

# Modernizing IT for a digital era

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As digital disruptions impose greater demands on IT systems and organizations, companies must consider an end-to-end approach for upgrading and managing business technologies.

Most companies face critical IT modernization issues, whether that means digitizing the customer purchasing experience, managing or moving away from aging software and hardware solutions, or shifting to newer technologies such as cloud-based computing, server less computing, and micro services for delivering software.

Historically, companies have favored an incremental approach to modernizing IT—that is, addressing the most immediate points of pain and then subsequent issues as they occur. However, the threat of digital disruption is creating an urgent need for companies to modernize IT systems end to end, with the big picture in mind.

End-to-end modernization, or a holistic approach to tackling system upgrades, completely redefines how a company thinks about IT. Under this approach, the technology organization is no longer just a shared service; IT becomes a critical part of the company's DNA, and IT leaders become trusted partners, not just service providers.

## Approach to modernization

Certainly, the long-favored incremental approach to modernization may entail fewer risks: if something goes awry on a small software-development project, the harm from bugs or faulty processes can be contained and resolved before widespread issues occur. Incrementalism can also offer short-term improvements faster: through small service- or product-line changes, companies may be able to realize quick benefits in, say, customer interfaces or tasks associated with systems maintenance.

## Incrementalism

But incrementalism can also limit companies' growth and competitiveness in some important ways. Under this approach, technology teams in different parts of the IT organization may independently address discrete systems questions involving their own areas of competence or internal business clients. They may create islands of solutions, which in turn may breed more complexity, while redundant systems and processes remain. And when companies inevitably pursue digital initiatives, weaknesses in their traditional product-development processes and IT-management systems can be exposed. Customers may experience this as missing data links, slow processing speeds, and disconnected products and services.



## Modernizing IT

The end-to-end approach to modernizing IT is more effective for creating and supporting viable digital businesses. To pursue this approach, executives must break down the change process into three critical steps: defining the target state for their IT architectures, deciding which elements of the IT landscape (systems, people, and processes) need to change, and determining the sequence and scope of change. We've seen some companies tackle each of these steps in isolation, often in the context of a business-unit request for a new technology-enabled feature. But relatively few companies are considering these three steps in systematic fashion, across all business units and functions, and with input from both IT professionals and business leaders.

Avoiding duplicate work leads to lower costs. It may pave the way for seamless adoption of micro services, two-speed IT, and other emerging approaches for managing and enhancing IT architecture. And, ultimately, end-to-end modernization may ensure that companies have the right IT capabilities for decades rather than just the next few years.



## Pursuing end-to-end IT modernization

Nowadays, the technologies that support digital business activities span the entire IT landscape; companies can no longer define bright lines between front- and back-end information-systems management. The sheer volume of technologies, processes, and decisions required to build and maintain digital applications and operations means companies can't afford to work in the same old ways. Business executives and technology professionals seeking to change their approach to modernizing IT architectures may want to focus on three core tasks.

# Decide which changes to make across the technology landscape: Systems, people, and processes

With information about the desired target state in hand, IT leaders can consider how and whether to make specific changes to elements of the IT architecture—for instance, front-end applications, middleware technologies, or back-end servers—to help the business attain its goals. This is less daunting than it sounds. Typically, there are just a few critical systems that must be fully redesigned; effective use of application programming interfaces and middleware can mitigate the need for significant changes to back-end systems.

As a first step, the IT team should take inventory of existing applications and other technologies and identify those that can be improved, consolidated with other applications or other technologies, or decommissioned. The team should come to the table ready to ask questions such as: How much real-time data do we need to support a digital customer experience? How quickly do we need to launch new features to meet customers' needs? How will service response times need to change? Will workload grow or shrink among groups within IT? A large telecommunications company, for instance, had to work out which elements of its IT architecture to modernize so it could launch a digital “e-care” feature for its 100 million-plus customers. The e-care feature was designed to allow users with prepaid smartphones to buy more SMS, data, and roaming services, in just a few clicks. The telco realized such a digital program would mean giving users 24/7 access to data stored in back-end servers—hence, data storage and maintenance became an immediate target area for IT modernization.



Once IT team members have explored core technology questions, they must discuss the organizational- and operating-model changes that may be required to support business efforts long term—for instance, what new team structures or skills might be required? IT leaders, business-unit heads, and critical stakeholders from adjacent business units must consider each core business capability and determine which processes, products, and activities would most benefit from modernization.

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