

MAY 2014

Reinventing IT to support digitization

Henrik Andersson and Philip Tuddenham

Tinkering and short-term fixes aren't enough. Traditional companies seeking strong digital performance must thoroughly transform their IT functions.

More connected consumers, automated processes, and sophisticated analytics place unprecedented demands on IT functions. Many companies are struggling to cope, and they seek to deliver on new demands by adding piecemeal elements to their existing operations. Yet what's really required is the reinvention of IT entirely, which can help incumbents compete against digital attackers and even create a new strategic advantage.

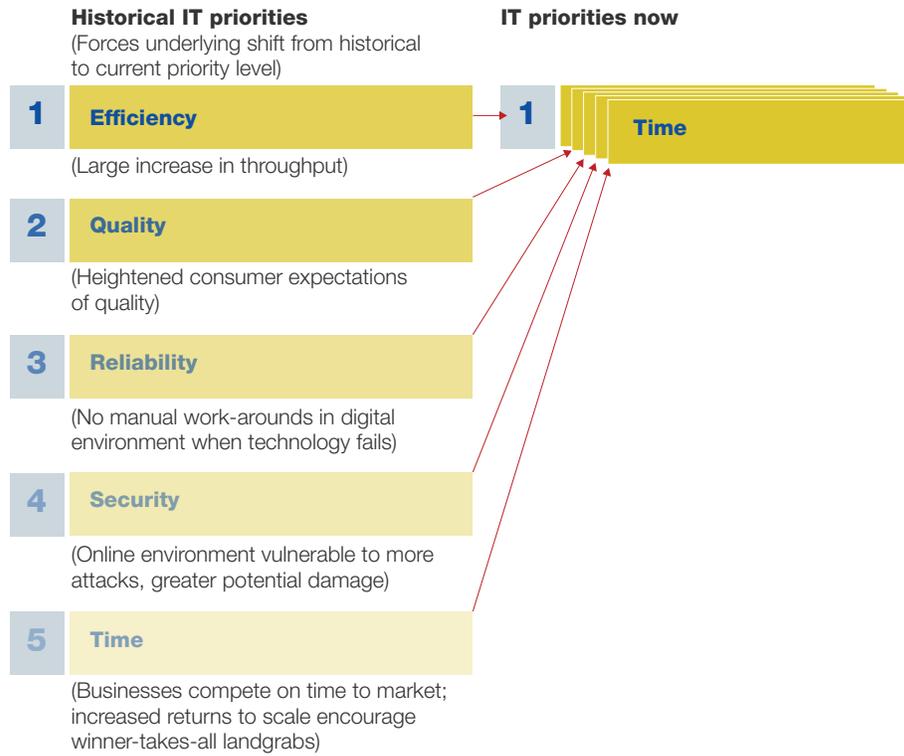
This is easier said than done. Reinventing the IT function requires far-reaching changes, from talent to infrastructure, and takes multiple years to complete. Fortunately, companies can adopt an approach that delivers results quickly while still reshaping IT for the long term. This two-speed approach requires first building a "high-speed" IT function to work alongside the existing IT function, focusing on one or two valuable business areas such as web and customer relationship management. It enables the company to address its most critical IT areas within 18 months before scaling up to cover the remaining areas. Successful transformations avoid fractures between the high-speed and legacy IT functions and are driven by the CEO and business leaders who treat it as one of their top priorities, not just as an "IT effort."

Many IT functions struggle to support digitization

Digitization changes the demands on IT in three principal ways. First, digitization requires increasingly sophisticated technology. Netflix's recommendation system, for example, analyzes terabytes of data to successfully recommend 70 percent of customer choices. Booking.com's proprietary search and caching system allowed it to become the world's largest hotel site, searching more than 450,000 properties for consumers. Even coffee chains are now introducing sophisticated mobile-payment and loyalty apps.

