

The CIO as Digital Ecosystem Enabler

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Few executives are better positioned to help their companies navigate the complex landscape of digitally transfigured business models than the chief information officer. After all, many CIOs have championed successive waves of technology-enabled business change over the last three decades.

CIOs were a force behind the business re-engineering movement in the 1990s, and they initiated the shift to enterprise software that followed. Now they are helping drive the digital transformation of whole businesses, and new agile ways of working. By shifting IT infrastructure to public cloud computing vendors, CIOs are making IT more flexible, affordable, and powerful. And many have introduced analytics, artificial intelligence (AI), machine learning, and advanced automation to enable new, more personalized customer experiences and higher employee productivity.

TCS' 2020 CIO Study of 1,010 companies confirms, in fact, that CIOs are playing key roles in their companies' digital transformations. A large majority of CIOs (75%) have helped develop their firm's digital transformation strategy⁶⁶.

But having an IT leader at the strategy table is no longer enough. It won't ensure that companies will succeed in a world where digital ecosystems are erasing traditional industry boundaries. CIOs must also help their companies sort through the opportunities and threats that abound in the digital ecosystems in which they belong.

In every industry, one-to-one relationships with suppliers, distributors, and customers have morphed into a web of interactions: orchestrators that offer platforms of services (such as Uber, which connects drivers and passengers, and facilitates grocery and package deliveries); producers that deliver a product or service on multiple platforms (such as PayPal); and consumers (firms or individuals who buy or use a product or service).

Companies can play multiple roles in a digital ecosystem. For example, Amazon offers cloud services to the public as an orchestrator and uses its cloud platform as a producer to deliver its video streaming service⁶⁷.

As companies look beyond their existing partner and customer relationships to participate in digital ecosystems, they face threats and opportunities. CIOs must be aligned with other company leaders on digital strategy and collaborate strongly with them. Those who are aligned can help identify new digital business models that fit with the company's strategy; spot threats from both traditional rivals and partners, and digital upstarts; and pinpoint opportunities to work with non-traditional partners.

CIOs can help by connecting their companies' digital transformation initiatives to their ecosystem strategy.

⁶⁶ TCS, "How CIOs Are Helping Their Companies Navigate the Digital Ecosystem," accessed August 13, 2019 at: https://sites.tcs.com/bts/wp-content/uploads/TCS_2020_CIO_Study_Key-Findings_General-Release_REV-FIN-2.pdf.

⁶⁷ TCS Perspectives, "Defining Your Digital Ecosystem: The First Step in a Machine-First Transformation," March 2019.

First Up: Look Outward



To participate in digital ecosystems, a company has to do more than digitally transform itself. CIOs can help by connecting their companies' digital transformation initiatives to their ecosystem strategy. Along the way, CIOs must help the top management team navigate the critical but hazardous landscape of external digital partners.

While alliances and partnerships are critical for companies to flourish in a digital ecosystem, our study found that CIOs aren't greatly involved in cultivating them. Only 21% of CIOs play roles in developing alliances and partnerships. In contrast, about half (51%) of the corporate strategy officers are doing this work.

In addition, the CIOs we surveyed are rarely involved in budgeting for digital transformation initiatives. Only 18% play a part in making decisions on allocating corporate resources for digital transformation. That role is more likely to fall to the CEO (35%) or the CFO (29%).

And yet, the top management team and board of directors who are making digital alliances and deciding how much to spend on digital initiatives often lack deep experience with digital business models. CIOs said that only about half (49%) of their companies' top leadership team has deep experience with digital business. That leaves many firms without a lot of digital savvy at the top.

But with their digital expertise, and by interweaving their communications about their companies' path from digital transformation to ecosystem engagement, CIOs can be instrumental in helping the C-suite and board think about the opportunities in a world of digital ecosystems.

What CIOs Bring to the Table



From our experience, creating an effective ecosystem strategy begins with gaining top management consensus that much traditional business wisdom is now outdated. The most important conventional wisdom to reject is that companies must compete fiercely with others for the same resources, talent, and customer segments. Rather, collaboration among ecosystem participants amplifies the collective value they can gain by sharing computing resources, data, and talent.

