The Enterprise Digitalized

George Westerman
MIT Sloan Initiative on the Digital Economy
On leading digital change
Page 78

Michael Nilles
CIO, Schindler Group
On digitally transforming the enterprise
Page 8

Straight Talking from CIOs
On risky career moves, data-driven decision making, and a new formula for IT success

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Content

Special Section

The Enterprise Digitalized
A Holistic Approach to Digital Transformation

08 Anatomy of a Transformation
Michael Nilles
CIO, Schindler Group

28 Enabling a Culture of “Ideapreneurship”
Manoj Kumbhat
SVP and CIO, HCL Technologies

16 From Culture to Customer
Andy Weir
Chief Executive, Enterprise Services, and CIO, Bankwest

34 How to Become Agile, Without Making a Mess
Orsolya Sekerka
CIO, Digi Telecommunications

22 Transformation at the Core of Your Business
Torben Høeg Bonde
SVP and CIO, Vestas Wind Systems

07 A History of Digitalization
Issue Number 7

Straight Talking

40 A New Formula for IT Success
Dave Williams
CIO, Merck Animal Health

46 From Intuitive to Data-Driven Decision Making
Hugh Banister
CIO, Santos

52 The ROI of Taking Career Chances
Larry A. Pickett, Jr.
VP and CIO, Purdue Pharma

58 The Excitement of Leading Transformative Change
Ursula Soritsch-Reiner
CIO, Sulzer

64 Fostering Incremental Innovation to Drive Business Value
Paul Cassidy
Head of IT Strategy, Shire Pharmaceuticals

70 When the Regulators Have a Say in IT Governance
Len De Villiers
Group CIO, Telkom South Africa

Big Thinking

Leading Digital

78 George Westerman
Principal Research Scientist, MIT Sloan Initiative on the Digital Economy, and co-author of Leading Digital: Turning Technology into Business Transformation
Something Old, Something New

“Digital” may seem like the Next Big Thing. But the concept of digital (an adjective that has been pressed into service as the shorthand name for digital transformation of the enterprise) has been around for years. A popular business book in 2000 was *How Digital Is Your Business?* – this, back in the days of *Who Moved My Cheese?*

What’s new is the way companies are beginning to carry out the idea of “going digital.” After more than a decade of plug-in solutions and tactical moves prompted by new technology rather than business needs, businesses are realizing that digitalization requires a holistic approach.

In the lead article of this issue’s special section, Michael Nilles, winner of the 2015 MIT Sloan CIO Leadership Award, describes how Swiss elevator company Schindler wove together numerous digital initiatives to create tremendous value for the company and its customers. We hope that this and other articles in the section – including one by HCL’s own Manoj Kumbhat – offer insights that you can apply in your business.

Such peer-to-peer sharing of professional insights is the raison d’etre of a new Straight Talk forum for senior executives responsible for digital transformation in their organizations. The Digital Straight Talk community will live on the new Straight Talk online portal, -- *www.straighttalkonline.com* -- along with the CIO and CTO Straight Talk communities, which are migrating there after several years on LinkedIn. We encourage you to check out all three groups at *www.straighttalkonline.com/community*. (To ensure that conversations in these groups are at the highest level, membership is limited to CIOs, CTOs, and other CxOs and Director-plus executives.)

Finally, in response to input from readers, the CIO Straight Talk logo has been given a new and more contemporary look. One thing that won’t change is what the logo stands for – the candid exchange of insights among senior technology leaders, whether in the magazine, online, at events, or in one of the vibrant Straight Talk communities.

Paul Hemp
Editor-in-Chief
CIO Straight Talk
BRING YOUR BUSINESS ALIVE

The internet of things can create significant new value for your enterprise. We at HCL look beyond smart machines & devices and help businesses leverage the ecosystem of connected networks to generate unmatched value for their customers.

IoT WoRKS by HCL - Delivering end-to-end IoT that truly works!

To request a complimentary IoT roadmap workshop, write to us at iot@hcl.com
A HOLISTIC APPROACH TO DIGITAL TRANSFORMATION
Amid the frenzy of the dot-com boom, some strategy experts urged established companies to look beyond the reactive one-off moves that were typical of the time. Instead of scrambling to create an e-commerce site or a killer software app or a separate e-business, the incumbents were encouraged to use new digital technologies to transform their very business models, which would enable them to compete with their emerging born-digital competitors.

Fifteen years later, it is surprising how many established companies continue to view digitalization in terms of plug-in solutions and tactical moves prompted by new technology rather than business needs. But if an established company wants to be truly “reborn digital,” what does that involve?

At the least, it means replacing a piecemeal approach with a comprehensive digital strategy. That strategy – built on but not defined by technology – should encompass multiple mutually reinforcing digital initiatives. These initiatives will span traditional organizational silos, run the entire length of numerous value chains, and even extend beyond the organization.

This coordinated leveraging of digital capabilities should create a compelling and unified experience for users all along one of the various value chains – not just customers but also employees, suppliers, and partners. In the 21st century, the user experience, as much as the product or service, is the key driver of business success.

This kind of holistic approach to digitalization will in fact transform your organization and most likely your business model, just as the strategy gurus were advocating nearly two decades ago.

Keep in mind, though, that transformation, so often held up as the Holy Grail of modern business, is not an end in itself. It is a means to reducing costs, increasing revenue, and opening up new business opportunities.

In the articles of this special section on digitalization, CIOs share their experiences with and lessons learned from one or more elements of enterprise digitalization.

Andy Weir, CIO and Chief Executive, Enterprise Services, at Australia’s Bankwest, describes how using digital technologies to create an enhanced customer experience has required a makeover of the traditional culture of technology teams. Torben Høeg Bonde, SVP and CIO of Denmark’s Vestas Wind Systems, tells how digitalization is remaking Vestas, from a product to a service company. Manoj Kumbhat, SVP and CIO of HCL Technologies (the publisher of CIO Straight Talk), explains how the company has gone beyond the usual digital initiatives involving employees – for example, equipping them with mobile apps that improve efficiency – and has created a portfolio of digital tools that enable and foster grass roots innovation. Orsolya Sekerka, CIO of Malaysia’s Digi Telecommunications, recounts how Digi’s IT function was reconfigured in order to effectively support the company’s digitalization program.

