as well as the ability to increase their own efficiency.

SAP is a recognized leader in cloud computing, offering its customers the choice of on-premise, cloud, and hybrid deployments of its solutions. Together, SAP and IBM enable digital transformation by delivering the best technologies to accelerate business growth in the digital age.

Blockchain

In transactional situations where data integrity, trust, and auditability are essential between participating companies – such as supply chain traceability, verifying contract performance, asset tracking, or property registers – blockchain is an exciting prospect. With blockchain, costly and time-consuming reconciliations are virtually eliminated, data integrity is assured, and companies gain a superior platform for real-time analytics and reporting.

71%

Of torchbearer CIOs are considering the strategic importance of new technologies.


Learn more

Discover the latest challenges influencing mobile app design.

Read the white paper

See how Kärcher leverages SAP technology to maintain a close relationship with its customers.

Watch the video

Find out how the City of Buenos Aires can monitor citizen complaints on social media and provide a quick and informed response.

View the customer journey
Renovating the Core
Optimizing processes and systems

In the excitement of the quest for developing and deploying new applications and technologies, a company’s core IT environment cannot be ignored. The fact is that organizations cannot build on sand. The biggest benefits of transformation will occur only when the power of new technology is used to renovate the core, remove fragility to provide a stable foundation for business transformation, and revolutionize end-to-end business processes across the organization.

Similarly, the biggest benefits in the IT department itself will occur when the new technologies are used to create new efficiencies and enhance productivity.

**SAP S/4HANA®**
SAP S/4HANA® is a real-time enterprise resource management suite designed specifically for digital business. It supports the Internet of Things (IoT), Big Data, real-time analytics, mobile, business networks, third-party systems, and more. It empowers business users with insights to act in the moment. It is intelligent, going beyond automation to provide predictive suggestions. And it is integrated, not only among business departments, but with other organizations as well.

With SAP S/4HANA, companies can simplify their existing IT landscape and organization, enabling them to adapt rapidly to new business requirements while reducing their total cost of ownership.
Robotic process automation (RPA)
Software robots can do what humans normally do, but faster and better. With the ability to manipulate, operate, and orchestrate other applications, follow business rules, and execute transactions, robots are much more than just a desktop script or macro. They can mimic human actions and deliver on the promise of instant scalability and improvements in speed, accuracy, compliance, and auditability.

Cognitive computing and Big Data
Cognitive computing – capable of learning, remembering, reasoning, and engaging with humans – and Big Data can take RPA to new heights. Machine-learning capabilities and analytics allow once static rules to be changed dynamically and automatically in response to shifting situations.

In addition, linking cognitive computing with RPA enables the creation of fully functioning, intelligent assistants (chat bots) that can converse with humans and invoke and execute the appropriate actions in response to inquiries or requests.

Discover how cognitive computing is being used in the transformation solutions developed by IBM and SAP.

Start now →

Learn more

Get a clear understanding of the business value, impact, and effort involved in moving to SAP S/4HANA.

Watch the video →

See how design thinking helped Mercedes-AMG build an IT solution that supports cross-functional competence teams.

View the video →
Becoming an Agile Organization
Delivering continuous innovation

Innovation and transformation are not one-off activities. Many of the technologies that are driving them are not fully mature and will continue to evolve. For these reasons, IT organizations need to create an agile culture that allows innovations to be drip-fed to the business.

**Agile development**
Agile development eliminates long, drawn-out projects and lots of rework. Its “shift-left” model combines activities like blueprinting and test planning into an iterative, sprint-based, process design and system evolution methodology. As a result, it not only accelerates development, it also delivers better-quality software that more closely matches business users’ requirements.

**DevOps**
DevOps takes agile development one step further, incorporating an assessment of the operational impact of new functions early in the development cycle in order to minimize any unwanted issues. Crucial to both agile development and DevOps is the incorporation of automation and cloud technology in sprint and release management processes. Being nimble enough to cloud-provision a new training environment or to quickly regression-test the impact of a new SAP solution update is critical for supporting today’s fast-moving business.
**SAP HANA Cloud Platform**

SAP HANA Cloud Platform offers IT departments a sophisticated solution for building, running, and extending ultramodern business applications. This in-memory platform as a service offers comprehensive capabilities to help business users and developers assemble better, more-agile applications in less time. Core capabilities of SAP HANA Cloud Platform include support for the IoT, integration, mobile services, advanced analytic tools, state-of-the-art authentication mechanisms, social functionality, and more.

