By implementing one-off or short-sighted cloud solutions — often at the urging of the IT industry — many companies have failed to realize the real financial benefit, innovation potential and ecosystem value cloud platforms provide. Only strategic, enterprise-level decisions involving cloud computing will enable companies to become purpose-driven, resilient and adaptable in the emerging business environment.

- A few very public successes mask the lackluster results of many companies’ cloud migrations.

- Aligning a company’s unique business strategy — inside wider industry contexts — will be key to realizing ROI and the innovation possibilities of cloud technology.

- The success stories reveal five characteristics an effective business strategy for a cloud-enabled transformation must include: scalable digital resources; business agility and resilience; operational excellence; cost-effective design; and governance for realizing value.

- By establishing a cloud strategy, a corresponding partner strategy and a success measurement strategy — all based on and informing the business strategy — a company can determine the shape of its transformation, its success in fast-changing competitive environments, and its ability to respond to emerging opportunities.
Some have succeeded with cloud. More haven’t.

Large global companies around the world have accelerated their move to the cloud as part of their digital transformations, and as a result a number are enjoying significant new capabilities and reaping business advantages. However, after shifting to the cloud, many other companies are seeing their costs rise while new, unexpected business constraints emerge. Why? In general, companies failing to retrieve advantages from their cloud initiatives did not assess their overall business strategy before embarking on their cloud journey.

Cloud computing indisputably has reached the corporate IT mainstream. Globally, spending on cloud computing is expected to grow from an estimated $371.4 billion in 2020 to $832.1 billion by 2025.\(^1\) Even the COVID-19 pandemic didn’t seem to greatly impact cloud spending. About one-third of 167 North America-based companies surveyed in March by IDC said they expected to increase their cloud spending due to the pandemic, and another quarter expected no impact on their cloud expenditures.\(^2\)

Cloud technology has advanced a great deal since its introduction more than a decade ago, and a number of companies have used its capabilities to:

- **Bring new products and services to market.** Disney+, the Walt Disney Company’s streaming video service, launched in 2019 and by August 2020 it had more than 60.5 million paying subscribers.\(^3\)

- **Launch highly personalized digital customer experiences.** Peloton, the in-home fitness company with 886,100 subscribers as of May 2020, enables people exercising on stationary bikes to ride together, virtually. In April 2020, the company, which runs on the AWS cloud, held its largest classes ever supporting nearly 23,000 customers via a streaming class.\(^4\) (A another April class reportedly had nearly 28,000 participants.)\(^5\) Peloton’s revenue is expected to nearly double from $915 million in 2019 to $1.7 billion in 2020.\(^6\)

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Point of View | Cloud

- **Make real-time adjustments to supply chains.** FedEx, in partnership with Microsoft’s Azure cloud platform, is launching a new service called FedEx Surround to give it real-time analytics on its delivery environment. For instance, Microsoft’s analytics capabilities could adjust routes based on FedEx’s IoT data during inclement weather.7

- **Lower the risk of investing in new technologies.** The cloud can reduce the costs of testing new technology-driven products and services because its computing infrastructure and platforms are there for on-demand use. TCS worked with a global telecommunications company to migrate its R&D environment for 5G products and services from more than 30,000 servers to a cloud service. Subsequently, this global telecommunications leader has been able to set up a development environment for individual engineering teams 150 times faster than in the past — from several months to a few hours — at 40% less cost. Just as impressive, the actual development and deployment work of these teams now happens 40% faster, as well.

- **Cut operating costs.** A European-based global discount retailer we worked with reduced its enterprise system operating costs by 30% while eliminating the downtime for maintenance or for dealing with security threats after it migrated its enterprise systems to the cloud.

These examples illustrate the ways companies are benefiting from the cloud, which is why cloud investment is forecast to rise even in the face of a global economic downturn.

Where success with cloud has been lackluster

In the flight to the cloud, however, too many firms were assured that huge potential would open up for them merely by implementing one-off or short-sighted cloud solutions aimed to address the current state of a company’s workload. Few of these kinds of solutions and implementations aligned with corporate growth strategies, but rather represented tactical solutions to address important but more immediate needs.