And leading off the section is Michael Nilles, CIO of Switzerland’s Schindler Group and recipient of the 2015 MIT Sloan CIO Leadership Award. Nilles offers an account of Schindler’s comprehensive digitalization program, which has transformed the company’s products, processes, employee effectiveness, and customer interactions. Rounding out the digitalization package is a timeline of digitalization milestones.

The issue also includes a “Big Thinking” interview with George Westerman of the MIT Sloan Initiative on the Digital Economy and the co-author of Leading Digital, which focuses on the ways that CIOs and others can effectively lead digitalization programs.

One caveat: The articles in this package are only snapshots captured at a certain point in time. Because digital technology evolves so quickly – a rule of thumb puts the shelf life of a technology innovation at around six months – digitalization must be a continuous journey. As you roll out new digital capabilities that allow you to move forward along the path of that journey, you are simultaneously rolling up from behind you yesterday’s new capabilities, now outdated. The process of digital invention and reinvention never ends.

Digitalization is hardly a new idea. Claude Shannon, in “A Mathematical Theory of Communication” in the Bell System Technical Journal, writes: “If the base 2 is used [for measuring information] the resulting units may be called binary digits, or more briefly bits, a word suggested by J. W. Tukey. A device with two stable positions, such as a relay or a flip-flop circuit, can store one bit of information.”
In his notebook, Claude Shannon estimates the storage capacity of a number of items: punch card, about $10^3$ bits of information; single-spaced typed page, $10^4$ bits; the “genetic constitution of man,” about $10^5$ bits (this, four years before the discovery of the double-helix structure of DNA); the Library of Congress (about the largest repository of bits imaginable), $10^{14}$ bits.
The recipient of the 2015 MIT Sloan CIO Leadership Award describes how a comprehensive adoption of digital capabilities in multiple parts of the business transformed Schindler, a 140-year-old elevator manufacturer.

A few years ago, Schindler had just completed a successful transformation process. The company, with 56,000 employees in more than 100 countries, went from being a decentralized federation of national businesses to a globally integrated enterprise.

For starters, we had rationalized the IT function, retiring outdated legacy systems and consolidating our infrastructure and data centers. This enabled the next big initiative – we call it operational excellence – which led to a massive business process overhaul that optimized our entire internal value chain, everything from finance to supply chain to product installation to service.

Achieving operational excellence across the organization had created a strong global platform while simultaneously allowing us to remain ultra-local for certain functions. For example, Schindler has more than 1,000 service centers worldwide, which allow us to stay extremely close to our customers.

What we had achieved was remarkable, and we might have stopped there. But we realized that, in the mid-term, some of our competitors could replicate what we’d done. In fact, some were already beginning to do just that. So we asked ourselves, “How can we make a really big difference?” The answer was that we needed to evolve into what we call a leading-edge digital business.

And that meant taking a broad view of the challenge.

From the very first day, we said, “It’s not just about developing an app for our people in the field. It’s not simply about the Internet of Things or even the ‘Internet of Everything.’ And it’s not really about technology. It is about developing a fundamental, long-lasting, game-changing business model” – what we came to call our Integrated Digital Service Platform.

People will often come up to us at a conference and say, “We’re trying to become more digital. We have this initiative or that initiative. How did you do it?” We tell them the most fundamental requirement is to look comprehensively at your business. You can’t just drive the technology initiative; you have to really think about how you can substantially improve your business model, or disrupt it altogether from a completely new angle. To take full advantage of new digital technologies, you need to take a holistic approach.
Our digital reinvention has four pillars: our customers, our products, our employees, and our processes. But don’t mistake these pillars for silos. Making each of the four areas “smarter” through new digital capabilities synergistically increased the “intelligence” of one or more of the other areas.

The program has been tremendously successful and it has yielded significant business benefits for Schindler. But this isn’t the end of the story. As we said after we had been through our operational excellence initiative, “What needs to be done next?”

THE FOUR PILLARS

Our slogan at Schindler is that we move 1 billion people a day on our elevators, escalators, and moving walkways. That’s one-sixth of the world’s population, and so we have a big responsibility. Our mission is to ensure the safety and reliability of that vast system. Doing so not only benefits the passengers using our products but also increases customer satisfaction and thus drives revenue growth. Our digital transformation has helped further that mission in four aspects of the business.

Superior Customer Experience We asked ourselves how our digital service platform could enhance the experience of our customers – in our service business, typically the facilities managers of one or more buildings. One of the worst things that can happen for the facilities managers of, say, a big retail store chain is an elevator being out of service. Not only is it inconvenient for the store’s customers but it also can put a dent in sales by hindering shoppers’ ability to move from floor to floor.

In the past, it could take several hours before the facilities manager was even aware of this problem. It sounds hard to believe, but think about it: When you’re in a store and an elevator isn’t working, you assume the problem has already been reported by someone else. It is usually hours before someone finally tells the front desk or a supervisor and news of the problem reaches the facilities manager.

We had earlier created a web portal for our customers called Schindler Dashboard, which provided them with, among other things, the status of their elevators and alerted them when one wasn’t working. In talking with customers about this, we learned that, while they liked the portal, they were often away from their desk as they traveled through a building or between sites. They told us, “I’m on the move a lot of the time and I want to be alerted to problems as soon as they happen.”

So we recently unveiled the Schindler Dashboard mobile app. It provides the facility manager real-time operational status of all his elevators; allows him to make service requests; and regularly notifies him of the status of repairs, including whether the service technician is already in transit or onsite and when the equipment is expected to be back in operation. With all this information on his mobile phone, the entire process is for him nearly hassle-free.

Smart & Connected Products Of course, if a facilities manager is to receive real-time notification of equipment breakdowns, you can’t rely on shoppers or employees to report a problem. So information on the operational status of all his elevators is now communicated directly from the equipment to the Schindler ecosystem, including the Schindler call center, the dispatched Schindler service technician, and eventually the facilities manager. When there is a problem, everyone knows about it.