How do CIOs forge such consensus? By bringing their knowledge of successful digital transformations to discussions with their C-suite colleagues. The TCS CIO Study identified a subset of ‘digital leaders’ forever delayed—22% of respondents that have enterprise-wide digitization initiatives with strong leadership in place, have established digitally-enabled business and operating models, products and services, and have increased revenue substantially from their digital offerings during the past decade. Among these companies, 86% of respondents in the study said their CEOs supported their digital vision.

The study also identified ‘followers’—22% of companies whose digital initiatives are in the pilot phase or limited to a few business units. They report weak success at increasing revenue from their digital efforts this decade. In these companies, only 65% of their CIOs said their CEOs agree with their digital vision.

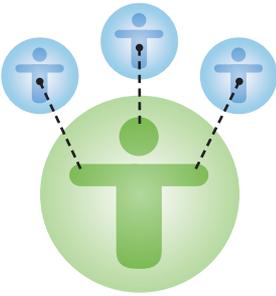
In addition to playing the role of consensus builder of a digital strategy, CIOs can also bring knowledge about agile ways of working to the conversation. The practice of bringing teams with diverse knowledge and skills together to rapidly create, test, and refine new products, services, business processes, and business models is key to digital transformation.

CIOs can also bring their organizational change management experience to the table as an essential aspect of establishing such agile approaches.

When aligned with business strategy, and supported by a robust and flexible technology infrastructure, agile work

processes enable a company to be more responsive to customer needs. Because it emphasizes constant experimentation and incremental improvement, an agile approach is perfect for testing ecosystem relationships with new customers, partners, and suppliers.

The CIO as Ecosystem Enabler



When a company's leaders agree on their digital ecosystem strategy and how to execute it, CIOs can bring another wellspring of knowledge to the table: technology-based platforms. The technology platforms underpinning today's ecosystems provide more efficient ways to connect customers with the products and services they want, cutting out the middleman both upstream and downstream. CIOs

can help to enable these connections across ecosystem partners.

CIOs can be essential to scouting for business partners and maintaining relationships with those that become crucial. The CIO of a leading financial technology firm knew the company had to strike key relationships with ecosystem partners. This CIO convened internal stakeholders, external partners, and vendors to identify ways they could gain from working together in a digital ecosystem. The CIO also readied the organization's IT foundation, enabling the company to use a cloud

infrastructure to create a collaborative business platform that provides advanced analytics and decision-making tools for participants. The result: a frictionless platform for suppliers and ecosystem partners to collaborate.

The example above summarizes the steps that CIOs can take to help their companies participate in digital ecosystems: find partners, evaluate

ideas for partnering, and deploy the needed infrastructure and applications. All this must focus on creating future capabilities, whatever they might be, rather than a set of specific products or services. Platform participants will determine how to benefit from it, which may change over time.



Here's the way this worked at a major information services firm. The CIO had a complex job to identify prospective partners for a new digital ecosystem that the company had to participate in. The following practices turned out to be valuable:

- **Starting from a strong IT foundation.** To take advantage of the digital ecosystem, a company first has to ensure its existing core applications are modernized.
- **Assessing available data resources.** The CIO and other business leaders analyzed the company's existing large data sources to identify areas where the digital ecosystem could be useful.
- **Taking ideas from anywhere.** Ideas about how to capitalize on technology are no longer the exclusive domain of IT. In fact, enterprise innovation groups get bombarded with proposals from other internal teams. Innovations can also be inspired by competitors, or by companies in other industries, provided CIOs stay abreast of market trends.
- **Creating a lightweight vetting process.** The traditional vetting process is often time-consuming, and many ideas are scrapped before they are properly considered. An ecosystem-friendly evaluation process should require minimal effort to identify ideas with maximum potential benefit for simplifying, harmonizing, and rationalizing business processes.
- **Generating small, quick wins.** Companies that use agile approaches to create new digital products, services, and business processes find they no longer have to seek big, 'silver bullet' innovations. Small projects that create positive results quickly (or dispel unworkable ideas before they consume too many resources) enable CIOs to maximize the time and budget allocated for digital ecosystem experimentation.

