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Using Strategic IT for Competitive Advantage

We are living in a digital economy. Every business today can see that technology has become a more critical part of their operations and their future success, and the C-suite is pushing for digital transformation. In order to remain competitive, companies know they must invest in IT. But that knowledge is not enough; they also must know where those investments should be made. Simply investing more in existing IT tactics is not sufficient. Enterprise technology has gone through a major shift, and understanding that shift is a prerequisite for a winning game plan.

Consider the case of cloud computing. The first step in cloud adoption is generally the migration of an existing system. By doing this, businesses can learn several lessons about operating in a cloud environment—integration, application monitoring, data security—but at the end of the day, most companies are simply running old IT systems on new models. For true competitive advantage, a cutting-edge approach involves redesign of both systems and workflow, requiring a different set of investments in technology and skills.

To fully appreciate this approach, companies must ask some basic questions. How is today's IT different from an organizational perspective? Which driving factors are contributing to the flood of new technology trends? What are the behaviors that stem from this fundamental IT change? And, ultimately, what steps should a company take to move forward? Any focus on individual tools such as cloud computing or Internet of Things or artificial intelligence may solve a short-term problem, but the answers to these central questions will give businesses the knowledge and ability to thrive in the long term.

This whitepaper from CompTIA relies on research across a variety of topics and conversations with IT professionals to provide a description of the way technology is now integrated into business. Examining the strategic nature of modern IT provides a foundation for describing new mindset and metrics. Adding in vital technical milestones completes the picture, giving businesses a thorough understanding of this recent tipping point and allowing them to build plans for future transformation.

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Tactics and Strategy: A New Balance

The critical difference between today's IT and the IT of 10 or 20 years ago is the degree to which technology is being used to drive the strategic goals of a business. Certainly, there has always been some mix of tactics and strategy in the directive of any IT function, with that mix varying based on the size of the business, the vertical industry, or the attitudes of upper management. But the shift towards strategy is a general phenomenon that has affected all businesses and driven a new paradigm.

Business Objectives
Business Units
IT

Traditional viewpoint:
Business objectives were driven by business units, which were supported by operational IT

It is an oversimplification to say that IT was ever purely tactical, but that model helps illustrate the organizational perception of IT through much of its history. In this traditional viewpoint, corporate goals were considered the domain of the business units. Getting product to market and driving customer satisfaction was the purview of the sales team. Geographic expansion rested on the shoulders of the operations team. In turn, the business units relied on the IT function to provide support that allowed them to perform their jobs with greater efficiency. Constructing a technical foundation, delivering the right endpoint tools, and troubleshooting user issues were all important tasks within a company, but primarily to the extent that they drove productivity. IT was often viewed as a cost center, striving to deliver a specific level of service within the lowest budget possible.

Business Objectives

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IT

Modern viewpoint:
Strategic IT works alongside business
units to help drive objectives,
with operational IT still acting as
a foundation

In contrast, modern IT has expanded to more explicitly serve a dual purpose. Along with the tactical support work that continues to be a requirement, IT now has a role to play in directly driving strategic objectives. Customer acquisition happens on digital platforms. Brand awareness is built through social media. Market share is gained through omnichannel experiences. These initiatives are not achieved simply by building programs on top of technology, but by using technology as the primary mechanism for success.

Expansion into a more strategic role creates two new types of interaction for the IT team. The first is the direct connection to business objectives. This brings IT into upper-level organizational discussions, where requirements are broader and more abstract. Rather than receiving a request that has been funneled through business units and may map to an individual application, IT must consider the overall needs of the business and construct systems that address many concerns simultaneously. As an example, a traditional request may have been "the sales team needs a tool that provides more robust information on customers," and a more current request may be "the business needs consolidated insights into our customer base so we can plan future products."

The second new interaction is a partnering relationship with business units. In the past, the relationship was primarily one of support. Now the IT team is working alongside the business units as they build systems together or as the IT team guides technology procured by the line of business. With this activity happening at a level below the overall strategic direction, the challenge here is in building consensus around tradeoffs. This requires some communication of technical details to the business unit, and it also requires the IT team to build knowledge around line of business priorities.

Recent CompTIA research confirms the shift towards more balance between tactical IT and strategic IT. When asked about the role of technology within business, the top response is fairly traditional: "Technology enables our business processes" (43% of companies surveyed strongly agree with that statement). However, the next three responses are all broader in nature: "We are using technology to drive our business outcomes" (39% strongly agree), "The technology function plays a critical role in strategic planning" (36% strongly agree), and "We are redefining our business thanks to technology" (34% strongly agree).

Within large organizations, the images above primarily represent internal resources. But most companies in the SMB space rely on a mix of internal resources and third-party support for their IT function. The concept is the same, though—a shift towards strategic thinking drives changes not only to the structure and role of an internal IT team, but also to the nature of relationships with outside partners. These partners may be asked to support corporate goals and provide input to the planning process, which may drive companies to broaden their horizons as they consider their partner ecosystem.