**Two-speed IT**

In reality, IT organizations may need to consider a two-speed approach to innovation. Systems of engagement may need to change rapidly, perhaps even daily, as the business seeks to deliver better experiences for its customers. Systems of record, on the other hand, may need to change at a slower pace, to ensure the stability and availability that is so important with them.

---

**Learn more**

Try SAP HANA Cloud Platform for free and see how easy it is to quickly create cloud applications.

Start now ▶

Hear how Asian Paints is using SAP S/4HANA to bring new products and services to the market.

Watch the video ▶

See how SAP solutions are helping Ferrara Candy Company react to consumer preferences and customer demand in real time.

View the video ▶

**17%**

Only 17% of organizations have adopted agile software development, and only 15% have adopted DevOps.

Securing the Enterprise
Balancing innovation and risk

Innovation is essential, but it isn’t without risk. As companies open up their IT architectures to customers, partners, and suppliers – and take advantage of cloud-based applications and tools – they need to protect their valuable assets. IBM believes that organizations require three distinct sets of security capabilities to protect themselves adequately.

Identity
First, companies need a central, integrated solution for managing identities across the organization, in both cloud and on-premise environments. SAP Cloud Identity Access Governance software provides the intelligence to optimize user system assignments easily in accordance with organization and compliance policies. It helps avoid potential costly access issues involving financial losses and fraud, while reducing the ongoing operating costs of auditing and compliance.

Protection
The second line of defense is protecting the infrastructure, applications, and data from threats, which can be both external and internal. The SAP Enterprise Threat Detection application goes beyond security information and event management solutions. It uses the in-memory power of the SAP HANA platform to analyze the central log files of the applications being used. As a result, it enables organizations to identify cyberattacks as they are happening and analyze the threats quickly enough to neutralize them before serious damage occurs.
Insight
The final capability that organizations need is auditable intelligence about cloud access, activity, cost, and compliance. SAP governance, risk, and compliance (GRC) solutions enable customers to automate the processes associated with managing access to business applications, including analyzing and remediating access risk, certification, and audits required for compliance and security.

In addition, the SAP Regulation Management application by Greenlight, cyber governance edition, provides visibility into business risk based on cyberthreats by managing security compliance regulations and mapping them to controls.

IBM believes that enterprise-class SAP solutions must be implemented in a way that helps ensure they are highly available, highly scalable, and secure. They must also integrate well with existing portal, identity management, and enterprise management decisions. This ecosystem of applications and the underlying technologies will be unique to every enterprise and should be a critical focus in deployment planning.

Learn more
Discover IBM security solutions and how they work.
Visit the Web site

Learn how SAP Enterprise Threat Detection works.
Read the blog
Next Steps

Digital disruption is reshaping the business landscape in every industry, allowing incumbents and new entrants to straddle industry lines and target specific business sectors.

CIOs everywhere are acutely aware of this and the need to provide digital transformation leadership to their organizations. The good news is that their line-of-business colleagues are happy for them to take on that role. The question is not whether to transform but where to start on the journey and how quickly to make the changes.

By combining their expertise, experience, and solutions, IBM and SAP can help you create a road map that delivers the business and IT transformation your company needs.

Contact Us

For further information about how we can help you, please visit:

IBM Consulting Services
SAP HANA Cloud Platform
Digital Transformation with IBM and SAP

Authors and Contributors

Mark Dudgeon
mark.dudgeon@uk.ibm.com

Rick Fricchione
rick.fricchione@us.ibm.com

Florian Wagner
florian.wagner@sap.com

Social Media Links

IBM
Twitter
Linkedin
Insights on Business

SAP
Twitter
Facebook
Linkedin