The products report much more than breakdown alerts. For example, our elevators now include sensors that anticipate possible future problems, which allows us to do predictive as well as regular maintenance. This remote condition monitoring of potential problems has
Michael Hart launches Project Gutenberg – whose aim is to make copyright-free works electronically widely available – by entering the text of the U.S. Declaration of Independence into a University of Illinois mainframe, creating a 5K file.

Pulsar, the world’s first all-electronic digital watch and the first to use a digital display, is launched.

Schindler Group provides its service technicians with a digital toolkit contained in each person’s iPhone. The toolkit is linked to a mobile dashboard provided to customers, which shows the status of each elevator and escalator overseen by a customer’s property manager.
The Change Factor

An initiative on the scale of our digital transformation program represents a huge change for an organization. Managing it requires an appreciation of three factors affecting this kind of change.

The first, which often comes into play with digital projects, is the traditionally strong functional focus of most organizations. An initiative like ours will span organizational boundaries and integrate the activities of numerous functions – a business line’s service function, R&D, IT, and Supply Chain, for example – and requires their support. To encourage this, we empowered cross-functional teams and actively promoted what we dubbed Schindler’s “unity of effort.”

The second factor is the willingness and ability of the workforce to change what they do. In our case, we needed some 20,000 service technicians to suddenly become digitally savvy. Most hadn’t previously owned a smart phone, and we expected moving them from pencil and paper to a digital platform would be a tremendous challenge. But they surprised us. With training, 60-year-old technicians were excitedly showing off the digital toolkit we created for the iPhone to their children and grandchildren.

The third factor influencing change management is the IT function itself. The traditional IT organization focuses on standardization and developing perfect solutions, which can take months or even years. But for the digital platform initiative, IT needed a new mindset – agile, risk taking, focusing on speed as much as perfection. So we formed a separate legal entity, Schindler Digital Business, which is an incubator for speedy innovation.

The digital tool kit for our service technicians exemplifies the Digital Business startup’s speedy and agile approach. The first release came just six months after work began and, although it didn’t have 100 percent perfect functionality, it offered a tremendous user experience. The last, say, 20 percent of functionality was added in the second and third releases.

significantly improved elevator uptime.

But digitizing our products has involved more than simply connecting them over the Internet of Things and reading the data they generate. It involves actively analyzing the data and making use of that analysis. So, for example, the predictive maintenance data isn’t used simply to anticipate problems. We use it to calculate the spare parts that service technicians covering a specific region will need to have with them in their cars on a given day, as they travel from site to site.

Smarter Employees Smarter products don’t only improve customer service and satisfaction but also the day-to-day experience of the technicians providing that service.

Schindler’s 20,000 service technicians are part of the ecosystem of people who receive initial alerts transmitted directly from elevators when there is a service issue. No longer does the facilities manager have to call the Schindler call center, which then calls the technician and tells him to report to a certain location. The technician may already be on the way to a building when a facilities manager becomes aware of the problem – information that appears on the facility manager’s Schindler Dashboard mobile app.

Furthermore, as we have seen, a service technician responding to a call often will have the right replacement parts in his vehicle – something we’ve gotten much better at predicting in the past two years, as the algorithms have improved based on experience. Think how crucial this is to the time-critical task of bringing an elevator back into service. In the old days, a technician would evaluate a disabled elevator, determine the part that he needed, and head back to his office to get it. In cities, he likely would have faced lengthy traffic jams as he was on his way to retrieve the part, while the out-of-service elevator remained idle.

Of course, with our new digital capabilities, the technician may not need a spare part at all. Predictive maintenance will have meant that a technician has replaced the part on a previous, regularly scheduled maintenance visit already.

Whatever the scenario, the service technician is now equipped with a mobile toolkit when he arrives on the scene. It is very small and quite light – because it is contained in his iPhone! This digital toolkit contains
a library of general and specific information that is immediately relevant to a technician on a service call: technical specs and diagrams of the different elevator models, a spare parts catalog with ordering system, the service contract covering the equipment at this location, information about the customer. Perhaps most important is that our remote monitoring of the elevator and analysis of data generated by the sensors means that the technician will also find in his toolbox possible causes of the problem. It might suggest that, say, spare part 4711 is the most likely cause of the problem with the door and provide him with repair instructions if that turns out to be the case.

To aid in trouble-shooting, the technician can use his iPhone as a diagnostic tool, connecting it to the elevator control panel with a cable or via Bluetooth. This allows him to see the error log, make setting adjustments using the touchscreen on his phone, and, once the repair is made, run a test on the elevator. When finished, he can move on to his next job, referring to his daily job list, also on his phone.

**Smart Processes** By processes I don’t mean traditional processes, such as supply chain planning, that are governed by ERP systems. I’m talking about processes that are enabled by the comprehensive adoption of digital tools and the use of smart digital algorithms. To cite just one example, we worked with the Fraunhofer Institute, a large research organization, to adapt an algorithm they developed for airfreight route optimization for use with our service technicians. The aim is to calculate the best route for a service technician to take from one service job to another. And the algorithm doesn’t just take into account distance and time; it also integrates such factors as the type of the equipment being serviced at a particular site, the kind of service required, and the expertise and skills needed to provide that service. Consequently, the fastest and most efficient way to get an elevator back in service may involve sending a service technician who isn’t the closest technician to the site. Optimizing service routes in this way and providing technicians with immediate access to relevant data on their iPhones has had astounding consequences, eliminating roughly 40 million driving kilometers by our service technicians, and thus preventing nearly 4,500 tons of carbon emissions per year.

**The “Fifth Pillar”** While not an element of our Integrated Digital Service Platform, we haven’t forgotten the party who is perhaps the most important beneficiary of a superior digitally enabled experience – the passengers riding Schindler elevators, escalators, and moving walkways.