Because such projects weren’t sized for corporate growth or the necessary evolution of the business model reflecting the opportunities and risks of the emerging digital ecosystem, operating costs for some company’s

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7“FedEx, Microsoft are teaming up to deliver packages, widening gap with Amazon,” CNBC (May 18, 2020), accessed at: https://www.cnbc.com/2020/05/18/fedex-microsoft-are-teaming-up-to-deliver-packages-widening-gap-with-amazon.html
cloud spending exceeded their plans, even if their capital expenditures for hardware and software declined.\(^8\)

Both of these problems — limited capabilities and rising costs — stem from a lack of planning prior to cloud migrations, which could have ensured the company’s access to cloud resources matched its needs, and from poor execution after the move that prevents the company from managing cloud resources cost-effectively.

A global aviation and logistics company we worked with found a better way. This company had more than 40 data centers around the world supported by outdated legacy applications. The company’s processes and technologies were fragmented. It lacked a coherent approach to managing disparate data sources holding vast datasets.

After assessing its needs and its problems with dispersed and inaccessible data, the firm used the cloud to create an enterprise data hub that consolidated its data centers. It also used the cloud to automate common functions and to establish a platform for using DevOps to develop new services and bring them to market more quickly. As a result of this improved and better-performing IT environment, the company saved millions of euros and accelerated innovation.

This company understood that transformation requires an understanding of the current state as well as a commitment to evaluating the best way forward not just in IT terms, but for the future of the business.

### Problems with a fragmented approach to the cloud

That enterprise approaches to cloud computing would be fragmented is understandable. That’s what happens when most game-changing technologies become available. We saw it with PCs in the 1980s, enterprise systems in the 1990s, internet- and web-based systems in the 2000s. In the 2010s we saw it with emerging technologies like the cloud, the Internet of Things (IoT), analytics and artificial intelligence (AI). And, with those technologies, it’s still going on.

Enterprises are susceptible to taking a fragmented approach to cloud because vendor resources can be purchased on demand without central IT oversight or approval.

There are numerous causes for a fragmented approach to cloud strategy. Chief among them: cloud computing can represent different kinds of value creation to the stakeholders involved. A common occurrence is when cloud is included in technology transformation projects primarily as a means to control debt, whether financial or

Five elements of an effective enterprise cloud strategy

Cloud computing is central to the digital transformation of every organization. An enterprise cloud strategy must enable a company to exercise the digital capabilities it needs to meet customer demands and gain product and business process advantages over competitors — and do so cost effectively.

An effective enterprise cloud strategy is evidenced by five characteristics. Our recent work to migrate the physical IT infrastructure, applications, systems and network of
Randstad, the international recruiting firm, to a cloud environment and help them achieve their transformational goal of touching the working lives of half a billion people by 2030 provides good examples:

1. **Scalable digital resources.** Companies must gain a technology foundation capable of unleashing large amounts of computational power and advanced capabilities — AI, analytics, machine learning, cybersecurity, blockchain, Internet of Things, etc. — for critical business activities that align with the firm’s strategic priorities, including operating technology as well as information technology. The transformation project with Randstad allows the company to scale applications very quickly and yielded an 80% reduction in the time it takes to provision infrastructure for its 38,000 employees and nearly 5,000 offices.

2. **Business agility and resilience.** A digital business must be able to sense and respond quickly and effectively to external forces, such as changing customer needs and desires, as well as emerging cybersecurity threats. As a result of the cloud migration and related transformation work for Randstad, global security alerts were reduced by 75%. And during the pandemic lockdown, the company was able to stay in remote daily contact with clients and job candidates, thanks to (in the words of its CEO) “our state-of-the-art digital infrastructure.”

