

“Tectonic” Plates

How quickly do major changes and new disruptions come to pass in twenty-first-century information technology? I think of these changes like the tectonic plates of geology because they can be huge and obvious, like an earthquake, but they are often subtle. Suppose as a chief information officer (CIO) you are given the task of preparing the company for an event that will occur four years in the future. This may be difficult to imagine for most executives who have major deliverables on a week-to-week or month-to-month basis, but that’s what this book is about—the fact that massive shifts are taking place in your business IT landscape very quickly that have short- and long-term consequences for your company’s bottom line and the strategies that make or break it. More often than not, these changes are subtle, but it is important to pick up on this subtlety and to determine how these changes might have an impact on your company either as an opportunity or as a threat. Either you will recognize them, or perhaps a competitor will before you do, and seize an advantage.

Large companies, especially publicly traded ones and yours perhaps as well, are understandably sensitive to *quarterly* reporting, as they must share progress or lack thereof quarter-by-quarter with analysts and shareholders. Quarterly plans are almost by definition more tactical than strategic. Unfortunately, many companies myopically use these as their primary planning function. Others extend them to an annual plan without ample consideration for the time period beyond the year ahead, which is still myopic and does not lend itself well to creative, innovative thinking—especially for

IT departments whose technology has become so central to corporate activity today that they can only be truly successful if they can be both nimble and aware of the future. A further-looking, visionary strategic mind-set is the hallmark of World Class IT.

For a moment let's grant ourselves the luxury of an event for which we have four ("long") years to prepare. Let's put ourselves in the shoes of Gerry Pennell, CIO of the London 2012 Summer Olympics. What can we learn from his challenge and response about what CIOs need to be thinking? We'll follow his case through much of this chapter.

IT's Gold Medal

In November of 2008, Gerry Pennell became CIO for the ultimate world sporting and cultural event, the Olympic Games, whose cauldron would be lit by the Olympic torch in London on July 27, 2012, and burn for a fortnight. The Beijing Olympics had recently concluded, and he stared down the road at nearly four years of planning and execution as part of the event's top organizing committee. The scale of what he had to pull off coupled with the high bar set by the example of Beijing were motivation enough for Pennell to assemble a team, and to begin to set a plan. But his early steps were complicated by the fact that the strategic plans for the other functions the committee oversaw were in their nascent stages at best. To Pennell, that meant setting a direction for the technological approach to the Games that would still be malleable enough to change as he engaged further with his fellow committee leaders. He couldn't wait for them to get started.

Pennell's decision to forge ahead in planning without complete guidance from his peers stands in contrast to how a lot of CIOs act in the absence of concrete plans from the corporation of which they are a part. Too many of them match inaction with inaction, rather than proceeding with IT's own vision of where the company will be several years out and information technology's role in realizing that vision. Given the long-term nature of so many

IT investments, often with multiyear depreciation or amortization schedules, it behooves IT to take the initiative in pushing the rest of the organization to develop clear, well-articulated plans, and, in the absence of those, to set the example for the rest of the corporation by doing so itself.

In Pennell’s case, the four-year time horizon forced him to think more than the average CIO not just about strategic flexibility but also about shifts in the “tectonic” plates in a four-year period. In any given quarter, business-changing innovations may not be readily apparent. An IT leader must possess skills and perhaps staff related to research and development, so that he or she remains abreast of these innovations in order to evaluate the potential value that using them would bring the company. This means, for example, not only noticing a new product launch from a well-known company but also not letting creative new products or services launched by small, less well-known companies pass under the radar. Reflecting back on the time period between the 2008 and 2012 Summer Olympics, it is interesting to think of the number of now-pervasive technologies that either were in their infancy or did not exist in that interval:

- In 2008 the iPhone, which brought apps to the forefront for consumers and later for companies, was only a year old, and Apple had sold less than ten million phones worldwide. By contrast, in each of the first two quarters of 2012, more than thirty million iPhones sold worldwide.¹
- Twitter gained prominence at the South by Southwest conference in 2007, but it was not the force to be reckoned with that it would be in 2012.
- Facebook surpassed MySpace in traffic only in April of 2008.
- Although the term *cloud computing* already had been coined, the concept was still in the early stages of development and practice.
- The first iPad would not be introduced until April of 2010.