Our new PORT (Personal Occupant Requirement Terminal) Technology, developed by our Transit Management Group, both optimizes elevator usage within a building, leading to significant energy savings, and personalizes elevator service. For example, the passenger’s use of a programmed access card automatically customizes the elevator ride to her needs, whether it be a longer door-open time for a disabled passenger or an automatic stop at a tenant’s floor. Or, during off-peak hours, some elevators in a building are put on standby to save energy, without substantially increasing waiting times.

In the case of one PORT Technology feature recently launched in China, an app on an individual’s phone takes the place of the access card. This means that the passenger, immediately upon entering a building, is directed to an elevator programmed to stop at the correct floor. A building resident can provide a similar experience for an expected visitor, by sending a coded message to the visitor’s phone before he arrives.

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**The elevator service technician’s toolkit is very small and quite light – because it is contained in his iPhone!**
Who Leads the Change?

It’s a frequently asked question these days: Who will drive our digital initiatives? This often leads to a follow-up question: Do we need a Chief Digital Officer? And there’s sometimes a further question, one that rightfully worries many CIOs: Do we still need a Chief Information Officer?

My answer to those questions: The title doesn’t really matter so long as you have one integrated organization driving digitalization. What you don’t want is two separate functions, one headed up by a CDO and the other led by the CIO. That will result in a non-integrated approach that precludes a comprehensive strategy like the one I’ve described.

So is the CIO well-positioned to take the lead? The problem is that, in many cases, the CIO is associated in people’s minds with the two phases we went through at Schindler before our digital initiative. The first is IT rationalization, which is obviously something CIOs are expert in. The second is operational excellence, optimizing your internal business processes. In recent years CIOs have gained a lot of credibility in this area, too, as they’ve overseen global reengineering projects.

But when it comes to leading the third phase – digital – where you’re transforming the business model with really disruptive innovation, most executives don’t see the CIO as being the right person for the job. This isn’t because IT is the wrong function to lead this change but because many CIOs aren’t personally viewed as an innovation-leader, driving-change, risk-taker type of individual.

And if the CIO isn’t this kind of person, I’d argue that he or she shouldn’t be in the CIO role. That’s because, ideally, the CIO role will evolve to include responsibility for the digital transformation.

THE PILLARS INTERTWINED

The adoption of our Integrated Digital Service Platform has been a massive undertaking, and it has produced significant business benefits, including improved customer satisfaction levels. So what sort of advice can I share from our experience?

For one thing, our earlier operational excellence initiative provided an absolutely necessary foundation for our digitization initiative. I think in a traditional industry like ours, many companies don’t yet have that operational excellence piece in place, which would limit the effectiveness of their digitization projects.

There’s an echo from the year 2000 here: A company would say, “We need an e-commerce site,” they would create one, a customer would place an order on the site – and the internal sales team would then print it out, go to the office next door, and retype it into the existing order system.

Another crucial takeaway is something we knew but that was underscored by our experience: A digitization program needs to be comprehensive rather than piecemeal because its various elements are interconnected and therefore can reinforce one another. You might say that the four pillars of our digital platform initiative weren’t freestanding but were “intertwined.”

One goal of the program was to provide quicker response to service requests. In the past, a facilities manager with an elevator out of service would contact our call center, and the call center would try to find a technician available to take the job. But the service center wouldn’t know who was where. People would be occupied with an existing service call. Some technicians might even be out of cell phone coverage.

Clearly, using smart phones to link our service technicians with the call center would help, as would the detailed information about Schindler products that could be loaded onto the phones.

But simply giving our service technicians iPhones so that they’d always be connected and have troubleshooting information at their fingertips wasn’t enough. We needed to integrate this digital solution for our employees with the digital solution we had created for our customers, so that technicians and

In the movie Tron, Jeff Bridges plays a computer programmer who is digitized by an experimental laser into a mainframe where programs are living entities appearing in the likeness of the humans that created them.

The first commercial compact disc, or CD, is produced, a 1979 recording of Claudio Arrau performing Chopin waltzes.
THE TAKEAWAYS:

• Digital transformation isn’t about technology, it’s about looking comprehensively at your business with the aim of enhancing or reinventing your business model. Too often, people mistake discrete digital initiatives – developing a tremendous customer app, for example, or integrating your products into the Internet of Things – for digital transformation.

• To take full advantage of new digital technologies, you need to take a holistic approach. That’s because when digital capabilities are adopted across functions or along an entire value chain, they synergistically reinforce each other and generate benefits that extend beyond the area of their immediate application.

• A digital transformation program represents a huge change for an organization, and managing it requires an appreciation of three factors affecting this kind of change: an organization’s functional focus, its workforce, and the IT function.

customers, along with the service call center, would all be aware of service issues as they arose and kept up to date on our service response in real time.

Even more important to transforming the service model, we needed to integrate with this digital solution for customers and technicians the data generated by our digital solution for products – and not just data, but our analysis of that data. This analysis of the data generated by individual elevators would provide a technician with diagnostic information about the particular equipment he was working on. And in many cases, it would ensure that the parts he needed to fix a problem were already in his vehicle.

This last step – analyzing the data you collect from products over the Internet of Things – is one that many companies have yet to take. But from the beginning we said, “If we get this data out of the products, then we need to make useful process information out of it.”

So we needed a comprehensive digital platform not just because it covered all the bases but because the integration of the different elements yielded benefits we wouldn’t realize if they had been treated separately. That’s what made our initiative a real game changer for us.

My final bit of advice: When you have completed an initiative like ours, ignore that satisfying but misleading sense of completion. What seems like completion is only a milestone on the digital transformation journey.

1.4% of U.S. adults use the Internet.

Whole Earth’s ‘Lectronic Link (WELL) established, one of the first “virtual communities.”
PROFESSIONAL BACKGROUND: Andy Weir has 20 years of leadership experience at financial institutions in Europe and Australia. In his current role at Bankwest, Australia’s 5th largest bank, he is responsible for setting and driving organizational strategy, technology, operations, and change management. He has headed Bankwest’s successful national retail expansion program, the integration program following Bankwest’s acquisition by Commonwealth Bank of Australia, and numerous other initiatives. A member of the Bankwest Executive Committee, he is a key partner to the bank’s divisional heads. Before joining Bankwest in 2006, he spent 10 years leading change initiatives for the Halifax banking group in the U.K.