3. **Operational excellence.** Accessing the cloud’s advanced technologies can help a firm pinpoint operational problems and resolve them rapidly. An enterprise must be able to leverage the cloud to handle surges in demand, such as seasonal supply chain spikes. For Randstad, the transformation has meant that their processes can leverage the power of machine learning and artificial intelligence to free up their consultants’ time and help make better matches between positions and candidates.

4. **A cost-effective design.** While enabling a range of activities, an effective cloud strategy keeps costs under control, in part by consolidating an enterprise’s spending and applying it to where it will have more effect on top-line results. A result for Randstad has been a savings of more than €100 million in generic IT to further fund its investment in far-reaching digital HR innovations.

5. **Governance for value realization.** Successful firms align their business roadmap and IT strategy. The coordination of cloud strategy at an organizational level, reflecting emerging technologies as well as data privacy and security needs, must continue as a company’s business strategy evolves.

In 2019, Randstad became the global leader in HR services, with €23.7 billion in revenue.

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*TCS partnership drives Randstad into the next era of digital transformation," TCS (July 24, 2019), video accessed at: https://www.youtube.com/watch?v=skPHQQ2veMo*
The goal of an effective enterprise cloud strategy is to align the company’s business strategy — where it is and where it’s going, where it plays and how it can win — with the digital resources best-suited to realizing that plan. Cloud environments just happen to be where transformations with the greatest impact occur in modern business technology.

The process includes three discrete elements:

1. Analyzing the firm’s business model and strategy to see how that model fits into a digital and/or industry ecosystem.

2. Evaluating the resources available in the cloud that can advance the business strategy and determining a technology architecture and partner strategy that can provide the needed capabilities.

3. Measuring the effectiveness of the cloud strategy to confirm its effectiveness in serving both the company’s short-term needs and its path to long-term success.

**A cloud strategy must center on business strategy**

An effective cloud strategy starts with business strategy. That means determining the company’s business model — the purpose it serves and how it makes money today — and what the company wants its business to be in the future. In digital business, this extends to ecosystems — networks of customers, suppliers, vendors, partners, sometimes even competitors — in which any player may change roles depending on the context of a transaction.

For example, today carmakers are not simply manufacturers; in relation to any given customer, or set of customers, they can be suppliers to networks of shared vehicles and rideshare services or vendors of entertainment and travel services for passengers — and thus partners with players in each of those industries. This flexibility and agility can only be deployed and facilitated by a robust digital platform such as cloud computing offers.

Through an ecosystem lens, business possibilities — and profitable revenue streams — expand. TCS research shows that leaders of companies that have earned most of their revenue from digital business activities are far more likely to see abundant opportunities in the coming decade. Of the more than 1,000 businesses TCS surveyed on this question, the most successful ones...
(the leaders) reported that 63% of their revenue in 2018 came from digital businesses, products, or services. In contrast, those experiencing less success (“digital followers”) said 38% of their revenue in 2018 was from digital or digitally enabled sources. In addition, some 94% of the digital leaders said they saw room to do much more.10

Enterprises should evaluate their enablement partners on their ability to provide platforms for such success. Just a few years ago the primary argument for moving legacy applications and storage to the cloud was cost-savings and optimization: by operating in a cloud environment, companies could centralize processes and save on their usual capital expenditures of building and maintaining data centers with servers and mainframes. While the financial benefits still make sense for many use cases, the true value of cloud environments is the adaptability they enable and the innovation possibilities they provide, which opens up whole new worlds for enterprises to create new business processes on the fly, participate in new markets, exploit new consumer trends, and capture new revenue streams — all powered by cloud technology and the capabilities it makes available.

**Industry provides context…**

If cost and optimization led business discussions about cloud in the past, today the focus is increasingly on industry-specific clouds. As with many evolutions in the application of technology, for an enterprise looking to transform its business this new approach holds both benefits and risks that require clear-eyed strategy and execution to navigate.