It must be noted that the diagram depicting a modern view of enterprise technology is not drawn to scale. While the role of IT has expanded to include a larger strategic component, IT teams have not usually grown at the same rate. This presents a unique challenge for CIOs and other individuals responsible for technology. Without significant resource growth, they not only need to add specialized technical skills, but also need to build a new operational model.

Drivers Behind Modern Technology

One of the primary duties of a CIO in a modern environment is to clearly describe technology trends in terms that the business will understand. Business unit execs and employees are more aware than ever of the capabilities of technology, and knowledge that comes from increased consumer use of technology is driving technology procurement within business departments. But this knowledge often falls short from an enterprise perspective, where the stakes are higher and the architecture is more complex.

There are many new trends that have captured the attention of the business world and appear to be significant factors in shaping enterprise technology. Cloud computing, Big Data, and Internet of Things have all made headlines in the past decade and have raised questions around skills and internal operations. These trends, though, are still based on a set of fundamental developments, and understanding these developments will enable an agile approach to current or future trends.

Moore's Law Reached a Tipping Point

Most people—even non-technical types—know about Moore's Law, or at least they know the general concept. Chip manufacturers continue to find ways to double the number of transistors on a given piece of silicon approximately every two years, which has the general effect of driving down the cost of technology.

For many years, there has been debate in the technical community about when Moore's Law will falter as physical limits are reached in the microprocessor design process. That point has not yet been reached, but another boundary has been crossed. Technology researchers believe that the capabilities of technology have surpassed the ability to usefully absorb and utilize those capabilities. It is basically a thought experiment come to life: rather than imagining what a company would do with unlimited computing power, that power is now available, and it is increasing exponentially. There will always be some level of financial constraints, but the primary constraint for businesses has become the skill needed to create value on top of vast resources.

Broadband Connectivity Redefined Accessibility

Enterprise technology started from a very centralized place: the server room that contained all the corporate computers which could only be operated by those with highly specialized expertise. From there, it spread throughout a company, starting with terminals that accessed the central computers and expanding to PCs that gave workers a greater degree of workflow autonomy. As the Internet was introduced, employees could begin working from home, but data-intense jobs were often too arduous over dial-up connections.

The situation now has completely altered the concept of where work can be performed. Not only do most homes have access to broadband speeds that rival office connections, but cellular networks also provide a similar experience at nearly any location. This changes the value proposition for an application. It may make sense to spend more on a piece of software with mobile components if that allows for greater productivity. Ubiquitous connectivity allows computing to reach places that have previously been isolated.

Digital Data Became a Valuable Asset

Companies have been collecting data as long as they have been using computers, and the idea of analyzing that data for patterns or insights is not new either. For many years, that analysis was hampered by limited computing resource, restricting the quantity of data that could be stored or the feasibility of complex calculations. Data was also relatively immobile, mostly living inside the walls of the company where it was created.

To some extent, the value of data rests on the previous two developments. With incredibly powerful resources available, businesses can store vast amounts of data and perform analysis that had never before been contemplated. With pervasive connectivity, data can be gathered from a wide variety of locations and made available wherever it was needed. But there is also a greater reliance on data. Sometimes this is explicit, when the decision-making process includes data and insights in new ways. Sometimes it is implicit, when applications use data in the background to provide context. Either way, digital data now holds great importance for an organization, which unfortunately makes cyberattacks a much more pressing concern.

These three developments intersected with the creation of cloud computing, and the extreme accessibility of cloud systems made it seem as though cloud itself was the trigger event for this wave of modern enterprise computing. Over time, it became apparent that a lack of understanding in the fundamental shifts was impeding efforts to adopt other trends. Big Data, Internet of Things, and new forms of emerging technology have all experienced slower adoption, and the best way to accelerate technology usage is to recognize the factors that have created a new landscape.

The Ripple Effects of Strategic IT

As IT embraces the dual roles of tactics and strategy, the strategic side drives major changes in how IT is executed and evaluated. A new organizational approach to IT must incorporate a new mindset around operations. There are many potential changes as IT becomes more strategic, but three areas in particular highlight critical differences between the standard way of doing things and a modern attitude.

TOP LINE VS. BOTTOM LINE

As stated before, a traditional view of IT as a support function led to a perception of IT as a cost center. A company either wanted the same level of technology function for ever-decreasing cost or expected that more function would be delivered if costs stayed flat. Investments were based on the ability to improve support or driven in response to specific business unit requests.

With strategic IT, though, the financial picture is more multifaceted. Investments need to have a defined return to the overall business rather than simply maintaining the status quo. This requires IT professionals and managers to consider different criteria beyond technical specifications when making investments. Along with mapping technology investments to business goals, the IT function also needs to think about additional investment that will help the company accelerate technology adoption. Especially in cases where a company may have lagged in their use of technology, evaluating emerging trends and proactively looking for possible use cases are critical parts of remaining competitive.

CONSUMPTION VS. INSTALLATION

Another common perception of tactical IT is that its primary function is to "keep the lights on." If systems are operating as expected and not hampering workflow, then all is well. This perception, along with the need to ensure enough capacity for peak workloads, led to a heavy focus on up-front capital investments followed by regular maintenance of the systems that had been installed.