EDUCATION: MBA, Strategic Management, University of Bradford
From Culture to Customer

Digital technology is becoming the most important element in giving customers the experience they want. But for corporate technology teams to drive this change, the function’s traditional culture needs an overhaul.

We are entering a world in which customer experience is becoming the key competitive differentiator. This shift from pricing and product to customer experience – the where, when, and how of customers interacting with an organization – is driven in part by the expectations of the post-Gen Y generation of “digital natives.” And it is changing the way we do business in banking and financial services – indeed, in almost every industry.

In financial services, the impact of this major change in customer expectations is compounded by the change in our competitive landscape. Competition is no longer simply other banks and financial service providers. It’s the Googles and the Amazons and the Facebooks that are encroaching upon traditional banking functions. It’s also competitors we’re not even aware of yet – four people in a garage coming up with an innovation that isn’t even on our radar.

In light of the incredible challenge we face to keep up with people we don’t know, we focus on those we do know: our customers. So delivering a differentiated and world-class experience to our customer is a strategic priority of paramount importance.

That means making sure we’re thinking about every interaction the customer has with us and every perception that contributes to the customer’s feelings about us—from big components, like what they think about the products and services we offer, to the tiniest detail, like the language our colleagues use when speaking to a customer and to each other.

It’s less about what our competitors are doing and more about what matters to our customers. Our purpose at Bankwest is to help people achieve what matters today, and for generations to come, so our aim is to design and deliver an experience for customers that will keep them from going elsewhere for their banking needs – and that will attract new customers, as well.

To do that, we need to understand our target customer segments better than anyone. And that requires a change in traditional technology culture.

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1992
Tim Berners-Lee posts the first photo uploaded to the Web, showing the all-female parody pop group Les Horribles Cernettes (LHC), comprising four of his colleagues at CERN, home of the Large Hadron Collider (also LHC).

1993
O’Reilly Digital Media group launches the Global Network Navigator (GNN) — the first commercial web publication and the first web site to offer clickable advertisements.
ON THE CUSTOMER FRONT LINES

Technology teams have a central role in delivering a superior customer experience. As customer preferences move increasingly toward the digital, the importance of technology grows. The technology organization can no longer afford to sit in the back of the value chain. We need to be out in front, influencing and shaping and devising the organization’s strategy.

That requires me to carefully consider how to connect the value-creating people in my organization directly to the customer, rather than through layers of bureaucracy and structure. And it means evolving the conventional technology team skill set from a centralized, back-office approach to performing in highly collaborative, fast moving, customer-focused work groups.

The technology function must change from a siloed service provider to a trusted partner. The distinction between business and technology is outdated.

Technology is the business and the business is technology. We have to work with business to set one strategy collaboratively, to figure out together where and how we want to win. And we no longer can do that on an annual basis. We need to do that kind of environmental analysis every single month and continually refine and update our strategic direction.

Design thinking is a critical component in our technology area. We’re working proactively and continuously with the bank’s customers to develop, deliver, refine, and adapt our products and services. Members of our technology organization have taken to Facebook and Twitter to ask customers directly what features they’d like to see next in our mobile phone app, for example.

Of course, there is so much going on in the customer-oriented technology space that it isn’t easy to keep on top of it all. So instead of trying to stay on top of everything, we take an opportunistic approach, partnering with organizations that, when the chance arises, can help us leapfrog ahead of rivals with technology-enabled innovation.

Not every start-up is trying to take over the financial services space, and many of them are eager to partner with an established company like ours in particular domains. We are expert in designing the customer experience, but there are a lot of organizations that can help us develop the capabilities we need in order to deliver it.

“ This shift from pricing and product to customer experience – the where, when, and how of customers interacting with an organization – is changing the way we do business. ”

Teradata has the largest commercial database at 10 terabytes.

A large pepperoni, mushroom and extra cheese pizza from Pizza Hut is ordered online, possibly the first transaction on the Web.
REMAPPING TECHNOLOGY TEAMS’ TRADITIONAL CULTURE

To embrace this customer-focused role, technology teams need to find new ways of working—to change the traditional technology culture.

We need to adopt the digital disrupter mindset. That’s what differentiates a start-up organization from a traditional company, and it’s important to embrace that kind of culture here—one with high levels of collaboration, few boundaries, and a deep fixation around understanding what matters most to customers.

For example, we schedule regular “Hack Days” in which our colleagues get to take 24 hours off from their regular work to focus on developing ideas that will resonate with our customers. Our first mobile app was the product of one of those Hack Days. That whole idea was developed in a day. We’ve had some 50 ideas developed through that process that have worked their way into production.

We also have embraced “agile development”—building products and services in a rapid and responsive way and improving them with new iterations over time. But approaches like these work well only if you have the right cultural foundation and the right level of obsession with the customer.

We started with the basics. We got rid of time sheets. We rebuilt our physical headquarters as an activity-based workplace, literally tearing down the walls between functions and departments and individuals. We looked for different profiles in our leaders and managers. We reexamined how we recognized and rewarded our professionals to make sure we were encouraging not just traditional technical skills but also the kinds of cultural changes we wanted to make.

In our Enterprise area, for example, people used to be recognized and rewarded based on typical service levels, such as system uptime or on-time delivery of a project. Now our technology professionals are rewarded based on business outcomes, such as the value we deliver to the customer.

We also focus on simplifying our work environment. Financial services organizations are complex. So we encourage our technology colleagues to focus on what they can do to simplify what we have.

“We need to adopt the digital disrupter mindset and embrace that kind of culture—high levels of collaboration, few boundaries, and a deep fixation on what matters most to customers.”

A company culture can’t be reinvented overnight. It is the sum of many small things that are hard to quantify but come together to shape the culture. This means that we strive for iterative, systemic change. While not as dramatic as some big mandate about how we’ll immediately change the way we think and work, this kind of change is more sustainable because it comes about gradually and steadily.