The rise of industry-specific clouds was a logical response to the business limitations of cloud computing that became apparent as the market matured. What had been heralded as a way to transform a business by spending less money became an aggravation when cloud customers became locked-in to contracts and their provider’s own ancillary services, such as AI, development and analytics. Additionally, while the cost of hardware may have gone away, moving to cloud often added line items for data storage and transfer to the operating budget, with little insight or ability to control it.

But the biggest problem in applying cloud technology to an individual business’s strategic needs and growth plans was the generic nature of the offerings. To address this need, the companies that have made a name for themselves with leading software solutions for particular industries are now developing industry-specific cloud platforms as well. After all, a retailer’s cloud strategy, focusing on supply chain and replenishment, necessarily will be different than an airline’s, stressing the online customer experience and real-time pricing. Accordingly, the answers to all enterprise cloud strategy questions are context dependent.

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*TCS 2020 CIO Study:*
[https://on.tcs.com/ciostudy](https://on.tcs.com/ciostudy)
...but industry may also represent limits

A risk arises, however, when a new breed of lock-in occurs, eliminating any individual company’s ability to differentiate itself significantly with its business model or its operations if, under the hood of its branding, it looks and runs like every one of its industry competitors. Further, some of the biggest breakout stories of success come from companies that look beyond running in one pack to branch out to adjacent or even far-flung sectors: how computer maker Apple could (also) become a music industry juggernaut and a leading mobile phone company; how Danish Oil and Natural Gas could (instead) become Ørsted, the world’s largest offshore wind power company; or how a B2B company like Zoom had the adaptability and scale — thanks to the cloud — to become a household B2C brand almost overnight at the advent of a global pandemic lockdown.

Even companies in centuries-old industries can make big moves to redesign processes, try new projects, and bring new products and new services to market for new customers. The Belgium postal operator, bpost — seeing declining revenues from its traditional mail services — has set its sights on being a global leader in e-commerce logistics for both newer and established brands such as GameStop, PetSmart, National Geographic, iRobot, and Orvis. In 2019, bpost and its subsidiaries handled 100 million parcels in Belgium and the Netherlands... and nearly 342 million parcels in North America.

Yugal Joshi, vice president of the consulting and research firm Everest Group, has advised businesses to keep themselves open to new possibilities as they face the future of cloud in their industries, leaving themselves the flexibility to make choices based on their business model, changes in their industry, and the inevitable evolution of technology: “This is as much about an open mindset as it is about internal processes around application development, delivery, and operations. Enterprise processes and people need to be open enough to incorporate newer industry solutions.”

Remaining open to the possibilities of digital business is really only possible with access to deep industry expertise built on real-world experience. A 360-degree awareness of an industry’s dynamics, standards and processes lets strategy builders make informed decisions. The alternative — creating roadmaps and deploying solutions that lack industry relevance — risks vendor lock-in, mismatches between goals and tactics, and disappointing rollouts and results.
Choosing the right cloud resources

With a clear understanding of the company’s business strategy — including its position in emerging and industry ecosystems — leaders can determine the best cloud architecture and partner strategy for acquiring the digital capabilities they need.

Cloud strategy

In our experience, the evaluation process should lead to the adoption of a cloud foundation that provides adaptability and resiliency, with high availability for services guaranteed.

A leading U.S.-based conglomerate we worked with was able to standardize its IT processes by migrating its enterprise IT systems to the cloud in an implementation that emphasized three requirements central to its strategy: strong security governance, the modernization of existing applications, and the development of innovative cloud-native applications that would support its operations. The company also sought to ensure a standardized migration — that is, it wanted to be able to provide visibility into the way its workload migrations were happening so it could measure progress.

Ultimately, the conglomerate migrated 140 critical applications to a public cloud while ensuring regulatory data compliance (the security governance requirement). By standardizing IT processes in the cloud, it realized an estimated $1.2 million in savings (the modernization effort). Finally, it was able to automate the provisioning of IT services, thereby increasing its agility and allowing it to develop new customer-friendly applications (the innovation piece).