Cloud computing has introduced a new way of thinking about IT usage. With the ability to pay only for what is used, the focus has shifted to monitoring consumption and turning IT expenditure into an operational expense. In addition to learning new monitoring tools and techniques—especially in a multi-cloud environment—IT pros must get even closer to the users to understand their behavior and preferences so that applications can be optimized for workflow.

Necessity vs. Luxury

The final difference that comes from transitioning to a more strategic viewpoint is somewhat subtle. Certainly, most companies over the past several decades have viewed some level of technology as a business necessity. Whether for communications, productivity, or automation, firms have brought in technology that they deem necessary for their operations.

However, tools that once might have been considered outside the realm of business need (and therefore a luxury) are now becoming indispensable. Consider end point devices as a simple example. In the past, companies may have distributed laptops to knowledge workers but not workers in the field or on a manufacturing floor. Today, nearly every employee in an organization can make use of a laptop, tablet, or smartphone. These devices connect not just to standard information technology systems, but also new operational technology that brings digital capabilities to physical environments.

Moving towards strategic IT is clearly no simple undertaking, and it is not a task that falls solely to the IT department. Investing towards business objectives, understanding consumption patterns within the business, and taking a holistic view of indispensable technology all require full organizational support. The CIO often retains ultimate responsibility for driving the technical vision and building the proper team, but there is a greater partnership with other executives to achieve technology-driven aspirations.

Next Steps

The entire process of implementing more strategic measures in IT and adapting to the possibilities introduced by new technology developments is nothing less than a reimagining of how business is done in a digital economy. For that reason, digital transformation serves as an appropriate description of what companies are going through, even if the term lacks some clarity in definition.

Given that the transformation is described as digital and that it involves new computing models which draw a great deal of attention, the initial assumption is that the process is primarily about adopting cutting-edge tools. However, CompTIA's research into the challenges faced by evolving companies (which CompTIA labels "digital organizations") reveals that the more difficult parts of corporate renovation involve the patterns ingrained in the culture of the business. A digital organization, by CompTIA's definition, is a company with the proper structure and processes to drive results with modern technology. These three components provide some structure to an initiative that can seem overwhelming.

To start, a company must consider its internal structure. This generally will begin with the role of the IT team as it takes on a more strategic mindset. As described earlier, the strategic portion of IT is a peer to business units rather than a support function, and this relationship should be emphasized in the org chart. Embracing a peer mentality will lead to a more collaborative environment, where each function brings unique expertise in order to advance the common mission.

Building the proper structure includes the structure of each department as well. Technical aptitude typically needs to increase in every area, with the deepest skills still residing in the IT department. Focusing on highly specific skills or vendor methodologies can create some confusion and overlap of function, and companies may not always see a clear path from their current staffing to the skills that they desire. CompTIA's whitepaper on A Functional IT Framework provides a model for understanding the basic components of IT systems. These components are common across all eras of enterprise technology, so companies can use the framework to evaluate their current situation and bridge to the future state they are pursuing.

With the right structure in place, processes and workflow are the next area to address. The most prominent example in this space is the technology procurement process. As business units have built technical acumen and technology has become easier to acquire, the concept of "rogue IT" has come into play, where business units procure applications or devices using their own budget and without the awareness of the IT team. This situation often leads to headaches with security or integration, so a more collaborative approach is needed. Best practices for procurement involve processes which actively include multiple departments and optimize both the speed that the business units desire and the architectural issues that IT owns.

As skill gaps are being addressed, another process that companies are examining is the ongoing assessment of the skills they have on board. Again, A Functional IT Framework provides the basis for assessment, and CompTIA's ITIQ assessment Tool offers a mechanism for the actual evaluation. As digital operations become the heartbeat of an organization, continuous assessment and improvement are the processes that will ensure good health.

Finally, technology is the ingredient that most directly connects to goals and strategy. With a solid understanding of the critical developments and consensus around the direction of the business, tools can be chosen to fit into the organizational vision. There are a great many avenues available for exploration—from artificial intelligence to virtual reality to blockchain—and successful transformation of structure and process will direct the time and effort that should be spent in each area.

There is a distinctive role for IT to play as companies pursue the cutting edge of technology. When asked about various responsibilities around technical systems, business units in CompTIA's research generally felt that responsibility was shared between the line of business and the IT function. For example, 51% of business units felt that the creation of insights from corporate date was a shared responsibility, with 31% assigning this responsibility to business units themselves and 18% looking to IT to assume these duties. However, two areas stood out as responsibilities that should remain with IT: Keeping data secure and confidential (38% of business units assigning this to IT) and seeking out new forms of technology (35%). As discussed earlier with regards to investment, analysis of emerging technology is an area that deserves special attention from IT, whether that is activity within the department around new topics or cross-department efforts spearheaded by the technical team.

The biggest misconception around modern enterprise technology is that it is simply more of the same, that IT as we know it is merely becoming faster and more efficient. Instead, the central nature of IT has changed, as has the surrounding business. Rather than an evolutionary step in IT operations, business operations are experiencing a digital revolution. Those companies that successfully internalize the changes that have taken place will be the ones to lead in the transformed economy.

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