Second, greater IT-delivery performance is needed across the board (exhibit). While efficiency was previously the most important performance measure for many companies, now everything matters. Time to market is critical as businesses compete on how quickly digital innovations get to consumers. Reliability is paramount in a world where downtime stops sales and where, unlike the physical world, no manual work-arounds exist. Security is essential because a broader online

Exhibit Efficiency was previously the most important performance measure for IT delivery; now everything matters.



footprint drives new vulnerabilities and the potential for greater losses. Many IT functions that have historically optimized for efficiency lack the capabilities to scale up quickly, so it becomes even more difficult for them to meet these new demands.

Third, digitization means that IT must prepare for much greater business engagement and oversight from senior management. That's because the value at stake is much greater than before: up to 40 percent of revenue, 20 percent of costs, and sometimes the business's very survival. In one case, a brick-and-mortar retailer promised shareholders that its quarterly earnings report would be accompanied by a new-look website, leading to heavy CEO oversight of the IT project.

Seven elements of a reinvented IT function

Traditional companies don't need to be told that competitors that are "born digital," such as Amazon and eBay, have a digital advantage by virtue of their lack of legacy operations. Among digital natives, IT is both a support and a leadership function. Compared with many industry incumbents, IT plays a greater role in strategic decision making and innovation, influences a

greater share of investment, and recruits better talent. Indeed, we often think of these attackers as technology companies, when they're really retailers that just happen to be digital. Here's one example of the way Amazon thinks differently than the traditional retailers against which it competes: it invests five times more in IT as a share of revenue and is a top destination for technology graduates. Amazon's technology and data capabilities have been central to its ability to scale up from a book retailer to an open marketplace with leading customer-experience ratings.

Reinventing the IT function to deliver digital can provide a new competitive advantage for incumbents. We're not suggesting there's a blanket template or approach—every transformation is different. However, we've identified seven elements critical to achieving the IT performance improvements required to adapt to the new digital world:

1. **Clear, central business leadership on digital.** The organization needs a clear view of its priorities for capturing value from digital. Central agreement is particularly important because digital-IT assets such as customer data and web platforms are often created centrally and shared across markets and business units. One approach for companies that lack alignment or experience is to set up a digital center of excellence that creates and drives a fact-based digital strategy and resolves competing priorities across business areas.
2. **Elite IT talent.** Reinvention often requires an influx of new IT talent to bring in leading technology practices. However, one common complaint among traditional companies is that top talent is attracted to leading technology players and start-ups. That may well be true, but it doesn't mean incumbents can't build a strong talent value proposition to compete effectively. One global retailer, for example, opened a rebranded development center in Silicon Valley, encouraged a start-up culture, and acquired start-ups to demonstrate its commitment and new attitude.
3. **Sourcing arrangements to scale the workforce rapidly.** In addition to recruiting, incumbents have to be able to scale up the workforce to deliver rapidly against unpredictable demand. This usually requires changes to vendor contracts to provide options for additional development capacity without lengthy bidding processes, and agreements with select niche vendors that can provide more specialized skills.
4. **Agile development and rapid releases.** Delivering high-quality end products quickly requires new ways of working, including agile development, rapid release cycles, automated testing and deployment, and a "test and learn" approach to changes. Surprisingly, we often find that the greatest challenge here is not within IT but in persuading the business to adopt this approach.
5. **Rapid innovation architecture supported by stable services.** Delivering rapidly on unpredictable requirements relies on several IT-architecture enablers. First, stable and fit-for-purpose services are created and used as building blocks (for instance, pricing or customer data). Second, IT combines these building blocks into innovative components that it can use and reuse in web and mobile channels (for example, product recommendations). Third, IT uses an enterprise-wide web and

mobile-deployment platform to roll out successful innovations rapidly across all devices, markets, and brands. One incumbent, for example, has achieved a sevenfold acceleration in time to market by consolidating seven web platforms into one.