When it comes to having a meaningful impact on the customer experience, it’s not about introducing some new technology or implementing a specific project. It’s about creating a new culture and transforming the way the organization works.

When you’re a start-up, you’re blessed with a blank sheet of paper from which to create that kind of culture. But at an established financial services business like ours, we start with a legacy culture that needs to be transformed. It is much tougher to adapt with what you have. That’s why, frankly, this work never ends. It’s a relentless journey.

1994
HotWired is the first web site to sell banner ads in large quantities to a wide range of major corporate advertisers.

1995
The Pew Research Center finds that 14% of U.S. adults are now online; 42% of U.S. adults have never heard of the Internet.
THE TAKEAWAYS:

- The new generation of “digital natives” is changing the business of banking and financial services—and practically every other industry too. The focus has shifted away from pricing and product to enhancing the customer experience, which requires a thorough understanding of your target customer.

- Bankwest schedules “Hack Days” in which employees put aside regular work for 24 hours to focus on ideas that will resonate with target customers.

- Because technology teams play a central role in delivering superior customer experience, the nature of the technology area needs to shift fundamentally within organizations. Companies must allow tech teams to work as trusted partners with the rest of the organization as they set one strategy, collaboratively, every single month—not just annually.
A UNIVERSE OF POSSIBILITIES.

Technology is changing rapidly. Blink and you’ve missed it. That’s where HCL comes in. We’ll take you to the leading edge of business technology by orchestrating experiences across the value chain; to a place your competitors can only dream of. And we’ll do it in a way that makes sense for your business.

High Tech with Human Touch. That’s the BEYONDigital way.
Torben Høeg Bonde heads the Global IT function at Vestas, a world leader in the manufacture, installation, and servicing of wind turbines. He joined Vestas in 1999, when the IT department consisted of 12 employees, all located in Denmark. Since then, he has steered Global IT through a merger, through major growth that peaked at 850 IT employees, and through a significant reduction of IT spending and staff. Today the Global IT function is highly outsourced, consisting of 350 IT professionals around the world. Bonde, who was named Denmark’s CIO of the Year in 2011, has recently overseen a global SAP roll-out and is preparing Global IT for a future of digitalized customer offerings.

**EDUCATION:** Master’s degree in Marketing and Business Science, Aarhus University, Denmark
Transformation at the Core of Your Business

Digital capabilities can do more than change the way you do business. They can change the business itself.

There is not an IT leader in the world today who isn’t focused on digital transformation in one form or another. Here at Vestas, we are in the midst of a singularly fundamental change – using digital technologies to transform our very business model and value proposition. We are evolving from a company that makes very sophisticated hardware (the wind turbines that we have sold and installed in more than 70 countries) into a sophisticated service provider.

A PARALLEL TRANSFORMATION

In some ways, our transformation at Vestas parallels the change that has occurred in the IT industry in recent decades.

When I started in IT, everyone had to buy supercomputers. They were sold by just a couple of companies. And they were marketed based on their capabilities—CPUs, performance, and availability, for example. Today, you hardly think about the servers anymore. They’re more or less the same across brands—they may even be made at the same factory. The differentiator today is the software and service that the vendor provides with that hardware.

That has meant that IT needs to be much less technologically and operationally focused and much more business focused – even when the company’s business model remains unchanged. You still need to deliver administrative IT tasks, but you must also step in with your experience and competency to help lead the business in what is a more customer-oriented space. And that means changing the nature of the IT function, ensuring that it has the people, processes, and technology that work in lock-step with the business.

We have had to carry out such changes while continuing to support a business in high-growth mode. Now we’re looking at changing the very nature of that business.
A BIG DATA OPPORTUNITY

There is more sophisticated technology in our product—the wind turbine itself—than ever before. There have been sensors in our turbines for as long as I can remember. In the beginning, they monitored very basic information like temperature that could assist the workers who might service the product. Our new models run SCADA (supervisory control and data acquisition) software to monitor and control individual turbines remotely. We are in contact with 27,000 turbines, with 1,300 sensor points in each. Every ten minutes, data is sent from those machines to our data repository. Those petabytes of data, combined with additional information like service history, enable us to be more proactive about maintenance.

But that big data also presents a big business opportunity for us. Five years ago, we began exploring how we could use that data to provide more value-added services for our customers. Today, it’s something we’re incorporating into our future business strategy. For example, it’s critically important to our customers that turbines run when the wind blows. If we can service that turbine when the wind is not blowing, we’re helping to optimize their business case. By combining data related to the turbine with weather data, we can schedule service visits in a way that reduces or eliminates expensive downtime. We’re currently looking at all the ways we can take the data we’re already collecting and combine it with our information to bring it back to our customers as a value-added service, something that goes beyond simply manufacturing the product.

GIVING CUSTOMERS WHAT THEY WANT

One of the biggest challenges in developing this new services business is figuring out where the business value actually lives. We have endless data around which we could build new offerings. There has been no shortage of ideas about that within our organization. But the question is, what are the things that the customer will really value? The only way to answer that is to go out and ask them. Often our customers haven’t even considered these types of service offerings—they didn’t even know they were possible. So you have to sit down with them and start a dialogue about what potential they see in this data. As an organization, that means we must have new capabilities. We need more than the mechanics and engineers that have been building and selling turbines for the last 30 years.

Like many other manufacturers, we focused for years on creating physical machines that a customer would buy. As those machines have become more

“IT needs to be much less technologically and operationally focused and much more business focused – even when the company’s business model remains unchanged.”

“Currently looking at all the ways we can take the data we’re already collecting and combine it with our information to bring it back to our customers as a value-added service, something that goes beyond simply manufacturing the product.”

1998

Microsoft patents ones and zeroes, says The Onion.

