Moving beyond the old-fashioned centralized IT model
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The rise of digital technology has dramatically altered the landscape in the financial-services sector. Banks offer financial planning and trading applications through smartphones and social media; cloud technologies are widely accepted, and in many cases robotics are already reducing cost and increasing quality. Since 2011, the number of startups in fintech (technology-based companies that often compete against traditional financial-services, or FS, firms) has risen more than 50 percent.

All this activity has provided new opportunities (and new competitive threats) for the industry. There is thus a significantly higher premium on the performance of the IT teams in FS institutions. To meet the demands of the new marketplace — to offer competitive, feature-laden, well-designed digital products and services, with a much faster speed-to-market, while lowering costs and continuing to support legacy systems — an IT function has to be flexible, efficient, and responsive. But those adjectives are not always applied to conventional IT departments. Many financial-services firms will have to do much more than merely reexamine their go-to-market strategies; they must also dispassionately reassess their IT operating model, and be prepared to jettison the approaches they have used for decades.

One of the first things to consider is decentralizing the digital infrastructure. In most banks and FS firms, centralized IT structures hold sway. This legacy approach can be traced back to the days of mainframes and COBOL programming, when computing power was scarce and IT was purely a back-office function. The rationale for centralization is still the value of scale; it has allowed banks to pool resources, consolidate data, and maintain software more efficiently. It has also been important because having one consistent architecture has made communicating across geographic boundaries seamless.

But those reasons for centralization are not as compelling as they used to be. In a cloud-based world with interoperable and digital technology, diverse systems can work together more easily. There is no longer a trade-off between global standards and local creativity, because IT
capabilities — processes, practices, technology, and staff— can be embedded into local business units and operations. By dispersing IT this way, FS firms can keep the benefits of one digital system while promoting flexibility and closeness to the customer throughout their various businesses.

When it comes to embedding IT, the most common approaches do not always work well. For example, some companies are introducing a bimodal setup: a traditional IT function at the core of the enterprise, with more agile applications on the periphery, limited to specific offerings. Those parts of the business have, in effect, their own dedicated IT staff and applications. But this still represents business as usual, with IT departments siloed from the rest of the organization. It means that many new endeavors must wait to be incorporated into older core systems, usually by IT professionals who do not work directly with customers, who are charged with building and maintaining a variety of systems all at once, and who are not necessarily prepared to move fast enough to be competitive.

Exhibit 1
Financial-services CEOs say their firms are unprepared for innovation

Open innovation — preparedness and importance

<table>
<thead>
<tr>
<th>Region</th>
<th>Very prepared</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>7%</td>
<td>28%</td>
</tr>
<tr>
<td>Europe</td>
<td>6%</td>
<td>40%</td>
</tr>
<tr>
<td>Emerging markets</td>
<td>18%</td>
<td>62%</td>
</tr>
<tr>
<td>Asia-Pacific</td>
<td>14%</td>
<td>61%</td>
</tr>
</tbody>
</table>

Source: PwC Banking 2020 Survey
A more effective alternative is to change the entire organizational structure, embedding IT professionals directly into the business units, and making a wider range of applications available to them. Overall consistency and interoperability are managed by a small enterprise architecture team, and coordinated with common application program interfaces (APIs). But most or all individual applications are developed by people directly involved with, say, fund accounting, over-the-counter derivatives, or mortgages. With this type of embedded IT, crucial ideas for new offerings and competitive products can immediately generate digital development programs with tight deadlines and budgets. They can be oriented to improve marketplace presence, gathering and sharing data and responding quickly not just to customer feedback, but to insights gleaned from customer activity. In addition, by shrinking the costly high-maintenance proprietary platforms of traditional IT, financial-services firms can free up investment capital for developing new revenue streams.

*With this type of embedded IT, crucial ideas for new offerings and products can immediately generate digital development programs with tight deadlines and budgets.*
The idea of IT decentralization has been in the air for the past couple of years, and many FS firms have started down this path. However, they still resist fully embedding IT in the organization, despite being well aware of its potential revolutionary impact. That resistance will not be tenable for long. The industry is at a tipping point. The fintech firms encroaching on the industry all use some form of embedded IT. If established FS companies hope to compete more vigorously, they must more fully embrace the embedded IT model in their core banking and trading platforms. Companies that choose to continue with a centralized IT structure will lack the necessary agility and responsiveness to stay competitive.

A fully integrated IT organization would break down the barriers between business and technology strategies. The decision about which technology changes were most essential would no longer be determined by their ranking in a discretionary investment scheduling queue. Instead, the business units, working directly with their co-located IT teams, would set their own technological priorities, in light of their capabilities, brand development needs, customer base, market leadership, and growth agenda.

At any given moment, multiple embedded IT teams across the company might be working simultaneously on time-sensitive new products. Some would be making updates to mobile applications, in response to customer requests for new features or to meet account development program goals. Others might be beta testing marketing campaigns on new social media applications, while others implement process automation innovations.