It is worth mentioning that most aspects of social media were not officially permitted at the 2008 games or in China in general, and as of this writing, one still cannot use Facebook or Twitter in that country. Therefore, Pennell could not translate the technology blueprint from Beijing to London any more than he could translate its Mandarin to English.

Many IT executives assume that previously developed IT plans are more sustainable than they really are. The problem is the quick emergence of soon-to-be-indispensable technologies. Depending on plans whose assumptions are no longer valid, largely operating on assumptions made in the past, is bad business, clearly. IT executives need to be serious about their research and development role, asking themselves questions such as

- What technologies have just emerged that neither you nor your competitors have thought much about that will become critical technologies tomorrow or next year?
- Do you have someone on your team investigating them?
- Is there a part of your IT strategy that makes space for such investigation?
- Do you have ties to the venture capital community, the start-up community, or both, so that you can develop shortcuts to these insights?
- Do any of the insights spark thoughts on new innovations that might be undertaken?
- Is your operation running well enough that you can afford to carve off sufficient time to undertake this work?

Pennell was actually brought on board the 2012 Olympic Organizing Committee before many of his colleagues, so IT had one of the longest lead times and Pennell put that crucial time to use. In its early days he developed a scope, a budget, and a full IT strategy, planting a stake in the ground, so to speak. He also made

sure not to drive it in so deeply that he couldn't move it later on. Facing four uncertain years, he had to keep it adjustable. To this end, he and his team noted hypotheses and assumptions embedded in the plans; thus, when the inevitable need for change occurred, agreement with his colleagues could be forged more easily, the new plans could be ratified, and execution could begin as soon as possible.

Pennell was deliberate about not seeking perfection in an early IT plan because, as he explained it, “The fixed time horizon drives IT leaders to be satisfied with proceeding after testing plans to 80% confidence. IT leaders have a tendency to want to get to 100%, but one gives up speed in the process.”² Perfect is unattainable, so seeking it out is a fool's errand, whereas developing a practical and implementable plan that the rest of the organization can get behind is a recipe for success. One should think of developing agile plans that can be tested, and as reality suggests that certain aspects of the plans are no longer valid, develop a new objective to pursue. This requires constant iteration with one's colleagues outside of IT. Hired ahead of many of his peers, and given how much was at stake once the Games began, Pennell had little choice but to adhere to such an approach.

The forced choice was a blessing. In most industries, the pace of change is not quite as fast and the stakes for any single two-week period not as significant as the two crowning weeks of the industry known as the Olympic Games. As a result, in many companies and industries, too often plans are constructed and then not revisited. As a result, they become stale and do not reflect reality. What is worse, they suggest that the CIO is not sufficiently engaging his or her peers and colleagues to identify when change is necessary.

Pennell had to continue to modify his plans right up until the final days (and in some cases hours) before the moment on July 27 when 204 petals of flame reached the cauldron of the 2012 London games. For example, on July 22, Bradley Wiggins became the first

British cyclist to win the Tour de France. Though cycling was to be a focal sport, there would be increased emphasis and pressure from the media on the initial road cycling events, leading to some operational challenges in technology.

It should also be noted that Pennell was not foolish enough to think he could accomplish all of this alone, or even that his team could do so without the aid of partners with deep expertise in the many areas that are essential to an Olympics. This meant developing solid processes for vendor segmentation, procurement, and management. It also meant that his team needed to have depth of expertise in project management, vendor management, and change management.

To my great pleasure (and probably to yours as well), Pennell's efforts did not go unnoticed. For his trouble, he was named an Officer of the Order of the British Empire, conferred upon him as part of the 2013 New Year Honours at Buckingham Palace. This might make more traditional awards bestowed upon CIOs seem a little less impressive, but it also demonstrates how extraordinary a job a CIO can do.

Gerry Pennell's accomplishments are at the heart of what this book hopes to facilitate for executives everywhere: developing IT strategies that anticipate and change in response to disruptions and that translate down to great implementation. This book is also about something more. It's about how IT can become a tremendous force for improving the strategic work of the company as a whole, as well as the company's other divisions, in ways that directly add to the net value of all.

If the Olympics seems like an inaccessible example to you, what about an example from the U.S. Federal Government?

Strategy, IT, and Public or Private Sectors

Some would guess that there is less of a need to create meaningful strategic plans in the public sector than in the private sector.

