

Smarter, Leaner and Faster: How Cloud Computing Drives Business Agility for Small and Mid-Size Organizations



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Business agility has become an increasingly hot topic in recent years for organizations of every size. Small and mid-size organizations, however, may find that it has particular significance for them—and that use of cloud architectures for their information technology (IT) environments is particularly well suited to helping them improve it.

What do we mean by business agility? We can define it very generally as the power to change, rapidly and effectively, to suit changing circumstances.

Customer interests fluctuate. New competitors emerge. Companies merge or one acquires another. In some cases, an organization's entire mission statement may change, as it shifts its focus from one set of customers and services to a different set of customers and services.

Because IT is so central to the way services are delivered, IT optimization can often play a key role in helping an organization remain agile. For small and mid-size organizations in an unpredictable economy, however, such optimization is usually not a simple matter. These organizations typically face more budget constraints than their enterprise-class counterparts and must be more careful about how, and to what extent, they invest in new strategies and services—or continue to support the old ones.

That's exactly why cloud computing is an increasingly attractive option for them. By leveraging a flexible, scalable, pay-as-you-go cloud architecture, small and mid-size organizations can:

- reduce overall costs and more accurately align expenditures with actual business needs.
- accelerate rollout of new strategies and services designed to fulfill customer interests.
- scale key services more easily at times of peak demand.
- free themselves from geographic constraints of all kinds.
- improve overall business resilience, thanks to higher service availability and advanced disaster recovery options.

Let's walk through some of the specifics to see just how well cloud architectures can help small and mid-size organizations improve business agility.

Smarter budgeting and revenue allocation

Traditionally, brick-and-mortar organizations have created and maintained their own IT infrastructures inside company walls. That means, of course, paying for those infrastructures as well: every new server, every new copy of software, every network switch and router—in short, a broad array of capital expenditures of many kinds.

In today's economy, however, capital expenditures of this type have become increasingly less appealing. They represent a fiscal commitment to specific resources and one that typically must be made before the need for those resources has been conclusively proven. If the organization over-commits, adjusting that commitment will be fairly slow and awkward—diminishing business agility.

Cloud architectures, by contrast, offer a much more flexible and risk-managed way to support IT services and business initiatives of all kinds. That's because organizations can purchase cloud capabilities and resources on a pay-as-you-go basis that matches real-world utilization of the cloud.

If utilization is high, that means the organization's services were in high demand (a cause for fiscal celebration). If utilization is low, then cloud resource consumption was also low (and so will be the eventual bill). In every scenario, the money spent by the organization on cloud services will closely reflect what was actually required to keep customers satisfied.

Furthermore, in the cloud scenario, the nature of IT expenses has changed. What had been capital expenditures are now operating expenditures. That shift, in turn, implies not just lower costs over time, but a potential tax advantage in that operating expenditures may be fully deductible for the tax period in which they occurred (whereas capital expenditures often must be deducted as a depreciation expense

over time). This transformation also significantly reduces the risk that the organization will over-commit to a specific IT infrastructure.

From these improved cost controls emerges similarly improved business agility. Revenues, no longer invested in specific IT hardware, can be allocated more flexibly, and any necessary change in strategy can be accommodated more easily.

Faster rollout of new services

In a challenging economy, when creating a market distinction is particularly important, organizations need to do more than simply innovate. They need to innovate faster than their competitors.

Unfortunately, traditional IT infrastructures aren't well suited to that job. Consider, for instance, how a new service might traditionally be created. Following business strategy and service design phases, the infrastructure to support the service will have to be procured and installed. In particular, servers will have to be purchased, provisioned and configured appropriately. The new service will also have to be integrated with the existing infrastructure, so that key capabilities in areas like security and service management can be applied to it.

Cloud architectures represent a dramatic improvement on that model in every respect. Largely, this is because rolling out a new service in a cloud won't imply new hardware purchases at all. Instead, virtual servers can be created entirely in software, in minutes, in a completely consistent way thanks to predefined image libraries.

Once created, those servers will automatically inherit the overarching capabilities of the cloud as a whole, such as its security (used both to sandbox the new servers from the rest of the cloud, and shield them from external threats like malware and hackers).

The result is that instead of services taking weeks or months to deploy, they usually take only days or hours. And this tremendous acceleration, in turn, empowers the small or mid-size organization to compete in a far swifter, more agile fashion than it could before.

Enhanced service scalability

Service scalability is similarly enhanced via cloud architectures—a natural consequence of the way clouds work.

In a traditional IT infrastructure, logical resources such as processing power, memory and storage are tied to specific hardware, and that hardware is, in turn, tied to specific services.

This has the effect of grouping resources into strict clusters. Subsequently, it's difficult and slow to shift them from one cluster to another. If Service A is in low demand, the resources tied to it will remain tied to it—even if Service B is in high demand, and needs more resources of exactly the type Service A has available.

Such is not the case in a cloud. Cloud architectures virtualize not just servers, but also at a deeper level, all the resources those servers need (such as processing power, storage, memory and, in some cases, network bandwidth). Because resources are virtualized, they can be allocated on demand, whenever and wherever they're required.

Consider the case of outward-facing customer services that typically spike in the holiday season. Such services, in a cloud, can easily scale to handle spikes in usage, because they'll receive all the resources they need to stay available. And because they're more available, the organization will receive more revenue from them.

