Cloud computing is suddenly threatening to disrupt many traditional IT organizations and practices. Let’s explore, from a Lean IT perspective, what this relatively new practice could mean for the future of the IT organization and its value proposition for the business.

Many companies, including Google, Microsoft, and Amazon, are investing in enormous global data centers to provide Infrastructure as a Service (IaaS), moving many functions of IT operations into a utility model. These are true computing factories, providing IT services at massive economies of scale: low cost (an order of magnitude lower than most companies can provide for themselves), with virtualization, engineered redundancy and fault tolerance, and automation for high availability and hands-off management.

Going further, many companies (Google, Microsoft, Amazon, Salesforce, SAP, Oracle, and many others) are providing software as a service (SaaS) business application components and platforms using a service-oriented architecture (SOA) to provide standardized and interchangeable parts needed to assemble (and reassemble as needed) enterprise-class applications over the Internet with lower change and management costs. This shift resembles the gradual transition of manufacturing from custom engineering to mass customization (see the diagonal shift explored in Figure 5.1).

It may take years for most companies to significantly transition their applications strategy in this direction. And cloud computing won’t be appropriate for every situation; indeed, it could make some issues, such as security and compliance, more challenging than ever. Nevertheless, cost will inevitably drive many IT services into a utility model, whether internally or externally sourced. The coming of the cloud will not eliminate the IT organization, but we expect that it will dramatically change its role and approach toward value delivery to the business.

In the short term, we expect that IT organizations will invest in the standardization and continuous improvement of infrastructure and related services, improving stability and reducing operation cost; this is where ITIL...
can play an important role. Over time, as some organizations move significant elements of their infrastructure and application ecosystem to the cloud, this transition will create competitive pressures for other organizations to move into the cloud as well.

The adoption of cloud computing will undoubtedly cause a shift in IT operations staffing, but it clearly won’t eliminate the need for highly skilled internal resources—although many services will be provided from the outside, the relationships and interfaces to the business must still be skillfully managed. But we expect there will be an even more significant and positive shift in emphasis toward business process improvement for the IT organization. According to the *CIO Magazine* article “The Tech Jobs That the Cloud Will Eliminate,” there will be “[a] gradual movement of the IT profession away from the nuts and bolts of technology toward the business end of the organization. The cloud is accelerating that movement of technology into the business with business-process-level expertise becoming more important than ever.”

In his provocative book *Does IT Matter? Information Technology and the Corrosion of Competitive Advantage*, Nicholas Carr argues that with increasing standardization and commoditization of computing resources, like the shift from localized to centralized electricity generation in the late 1800s, computing will no longer be a source of competitive advantage since it is available to everyone at a low cost. While Carr makes many good and subtle arguments, we disagree with the fundamental assertion for a simple reason: the low cost and accessibility of a resource do not ensure that everyone will utilize it equally well. In fact, it may be that with the lower cost of IT services, more companies will be at risk of making unwise decisions leading to poorer use of IT capabilities, creating more unnecessary complexity than ever before. While the cloud may change the cost structure of IT services, competitive advantage will still go to those who are able to use IT effectively to support the business. And the key to this? IT process leadership, supporting the continuous improvement and innovation of business processes—*Lean IT*. 