After all, the public sector does not exhibit the pressures of competition and the profit motive that the private sector does. When Vivek Kundra was appointed the first-ever U.S. Federal CIO on March 5, 2009, at a mere thirty-four years old, he had already been a government IT executive at the county, city, and state levels. He understood that when an executive first comes into office, people anticipate change and there is political capital to spend. That said, the window for enacting change does not stay open long; soon people revert naturally to old ways of doing things, especially in the government. As time goes on, cynics may even actively work against the change.

So just as Pennell felt the need to forge ahead without waiting on others, Kundra too had an acute sense of the need to step out in front with strategy and related ideas.

Developing a Federal IT Strategy

As Kundra put it, “You need to think about the results you want to achieve, and then develop the plan to get there. You also want to simplify things wherever possible. We did so by limiting ourselves to five areas of focus.”³

Those five areas were

- Ensuring openness and transparency
- Lowering the cost of government
- Focusing on cyber-security
- Developing participatory democracy
- Improving the capacity to innovate⁴

These focus areas are not expressions of mere technological capabilities. They are broad, strategic goals grounded in public priorities and values. This is exactly the sort of visionary, strategic thinking exemplified by other outstanding IT thinkers on behalf of their organizations. By declaring these five objectives, Kundra

could more effectively provide direction to his team, to the government complex more generally, and to the public. When new ideas were proposed, they were to align with one or more of these objectives.

Driving the Strategy Forward with Fresh Ideas

Rather than simply wait for the ideas to flow, however, Kundra had a number of them himself. For one, in May of 2009, two months after his appointment, Kundra announced the Data.gov platform, which was intended to provide public access to the raw data of the executive branch in order to foster public participation and private sector innovation. The idea stemmed from an initiative that he had undertaken in his prior role as chief technology officer of Washington, D.C. The site sought to become “a repository for all the information the government collects,” excluding data that is private and restricted for national security reasons.⁵

The next month, Kundra implemented what was called the Federal IT Dashboard, the purpose of which was to track nearly \$80 billion in IT spending, identifying waste and generating considerable savings. Agency and department CIOs’ pictures and names were listed next to each of the projects they undertook. As Kundra explained, “This was a level of transparency that had never been in place before, and a wonderful thing happened: people started to cancel projects within their IT portfolios, saving the taxpayer money in the process.”⁶ The fact that they did so proactively was all the better.

Having pulled off a number of successes in his first year on the job, Kundra developed new layers to his five-focus-area strategy. At a time when government agencies were not yet buying into cloud computing, Kundra understood the transformative nature of this model. At the end of 2010, he was given two months to develop a strategy on federal adoption of cloud computing as a means of controlling costs. Within that time, he published the

Federal Cloud Computing Strategy.⁷ Thus began a “cloud-first” policy across the government, which now serves as a model for government IT organizations around the world seeking to increase efficiencies with fewer resources.

Related to this strategy, Kundra developed Apps.gov, enabling government agencies to use cloud services related to major areas such as business intelligence, CRM, and collaboration.

Kundra’s plans were strikingly ambitious. He was not looking to make incremental change. In a powerful, newly created role at the commencement of a new administration, change was expected of him, and he delivered by linking the changes he sought to strategic objectives, which themselves were linked to the value he and the administration wanted to achieve. In the course of his work he laid out and followed the steps that CIOs (and *all* executives) should aspire to follow and that this book will reflect:

- He developed a vision and a strategy based on identified value and communicating it using simple, easy-to-understand terminology.
- He provided success metrics and milestones that he and others could track to gauge progress along the way (transparency was a key tenet).
- He identified the levers that could be pulled, and then developed projects that would help pull them.
- He documented touchpoints with the various agencies and departments where applicable, recognizing that he needed to “market” this plan and influence others in order to accomplish it. Although he had power in his new role, it was not absolute.