6. **Scalable cloud-based infrastructure.** Rapid time to market and scaling to meet increased consumer demand requires lean infrastructure operations and an elastic, cloud-based infrastructure.
7. **High-quality integrated data.** Sophisticated technologies such as recommendation systems require high-quality data that are unpolluted, maintained by the business, and integrated into a single data set. One solution is to launch a joint business-IT program that sizes the value at stake, identifies priority data, measures data quality, and agrees on remedial actions to reduce data pollution. Undertaking this process saw one investment bank, for example, identify \$800 million in potential benefits from improving its data. The result was a joint venture between operations and IT and the introduction of a service-based pricing structure that penalized the continued use of polluted legacy data sources in order to encourage the move to the clean “golden sources.”

The two-speed IT transformation

Any program to reinvent IT needs to deliver benefits to the business quickly. However, rapidly transforming the entire IT function is nearly impossible in most organizations, given the magnitude of changes required. Instead, as mentioned earlier, the most successful transformations use a two-speed approach, creating a new, high-speed IT function that sits alongside the legacy IT function. Under this approach, the high-speed IT function focuses on one or two high-value business areas. Narrowing its scope in this way allows IT to be reinvented for these higher-value areas within 18 months, and then scaled to the rest of IT.

One UK financial institution adopted this approach for its online retail-banking and customer domains. The bank opened a new development office with a start-up culture and a value proposition designed to attract top IT talent. As new developers joined with the requisite skills, the company moved to agile working and rapid releases. A new stable service architecture masked the underlying complexity, allowing IT to rapidly innovate new customer-facing functionality on top. Finally, the high-speed function created a new scalable infrastructure stack that allowed it to provision rapidly and scale up to meet new demand. Just 18 months later, the bank began rolling out these lessons across the remainder of its IT function.

We’ve found that three important actions underpin successful transformations under the two-speed approach:

Combine a start-up mind-set with enterprise accountability

Two-speed IT functions can fracture the high-speed and legacy IT organizations. At one European company, for example, the absence of careful governance and a single, accountable CIO resulted in

critical projects that spanned both new and legacy IT functions becoming uncoordinated and incurring delays: major outages lasted hours while each function claimed that the other was accountable; mobile apps languished in the app store because the accountability for maintaining them was unclear; and the process for triaging business demand was weak, producing unexpected backlogs and delays.

The start-up mind-set of the high-speed organization needs to be complemented with carefully designed accountability structures and governance. There should be a single, accountable CIO overseeing both IT functions. Shared elements between the legacy and high-speed IT functions—such as budget allocations, joint projects, maintenance, and the help desk—must be designed with care. One Australian company, for example, mandated that any project spanning both IT functions be staffed with a “SWAT team” from both sides. Finally, although the high-speed function brings a start-up mind-set, it requires solid enterprise governance with appropriate checks and balances around demand management, architecture, and release management.

Balance the IT portfolio

The high-speed function generates business benefits quickly but is limited to the one or two business areas on which it focuses. CIOs need to anticipate more complex projects in other business areas—such as making fundamental changes to mainframe back-office systems to support new pricing models—and must begin them well ahead of time outside the high-speed function.

Make IT a top business priority

There’s no other way to get this done: the CEO and entire executive team have to make reinventing IT a top business priority. The benefits of digital and the potential risks of failure make it essential that they shape and oversee the program. Most important, CIOs must gain the early support of business leaders by laying out a road map that delivers value quickly. If this does not occur, business leaders may reject the program later on when they see their other projects delayed and spend diverted.



Incumbents competing in the digital world often place unprecedented demands on their IT functions, which struggle to keep pace. We believe that adopting a two-speed approach can quickly turn IT into a source of competitive advantage, but it requires that senior executives make the transformation a priority. The rewards are clear for those who do: traditional companies will be better placed to compete with digital attackers, and they will have kick-started the lengthy process of reinventing IT. □

Henrik Andersson is a principal in McKinsey’s Stockholm office, and **Philip Tuddenham** is an associate principal in the London office.