1998

The Last Broadcast, the first feature-length movie shot, edited, and distributed digitally, is delivered via satellite download to five theaters across the United States.
commoditized, we’ve changed our approach. Selling the machine is just the entry point. What really makes a difference is how you transform that into a service relationship. Because we’re a relatively young industry, we are a bit behind in that respect, because we had to go through the early stages of the lifecycle to get there.

**AUTOMATE AND COLLABORATE**

Within IT, we’ve had to further rethink the way we operate. We have reevaluated and determined what will be core competencies for us going forward and have outsourced everything else to strategic partners. We don’t need to have our own people performing detailed application development or support.

Internally, we have created a new operating model that enables a closer connection with the business. We have focused on engagement managers, architects, and subject matter experts who can work hand-in-hand with the business to define their needs. These people must be business savvy and capable of having high-level conversations in the language of the business function they support, whether its finance, human resources, or marketing. They have to understand the challenges of those functions.

We’ve found people with these skills in a number of places. Some have a technology background, but others come from the business. We just hired one person from our own financial department to head up engagement for all of our financial projects. He has that business knowledge along with an understanding of IT. At the same time, we’re automating more and more of our business process. If you look at the way the company operates, it involves the integration of numerous complex business processes, many of which are performed manually by our employees throughout the value chain.

In IT, we are working with software vendors to find the right off-the-shelf IT systems to automate more of those tasks. Many of those functions, currently performed by humans, do not add real value at all. But because we’ve always operated that way, you assume you need a person doing it. In IT, we can look at those processes objectively and figure out how to make them leaner. Ultimately, five or ten years from now, when there is more intelligence within these applications, the software will be able to see patterns in those business processes, learn from them, and optimize them without human intervention.

**MEETING IN THE MIDDLE**

For me as the CIO, this transformation requires that I get not only my IT organization on board with these changes, but the rest of the organization as well. It’s a digital transformation of the entire enterprise. That demands that the CIO be more of a salesperson—which thankfully is where I started as a professional, in marketing and sales functions. You have to be an evangelist for the change.

As much as we in IT understand the importance of meeting our business partners “where they are” in order to continue this digital transformation journey, the business is also beginning to understand that IT is a key component to their future success.

We intrinsically know how to manage a software and service business with a hardware component because that is the business that IT has always been in. It’s critical that the interest in collaboration come from both sides, and we’ve begun to see this happen. The business is increasingly asking for our help and inviting us to the discussion. In the past, IT just took care of everything down in the basement while the business took care of the customer. Now those two worlds are, happily and productively, merging.

“Selling the machine is just the entry point. What really makes a difference is how you transform that into a service relationship.”
THE TAKEAWAYS:

• Evolving from a company that makes hardware into a sophisticated service provider requires a change in the IT function—from a primary focus on technology and operations to becoming much more business focused.

• A digital transformation of the enterprise requires the CIO to become an evangelist of sorts, selling the needed changes to both the IT area and the organization at large.

• Combining data generated by your products with additional information like service history allows you to be proactive about maintenance.
THE COVENANT TO REACH THE TOP OF THE WORLD SHALL BE RENDERED NULL AND VOID IF THE FIRST PARTY MISJUDGES A CREVASSE.

A deceptive cornice up Mt. Everest nearly proved fatal for Edmund Hillary. But Tenzing Norgay’s mountain-goat instincts saved his life and took their relationship to a new peak.

Read their whole story, and others equally inspiring, in a book that captures HCL’s spirit of taking the relationship beyond the contract. Get your copy of the RBIC Coffee Table Book here.
MANOJ KUMBHAT
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ORGANIZATION: HCL Technologies

WORKS FROM: Noida, Uttar Pradesh, India

PROFESSIONAL BACKGROUND:
Manoj Kumbhat is Senior Vice President and CIO of HCL Technologies (HCLT) – a global technology company, which operates in three segments: Software Development and Implementation, Information Technology (IT) Infrastructure Management, and Business Process Outsourcing. Besides overseeing HCLT’s technology strategy, he is responsible for maximizing value from the evolving ecosystem and enabling the organization to use digital technology to offer innovative solutions to global clients.

Previously, Kumbhat was the CIO of PepsiCo India, where he delivered the IT strategy for the beverage and food businesses and was the key executive responsible for business transformations across divisions in North America.

EDUCATION: BSEE Electrical Engineering, University of Jodhpur, India; MSEE, West Virginia University; MBA, West Virginia University.
Enabling a Culture of “Ideapreneurship”

HCL Technologies’ CIO describes how numerous digital initiatives have helped sustain and enhance the company’s tradition of bottom-up innovation, even as the organization has rapidly grown.

HCL is one of the fastest growing technology services companies in the world, with now more than 106,000 employees working around the globe. We attribute much of the company’s growth to the innovation that those employees, working with our customers, can bring to the table. But as the company has expanded geographically, harnessing that individual expertise and creativity becomes a challenge.

Indeed, silos and distance threaten the entrepreneurial culture of any fast-growing organization. Big breakthroughs don’t happen in isolation. By investing in new digital technology and processes, we have been able to create a global collaboration network and innovation ecosystem that breaks down walls between people and connects employees separated by oceans who may never have the opportunity to meet in person.

We’ve taken advantage of emerging technologies, including cloud computing, mobility, social networking, and analytics, to empower employees to collaborate, innovate, and implement their ideas for creating value. The grassroots quality of the network is important because some of the best ideas and creative problem solving in an organization come not from the top but from front-line employees.

We like to say that over the past three to four years, we’ve created the world’s largest organization of ideapreneurs, with a culture of ideapreneurship that to date has spawned thousands of ideas generating hundreds of millions of dollars in value to HCL’s clients.
SEEKING REAL-TIME COLLABORATION

In 2007, HCL created an employee knowledge exchange platform called Value Portal, which enabled employees to present their best ideas for creating business value for their customers. The platform didn’t only provide a place to present those ideas; the employees also received feedback on them and earned rewards when customers implemented them. The platform was so popular it’s now used for all customer engagements. Then, in 2012, a group of HCL employees, on their own initiative, created MAD Jam (Make a Difference Jamboree), which celebrated the best innovations – as determined by an all-employee vote – coming out of the Value Portal. These platforms have been, and continue to be, a great source of value for HCL and its customers. But like most traditional knowledge-sharing programs, they are asynchronous. We wanted to create a system that would enable employees around the world to collaborate and solve problems in real time.