When Kundra was named *Information Week’s* Chief of the Year for 2009, then U.S. chief performance officer Jeffrey Zients noted in the profile of Kundra, “Across 20 years in the private sector, I’ve

worked with dozens of CIOs. Some are strong operators, and others are good strategists. Often times those two things are not correlated, and they're often inversely correlated. Vivek is in a league of his own, because he's both."⁸

The CIO: From Process-Centric to Strategic

The role of CIO has changed markedly. For a long time, the primary value of CIOs lay in directing the automation of processes. In so doing, CIOs would help the businesses that they served remove human error and save time and money in the process. After that, a second wave of CIOs engaged the rest of the company to develop process improvements. IT became a hub of experts in disciplines such as Lean, Six Sigma, kaizen, and others like these. IT added tremendous value by bringing process reengineering discipline to the company, making company operations more efficient. Of course, process-centric IT leadership continues, largely reacting to what is already in the organization and making it better rather than thinking about a new vision for what the company may soon need to become. CIOs who successfully led these initiatives harvested the low-hanging fruit. These were more tactical than strategic activities, on balance. There are changes afoot, however, as the examples of Pennell and Kundra should suggest. Still, even today many CIOs are not invited to be a part of the conversation when future vision is discussed.

Some of the best insights into the ever-changing role of the CIO come from people who lead companies that serve the CIO. Here are two.

The Need to Get Intimate

As president and CEO of Red Hat, the \$1.5 billion global provider of community-powered open source software solutions, Jim Whitehurst has a reason to speak with CIOs on a regular basis, and

has seen the evolution of the role as IT has become more core to a wider array of businesses. He says,

Most of the major business trends today have meaningful IT components to them, no matter the industry. As a result, IT needs to be much more woven into the planning process of the rest of the organization, or it will be left behind. In the past, it was appropriate for IT to pursue version 1.0 of a project, and then six months later to pursue version 2.0. Now that information is becoming more strategic, and IT is involved in so much more, the pace of change is that much greater. When business is moving faster than the pace of the IT department’s release cycles, IT needs to change. It requires that IT become much more agile, collaborative, and that it embrace service-oriented architecture.⁹

This requires that the CIO and his or her team achieve a level of intimacy with the rest of the organization far beyond what has been typical. IT leaders need to be involved in the strategy-setting meetings so that they hear when strategic priorities are changing. They need to have more business savvy to anticipate how changes in the competitive landscape or the marketplace could affect the strategic plans and therefore the IT priorities of the company.

Formal strategic planning is critical, but plans will change, and IT must be able to change its own plans quickly and assist the broader company to do so, on the basis of changes in reality. A plan is necessary but needs to be flexible. As World War I German field marshal Helmuth von Moltke the Elder said, “No plan survives contact with the enemy.”

Value: The Ticket to Ride

As the CEO of NetApp, a business-to-business enterprise, Tom Georgens has seen a growing number of CIOs who have come

to realize that the path toward increased relevance and inclusion of the CIO is for that person to demonstrate value on a par with other C-level executives. He says, “CIOs who wish to gain access to the CEO’s strategy-setting sessions and remain as a full-fledged member of that forum need to demonstrate how IT will create competitive advantage on a par with others who are at the table.”¹⁰

Fortunately, the means of doing so are better today than ever before. Georgens says, “Enabling the company to make better decisions and serve customers better is a competitive advantage CIOs can deliver.”

The invitation for a CIO to attend strategy-setting meetings with the rest of the executives of the company is not guaranteed; a first-time invitation does not mean that future invitations will come. The CIO must strive to communicate the enhanced value delivered through IT again and again, and engage the rest of IT leadership in so doing as well.

Georgens acknowledges that when he says, “Many CIOs take on their role with a mandate to cut costs. CIOs tend to be quite good at that. If they are not careful, however, they will be associated only with that single lever of value.” CIOs must push to be recognized as top-line contributors. The only way to do so effectively is to be more cognizant of how the company creates value, by garnering insights directly from customers (current and potential) whenever possible and devising solutions that will help the organization get to value more quickly. It begins with the CIO weaving him- or herself and the rest of the IT leadership team into the strategy of the company to a greater extent.