Because embedded IT teams can work quickly compared with centralized IT, this approach would improve customer request response time and time-to-market for innovations. It would also lead to enhanced customer experience; professionals close to the business understand which features are appealing and effective, and they can involve frontline leaders and customers in interface design. And it would increase transparency, by making it easier to track and quantify the return on investment for specific IT initiatives.
Most importantly, this approach would allow financial-services companies to focus on their most differentiating capabilities. A bank that builds its expertise in a particular area can more easily marshal digital technology, including data analytics and software-as-a-service (Saas), to offer solutions and approaches that no competitor could provide as easily.

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**Exhibit 2**

Financial-services firms’ spending on advanced technology is rising slowly

**Global financial-services IT expenditures**

- **2015**: $455 billion
  - $114 billion (25% of total)
  - $142.5 billion* (30% of total)
- **2020**: $475 billion
  - $114 billion (25% of total)
  - $142.5 billion* (30% of total)

* Spending projections are for 2019

Source: IDC Reports
The debate about the value of embedded IT teams is directly related to other trends in digital technology that are roiling the financial-services industry. As noted in the recent PwC report “Financial services technology 2020 and beyond: Embracing disruption,” pivotal areas in the sector will be affected in the following ways:

- **Fintech competition:** Financial technology firms with innovative products and services have been attacking some of the most profitable elements of the financial-services value chain — among them lending, personal finance, mobile payments, and e-money. These disrupters offer a better customer experience and much lower fee arrangements than established financial-services companies, in part because they are online natives, and in part because of their lean cost structure, which is not saddled with legacy technologies and centralized IT models. One Asia-based wealth management app launched recently with almost 1,000 products, all without commissions or fees. Traditional FS companies need a more agile decentralized IT operating model to compete; every line of the business must be able to think “digital first” and seize opportunities.

- **Data-driven product development:** Advances in analytics and digital behavior tracking have given businesses access to vast amounts of data about customer behavior and preferences. This presents an extraordinary opportunity to develop products that meet or even anticipate customer needs. Artificial intelligence (AI), machine learning, and customer analytics will drive client engagement and product development over the next decade; essentially, every FS offering is a form of AI software now. But before firms can deliver the goods that customers want, they will have to gather, interpret, and draw product strategies out of torrents of data in many versions and forms. Few financial-services companies are ready to use their masses of data to full advantage. In a decentralized model, each business unit can share data with others but apply it in ways that connect directly to its customers.
• **Platforms and APIs:** Cloud-based services go beyond replacing proprietary servers. They make possible new types of interconnected applications. Some will be specific to particular banks; others will be generally available, developed by the likes of Amazon, Microsoft, Google, and nCino (a platform oriented to FS). Because of these new platforms and the APIs that go with them, groups within FS firms can be far nimbler with their IT infrastructure than in the past. The platforms will also increasingly incorporate machine learning and blockchain-style forms of transaction tracking, handling the rote aspects of FS tasks and making it more feasible to concentrate on differentiation.

• **Re-shoring and localization:** Over the last 20 years, financial-services firms in the West have offshored repetitive back-office tasks to lower-cost locations, such as China, India, and Poland, creating huge centralized IT functions to support them. However, as labor costs rise abroad and robotic and natural language technologies improve, these tasks are beginning to be moved back to the geographic markets that they serve. As a result, the need to have local IT teams that can manage each region’s needs will be more pronounced.
If you are an executive at a financial-services firm, you probably recognize the benefits of an embedded IT operating model. You also know that implementing it won’t be easy. You will face organizational challenges, such as the realignment of teams and new processes for investment decisions. Your company will need to recruit and train employees to have specialized hybrid skills: client services managers with tech expertise, service managers with business application experience, and so on. Moreover, the firm’s culture will likely have to value collaboration more than it does today. The blurring of the line between business and technology means that leaders on both sides of the divide will be responsible for business performance and outcomes.

Here are four steps that you can take to begin the process of building an embedded IT organization:

**Step 1:** Assess your current IT operating model to determine how much change the new model will entail. Is your IT structure traditional, agile, or a combination?

**Step 2:** Identify key pain points. Is the business happy with IT’s performance? Is IT delivering the right set of capabilities at the appropriate cost and pace? If not, what is not working well?

**Step 3:** Define a case for change. Articulate the vision for the future and identify tangible benefits, a time line, and investments required. Get buy-in from business, operations, and technology.

**Step 4:** Identify five to eight key initiatives and draw up a development road map. What initiatives are needed to transform a legacy IT organization into a next-generation IT player?
The centralized IT structure that served the financial-services industry well for decades has become a hindrance in many companies. By embedding IT teams in individual business units, financial-services companies can make it possible for their business units to bring digital products and services to market more quickly, while lowering costs and continuing to support legacy systems. Realigning IT in this manner will be no easy task, but the resulting agility and responsiveness is necessary to compete effectively against traditional rivals — along with the numerous and much more nimble fintech companies of the future.
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