Partner strategy

In our work with large enterprises evaluating cloud strategies, we find that organizations are increasingly less concerned with where their workloads take place than with how their cloud configurations can position them for resilience and even growth, no matter what the future holds. As competition among cloud providers moves from a cost negotiation to a capability discussion, the strong suits of various cloud providers and platforms becomes all the more relevant in designing configurations and orchestrating them for maximum business advantage.

This is a natural progression of the increasing digital nature of business. It makes sense on several levels. It’s a way to hedge against risk while also getting the best of all worlds for specific needs. A business looking to enable its strategy might be supported by any one or a combination of private, public, industry, and specialized platforms — depending on what that company’s business strategy is.
Figure 1: Variety among cloud configurations

A public cloud, for example, may specialize in testing automated services using AI, while a business’s regulatory environment may demand a dedicated private cloud to safeguard its customer data.

Having multiple cloud partners gives leaders leverage while providing a range of capabilities configurable for their bespoke business strategy to sustain and amplify commercial value while smartly managing consumption commitments across hyperscale providers. To take a multi-cloud vendor approach, you need to ensure the company’s data and applications are architected so they can operate and interoperate in multiple cloud environments. It calls for having the right IT tools to orchestrate computing and data assets across multiple vendors. And it means building in data security from the start.

A multinational insurance firm we worked with used this kind of approach to bring coherence to its disparate, complex IT systems as well as increased resilience to its business. The company sought to use the cloud to integrate business processes and create transparency for decision-making. The firm began by auditing its IT systems and applications to discover interdependencies, such as how the systems exchanged data and which business units used each application.
The company then assessed how to migrate these applications to the cloud and forecast how the move would occur for each business unit. In other words, it created a blueprint.

The assessment identified 43 redundant systems. Due in part to this detailed analysis and planning, the company’s cloud migration went smoothly (as it sunset 43 systems) and led to significant cost savings down the road.

**Measurement strategy**

It’s essential for a company to do careful, detailed assessments of its business strategy and existing IT systems to chart the best path forward to the cloud. But that’s not enough. A successful cloud strategy also requires measuring the impact of the migration: how quickly it occurs and how much value it provides to the business — the return on investment. It is surprising how many businesses fail to measure the dollars and cents of their cloud migrations or limit their metrics to cost-savings on hardware.

In working with companies to measure the effectiveness of their cloud strategy, the ROI of their planned implementations, and the performance of their implementations after migration is complete, we have established some broad areas where we help a company focus.

The parameters to begin measurement discussions are:

**Business agility.** Enterprises can measure the long-term benefits of the returns they receive by implementing cloud services to improve their responsiveness in areas such as time-to-market, enhancing their products on the fly, and changing course rapidly based on changing market conditions.

**Technology modernization.** Businesses can measure the savings they would realize by avoiding the technology debt otherwise incurred if they failed to adopt superior solutions that will reduce maintenance costs and enable the business to perform better and innovate faster.

**Sustainable commercial value.** While optimizing technology spending, enterprises can simultaneously use cloud implementations to create new revenue-generating opportunities — and can evaluate the potential for doing so. For example, banks have used cloud services to launch payments platforms, integrating their services with partners, vendors and customers to leverage the power of their financial ecosystems and drive revenue growth.

**Service resiliency.** The development of resilient service delivery is essential to maintaining a stable business, and enterprises should evaluate a cloud strategy based on the selected approach to enhance its ability to provide “always on, always available” services. Key areas to evaluate include:

- **Recovery from system disruptions.** Evaluate a cloud implementation strategy based on how it enables the organization to improve its recovery time objectives — that is,
how long it takes to restore operations — and recovery point objectives that allow all applications and data to be transmitted to a remote site to provide continuity.

- **The use of automation** can immediately mitigate many minor interruptions and speed recovery in a major disruption. Companies can evaluate plans for automated server provisioning in a cloud implementation strategy and assess how systems will be fine-tuned to meet business expectations in such situations.

- **Connectivity for data replication and user access.** The connectivity should meet objectives for both recovery time and recovery points, as well as customer and end-user expectations for access and performance.