In another scenario, consider the mid-size organization that decides to migrate services A and B to a public cloud provider. Such a cloud will have a tremendous total pool of resources available to all services running inside it. Now, if either Service A or Service B suddenly needs more resources due to a demand spike, it will simply receive them from the cloud—in real time, and in proportion to the actual business demand for them. This fluid resource allocation ensures that both services can easily scale to higher levels and that service users will get the best possible experience. For organizations seeking a more agile response to changing conditions, that can make a considerable difference to the business bottom line.

Reduced risk of innovation

One of the greatest challenges in business today is determining exactly which products or services customers want to buy, and then creating and offering the closest possible approximation of it. The better organizations perform that key task, the more competitive and successful they tend to be.

Due to the static nature of traditional IT infrastructures, though, it's often difficult to innovate in this way because of the implied risk.

Suppose, for instance, that a mid-size, brick-and-mortar retailer's customers appear interested in an online store and associated discussion forum, in order to buy the company's products over the Internet and then share and evaluate their experiences using those products. Creating and offering that service would normally require investing in, and subsequently managing, a dedicated infrastructure

to support it. But because the customer interest can't be perfectly ascertained and quantified in advance, company executives might be reluctant to endorse the necessary investment, seeing it as too risky.

So, in this scenario, the service is never created, and the potential benefits are never realized.

Via cloud computing, a completely different—and much less risky—scenario applies. Instead of buying and deploying a new infrastructure, a cloud's existing virtualized infrastructure can simply be leveraged in a new way, to support the new service. The only new costs will come from actual service utilization by customers.

If the experiment turns out to be unsuccessful, the service can easily be discontinued with very little financial outlay. But if it is successful, it can be scaled to support whatever the actual customer demand turns out to be, generating more and more revenue as it grows.

Multiply that value proposition by many such experiments and you begin to see how cloud computing can drive innovation by reducing risk.

Location independence

Advocates of cloud computing often point out that a cloud is blind to geography. That is, cloud services will be delivered in the same way regardless of where an organization or its team happens to be, even if the organization is widely distributed.

This translates into a wide range of impressive benefits. For example, consider how IT management can be transformed by a cloud. Many cloud services will run autonomously, without requiring management at all; those that do require it can typically be managed using any standard Web browser. Thus IT professionals can work anywhere they have an Internet connection, instead of being tied physically to an on-site operations center.

A more general case for improved agility can also be made for the entire workforce, because internal IT services such as email or work calendars are available to all employees in the same way: over the Web.

That means the organization can more easily develop teams based on their expertise, not their location. If it wants to hire an exceptionally good job candidate who happens to live a thousand miles from the company's primary site, cloud-based IT services will make collaboration relatively easy and natural. Improved productivity of this type, that doesn't necessarily require employees to move, or even commute, leads to improved business agility.

Perhaps the most dramatic example of geographic independence is the case in which an entire organization wants to move from one physical site to another. If all of its IT services are delivered via an external cloud, this organization can pack up and go without a lot of technical changes and zero downtime for services. The bulk of the IT infrastructure is in the cloud and does not need to be powered down and moved, reinstalled and tested at all. Services can continue uninterrupted for your end users and customers.

Higher business resilience via advanced disaster recovery

One aspect of business agility that often goes overlooked: the speed with which key services can be brought back online in the event they go down.

For small and mid-size organizations that offer revenue-generating services, in particular, this is an important point to consider. Every minute of service downtime will generate a larger and larger negative business impact, ranging from the minor (slowed performance for a few customers over a brief period) to the catastrophic (lost revenues for multiple days, leading to media coverage and substantial brand damage).

Certain cloud providers, fortunately, are exceptionally well prepared to help. Thanks to advanced backup processes such as data mirroring, and the intrinsically virtual nature of the cloud architecture, they can restore entire servers with incredible speed, then repopulate them with necessary data just as swiftly. This argument is bolstered still further in the case of cloud hosts that provide service support on a 24/7/365 basis, delivering peace of mind no matter when a technical problem occurs.

Faster software testing, faster time to market

For organizations that create (and possibly sell) software, the virtual nature of a cloud means it's an incredibly efficient and cost-effective testing platform.

Imagine an organization chartered with creating new apps for mobile devices. Each new build of a given app must be rigorously tested to ensure it's as feature-complete and bug-free as possible. That means deploying it into a completely clean test system that has never been used for testing before.

In a traditional IT infrastructure, this cycle of creating and provisioning test systems over and over, for each new app build, is a relatively slow and cumbersome process. Not so in a cloud, where new virtual servers can be created nearly instantly and with perfect consistency from instance to instance.

Because the testing cycle is far faster, and test environments are more consistent, this organization can now create better software and get it to market much more quickly—essentially defining business agility in the software development field.

Conclusion

Cloud architectures are an exceptionally good match for the needs of small and mid-size organizations—particularly when you consider how they spur business agility.

Thanks to pay-as-you-go pricing, superior scalability and accelerated service rollout, clouds give these organizations the power to grow in the ways they need, while also keeping a tight lid on costs and risks.

Still more value comes from the fact that via a cloud, team members can work collaboratively without regard to geographic constraints. Furthermore, service uptime, for both internal and external services, is likely to increase.

In short, cloud computing allows small and mid-size organizations to accomplish more, using less—the basic formula they need to stay competitive, and even thrive, in a challenging economy.



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mindSHIFT in the Cloud

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mindSHIFT Facts at a Glance:



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