When a company joins a digital ecosystem, it may participate as an orchestrator, producer, or consumer. It's very possible that it could benefit from playing all three roles, provided it makes the needed investments in infrastructure and software. As for earlier waves of automation, CIOs have a critical role in helping their companies create the platforms for hosting ecosystem activities. They can also be instrumental in setting up the systems to produce goods and services that ecosystem partners, and the company itself, will buy.



The CIO of a leading UK telecommunications provider worked with his C-suite colleagues to inject ecosystem thinking into their business strategy. The CIO helped to define automation initiatives that were essential to executing the strategy including:

- Redesigning the firm's cloud-based integration architecture to support open standards so that key suppliers could connect to it.
- Automating customer-management processes with clearly defined business service-level and operational-level agreements. Device provision, security, and payments were also candidates for automation.
- Restructuring internal supply and vendor management functions by defining the parameters for cybersecurity, legal, and partnerships.
- Shifting to an agile way of working and a DevOps approach to software development. This required automating much more of the software development process.

This example shows how CIOs can lead efforts to build the ecosystem platforms that support new capabilities and future growth.

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Putting Ideas Into Action

A number of CIOs have taken the actions we describe above and have become key players in their company's digital ecosystem strategy. One of them is Atticus Tysen at Intuit. He is leading a digital transformation. A few years ago, the company experimented with its popular TurboTax software to ask an expert a question via videoconference during tax-filing season or to sign up and get an expert to help them complete the process. The project led to the launch of TurboTax Live.

The IT organization contributed more than its technology expertise; it also applied its knowledge of how to schedule agents⁶⁸. "The modern-day CIO needs to be able to teach and influence their C-suite peers on how to understand new technologies and how the CIO can best enable the business to thrive and succeed", Tysen wrote in a recent blog post. "Through strong collaboration with business partners, CIOs can help to transform themselves to be strategic business partners to ultimately provide delightful technology-driven customer experiences⁶⁹."

At Sun Life Financial, CIO Mark Saunders has led a transformation that turned the IT function from a backwater to an agile innovation engine. For example, agile work processes facilitated the launch of products like Ella, an AI-enabled customer service agent that by 2018 had been used by 1.6 million of its Canadian customers⁷⁰.

⁶⁸ CMO.com, CIOs: The New 'Chief Enablers' Of Digital Transformation, April 8, 2019. Accessed August 7, 2019, <https://www.cmo.com/features/articles/2019/4/3/cios-the-new-chief-enablers-of-digital-transformation.html#gs.qszc80>

⁶⁹ CMO.com, The CIO's Big Job in the Next Data-Driven Era, March 25 2019. Accessed August 7, 2019, <https://www.cmo.com/opinion/articles/2019/3/21/intuit-atticus-tysen-on-the-role-of-cios.html#gs.qsxobb>

⁷⁰ IT World Canada, Canadian CIO of the Year [Private Sector] Mark Saunders, December 4, 2018, Accessed August 7, 2019. <https://youtu.be/VSE6PzY3dPw>

Sun Life was an early adopter of mobile apps and the smart home assistants, Alexa and Google Home, to provide services for consumers of its financial and insurance products. The company uses advanced analytics and automated services to remind consumers how to take advantage of the company's products and put their money to work⁷¹. "At Sun Life, our purpose is to help our clients achieve lifetime financial security and lead healthier lives," says Saunders. "Technology is a huge part of enabling our purpose and how we interact and support our clients with the products and services that we provide."⁷²

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Participating in digital ecosystems has become a requirement—not an option—for every company and CIOs must play a crucial role. Those that have done so have become key players in digital transformations, many of which have elevated their companies during a time of complex challenges and change.

⁷¹ CMO.com, CIOs: The New 'Chief Enablers' Of Digital Transformation, April 8, 2019. Accessed August 7, 2019, <https://www.cmo.com/features/articles/2019/4/3/cios-the-new-chief-enablers-of-digital-transformation.html#gs.qszc80>

⁷² IT World Canada, Canadian CIO of the Year [Private Sector] Mark Saunders, December 4, 2018, Accessed August 7, 2019. <https://youtu.be/VSE6PzY3dPw>.