**Velocity of change.** When leveraged for strategic advantage, cloud technologies don’t enable the creation of value in incremental steps but with exponential leaps. To take advantage of this empowerment, businesses are rapidly reconfiguring themselves to harness the potential of cloud, removing constraints to embrace new business models and envision previously unimagined customer experiences. Cloud computing grants them the agility to reshape their ecosystems and the velocity to deploy new features and make rapid changes to technology with zero roll-back or unplanned downtime. The DevOps Research & Assessment (DORA) “four metrics,” adapted for each industry value-chain, provide an important set of measures to contextualize and measure the value of change velocity.

**Cloud-native adoption index.** Businesses are recognizing the benefits of cloud-native applications — software designed specifically to run on a cloud infrastructure — as they offer hyperscale provisioning, resilience, high availability and responsiveness, all of which help businesses operate faster, more cost-effectively, and with greater flexibility. At the same time, major cloud providers are developing frameworks to create applications designed for cloud development, including those that enable “serverless” computing, API integration, DevOps, data stores, and machine learning capabilities. As companies evaluate this aspect of a cloud implementation strategy, executives will want to monitor the skills available in the market to manage the cloud-native technologies they are considering adopting.

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*Take the DORA DevOps Quick Check,* DevOps Research & Assessment, accessed at: https://www.devops-research.com/quickcheck.html
Combining business, cloud, partner and measurement strategies

To understand how a clear strategy — business, cloud, partner and measurement — can benefit an organization, consider the experience of a global company that leveraged the cloud to successfully separate itself into two new firms: one that would serve the aerospace industry and another that would cater to automotive and construction industry customers. The company worked with TCS to complete this transformation in nine months in work that covered more than 100 manufacturing and business locations, a diverse technology portfolio, and myriad business and technology changes.

To achieve this goal, the company pursued a course that aligned the business strategies of each new organization with a coherent approach to a cloud implementation. The process included:

- **Contextual knowledge of business needs.** The teams used this knowledge to analyze the cloud resources needed. They evaluated available options and designed and optimized the resulting course for a cloud implementation.

- **A focus on automation.** The teams working on the cloud implementations eliminated manual aspects of IT systems management, including the handling of data and programming code, to optimize the process.

- **An Agile approach.** Coordinated cloud implementation teams around the world adopted Agile development approaches to collaborate and measure their progress according to milestones tied to the business strategy.

The resulting pair of companies achieved the split they planned on time. The companies report that as a result of their cloud implementations, they reduced their total cost of ownership for IT systems by 50%. The migration enabled each firm to standardize their IT systems to further reduce future costs. The careful analysis and planning work enabled a seamless transition with minimal disruption to each business.

In the end, the companies reported they ended up with enterprises that were more flexible and better able to seize new opportunities going forward.
It’s time to embrace the strategic cloud

Cloud computing has progressed a great deal since it debuted in the 1990s. Companies around the world have embraced cloud services to modernize their IT systems and control costs. Today, the question is no longer whether to use public, private and/or hybrid clouds instead of on-premises data centers; it’s how to use them to gain competitive advantage while controlling and reducing IT costs.

But if cloud computing is to provide a competitive advantage, companies need an enterprise cloud strategy — one that’s in line with their digital transformation business strategy, takes stock of a company’s current position, and understands how to build profitable businesses in the context of emerging digital ecosystems.

The best approach is one that evaluates available technologies and partners to assess the best cloud services — emphasis on the plural — that will enable the enterprise to soar. This approach should also provide a report card that tracks those anticipated benefits, both in terms of efficient business performance and return on investment.

In the global economy emerging out of the pandemic — in which any advantage formerly conferred by physical proximity could turn to a disadvantage — new sources of innovation and interconnection become instrumental in growing business. Cloud has been more than two decades in development, making it at once both a mature and fast-evolving technology. The global COVID-19 pandemic has only reaffirmed the need for the cloud as an integral component for enterprise resilience and agility.
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