Greg Carmichael also sounds this note. Now president and COO of Fifth Third Bancorp, he was formerly the CIO of that company and of Emerson Electric Company before it. He rose to his current position from an IT role due to his ability to think about value to the business in a way not typical of CIOs. He says,

“Too many CIOs get mired in day-to-day firefighting.” He adds, “First, a CIO must think about simplification of technology to create space for his or her team to think about value creation. There is no value creation in firefighting.” Carmichael goes on to point out hierarchies of value that can be achieved:

To be truly strategic, CIOs need to think about how value is created. Many are good at cost cutting, but this is almost by definition a backward looking exercise—optimizing something that is already in place. This is not strategic. CIOs need to think about what future possibilities there are to leverage technology for new value and top-line growth. This is what differentiates the strategic CIO.¹¹

The Trends Are Good

Having worked with a great number of leading chief information officers across a wide array of industries and geographies, I am impressed by how much progress this community has made. The average CIO is shifting from reactive to proactive, from day-to-day operator to forward-looking innovator, from junior member of the C-suite of executives to a rightful peer to the rest of the executive team. As I have written elsewhere, two trends highlight these facts. First, CIOs are increasingly asked to take on responsibilities in addition to their IT duties, such as heading up HR, procurement, supply chain, innovation, shared services organizations, and more.¹² I have referred to this trend as the “CIO-plus.” The other trend is exemplified by Greg Carmichael—the CIO who goes on to become CEO or COO.¹³ The number one trait of executives who have made this rise is an ability to think about business strategy and business value first and technology implications second. This is still not the common way of thinking among IT executives, but the community of CIOs is making great progress.

Truly Strategic IT

Ensuring that IT aligns its activities to value-driven strategic imperatives requires it to have means of formulating, reviewing, and updating strategic plans. As I hope you will find through the examples of many great IT leaders throughout this book, as well as through the methodology described herein, there is a better way to do this, and the rewards for the CIO and for the companies that do so are abundant.

In the coming chapters, I will introduce a strategic framework that will help the IT leader not only formulate his or her own plans (the topic of Chapter Five) but also work with the heads of other divisions of the companies to better formulate theirs. This latter point may seem strange. Shouldn't the divisional leaders be responsible for their own plans without the need for the IT leader to get involved during the course of their formulation? Chapter Two provides an overview of why the CIO must get more involved, as both an offensive and a defensive measure.

Chapter Three provides an overview of how best to create IT mission statements. Missions are not used by all companies, to say nothing of all IT departments, but they help clarify the value that IT proposes to contribute to the company and the customers of the company. Especially in the absence of strong plans from the rest of the organization, an IT mission statement is like a flag planted in the ground for the rest of the organization to see and to comment on if necessary.

Chapter Four provides steps for the CIO to take in order to help the company and its divisions better articulate strategic plans. A variety of CIOs have done this so well that they have taken over the strategic planning process of the entire company. These CIOs lead the IT organizations of companies as diverse as \$1 billion Red Robin Gourmet Burgers to the \$2.5 billion chemicals company Olin Corporation to \$6.3 billion Great Atlantic & Pacific Tea Company (better known as A&P) to \$45 billion

agriculture behemoth CHS, Inc. In addition, in 2013, the CIO of \$15 billion Qantas Airways Limited became the chief strategy officer of the company. Note that none of these are explicitly IT companies the way Google or Intel are, and yet the value derived from having the IT leader responsible for strategy has been profound in each case.

Chapter Five provides an overview of how best for the CIO to sift through the plans of each of the other parts of the organization, determine how best to contribute to each, but then determine what IT-specific plans must be created as a result of that. For example, if there are mobility themes to multiple strategic plans of the company, IT must create its own plan to put together the right people, processes, and technologies to make those opportunities realities.

Chapter Six provides an overview of enterprise architecture (EA). EA is an important planning process that IT often leads, but that should be made transparent to the rest of the company. The strategic plans across the organization should translate into business architecture, data architecture, application architecture, and systems or IT architecture. The fit of the new into the old should be contemplated. Those things that create redundancy in the architecture should be retired or sunsetted. Most important, the EA must remain up to date, and aligning it with the strategic planning process is the way to ensure that it is.

Chapter Seven provides an overview on how best to review, refresh, and communicate plans. It is all well and good to create a strategic plan, but a plan is only as good as the company's ability to execute it. This requires clear and cogent communications that make it real for people at all levels of the company. It should also be disseminated quickly so that the entire division or company receives word nearly at the same time.

By the time you reach the conclusion of the book in Chapter Eight, you will have a comprehensive view of strategic planning, led by the CIO and IT executive team. Your company may be

more or less mature. This book has something for executives no matter the profile. You may read some chapters faster as a result of your division or company doing some of these aspects well already. Others may require lingering over to a greater extent. Either way, I hope you'll find that the path to demonstrably better IT and ultimately company performance lies in the methods I will describe.