When an employee encounters a challenge, the normal response is to go to someone in his or her small network of colleagues to work through it. But we wanted to help employees uncover and take advantage of hidden expertise within our 100,000-plus workforce that they may not even know exists. So in 2012, we launched our Experts Discovery, Nurture, and Actualize, or EDNA, program.

We knew we didn’t want to introduce a completely new system that employees might reject. Instead, we took advantage of our existing communications platform, Microsoft’s Lync, and leveraged the “IM an Expert” instant messaging application. By taking advantage of technology already in place, we not only boosted adoption rates but also sped up the deployment of the implementation and reduced its cost.

BUILDING TRUST IN A BOT

While we didn’t have to train employees on a new technology, we did have to convince them of the value of this tool. People were used to the concept of a knowledge management forum. They would ask a question and eventually someone with expertise would answer them. It was slow, but it was transparent. Now we were asking them to trust this bot built into EDNA to deliver them to the right person.

The response from employees varied from intrigue to skepticism. We knew we had to prove that it would work, so we started off by piloting it within some of our centers of excellence. Then we started holding chat clinics—eventually 70 of them—to explain EDNA to employees and let them test the tool. They could see for themselves how one employee in the U.S. could raise a question and another one in Chennai could answer it within a few minutes. We were able to build trust in the system. As word spread, more experts joined the system and the reliability increased.

Within 60 days of launching Edna, it was populated with 850 experts. The aim of the initiative was to enable just-in-time resolution of problems and queries in a way that would approximate face-to-face collaboration. Using older knowledge-sharing tools, employees looking for answers to problems could find themselves waiting for days. The average response time with EDNA is less than four minutes.

When an employee has a query, he or she uses the IM an Expert functionality that parses the question and searches our existing integrated knowledge collaboration platform to identify subject matter experts who are currently available to provide input. The analytics built into the system uses a feedback system to automatically recognize the top-answering experts. Today, the average answer rating is 4.1 on a scale from one to five, and 85% of all questions are answered. In fact, EDNA was the winner of our internal Exceptional Employee Experience Award at MAD Jam 2013 and a CIO Impact Award in Frost and Sullivan’s 2014 competition.

We did have to show employees what was in this for them. Unlike our innovation programs, the EDNA engine does not deliver explicit rewards and recognition. But experts get exposure to the diverse set of problems.

2007
Estonia becomes the world’s first country to use Internet voting in a parliamentary election.

2008
More music is sold by iTunes than by Wal-Mart.
We’ve created the world’s largest organization of ideapreneurs, with a culture of ideapreneurship that to date has spawned thousands of ideas generating hundreds of millions of dollars in value to HCL’s clients.

happening on the ground and that helps them to expand their own knowledge base. Once they realized this, we overcame any potential inertia. We also made sure that participation was not an extra tax imposed on our knowledge workers. EDNA is entirely opt-in. It asks if an expert is available to answer, and that person always has the option to say no. It’s collaboration by choice.

Today, we have more than 10,000 employees on the platform, from front-line to management level. And what started out as a real-time technical forum is now a place employees go to ask questions about all aspects of their work life, including training, onboarding, career planning, and compensation. When we roll out a new enterprise system, EDNA is now a channel of choice when employees get stuck. It’s crowd-sourced problem resolution and innovation, and it offers the benefits of crowdsourcing without the fear of important intellectual property leaving the company.

EDNA not only enables more efficient problem solving by enabling synchronous communication and collaboration. The same time-different place interactions also help foster a sense of community in a way that an asynchronous “management forum” system – in which you get a response from someone in the organization hours or days after you pose a question – does not. This growing community of over 10,000 willing experts is a live demonstration of HCL’s ability to leverage its knowledge and altruistic capital. In a distributed global enterprise like ours, workforce collaboration is the engine that fuels our growth, and we need a boundary-less organization to make that happen.

A WORKFORCE ON THE GO

If the goal of a program like EDNA is to foster grass-roots problem solving and innovation, our mobility-first initiatives are designed to make employees more efficient so that they have the bandwidth to engage in problem solving and innovation.

Several years ago, we decided to make mobile devices the primary distribution channel for the applications our employees use day in and day out. That strategy has not only improved the reach of those applications, it has also increased adoption. The primary driver, though, was the goal of unlocking productivity and increasing business agility and the speed of decision making.

We’ve developed a host of mobile decision support, operational, and transactional tools. The 20-plus mobile applications available in our Go-Mobile! store allows employees to approve or submit business requests, enter timesheets showing the time spent on particular projects, request taxis, make travel arrangements, apply for time off, contact tech support, join conference

What started out as a real-time technical forum is now a place employees go to ask questions about all aspects of their work life, including training, onboarding, career planning, and compensation.

The number of things connected to the Internet exceeds the number of people on Earth, according to Cisco.

Google’s index of the web consists of 1 trillion unique URLs.
calls with a single tap, read the latest company news and announcements, manage projects, track key performance indicators, and access our social network “MeMe” — all from their mobile device wherever they are in the world.

Taking the application service model approach has brought down the total cost of ownership for these new systems. By offering them as a service, we’ve eliminated a lot of the manpower required to implement and upgrade the applications. From an infrastructure perspective, we’re hosting all of these new technology solutions on our private cloud. That gives the flexibility to expand and contract when we need to and optimize the cost of our operations. We also employed Titanium cloud services to track user logins by geography and built an in-house adoption engine to give us a clear picture of the usage metrics for each application.

We did face a number of challenges developing our mobile platform. In order to deal with the multiple operating systems and diverse form factors of mobile devices available today, we employed a development tool capable of creating hybrid apps and did extensive testing on a variety of mobile devices. That was labor intensive, so we are currently examining more automated testing tools to increase productivity. Because we built our own custom app store, distribution was also a potential issue. We used push notification to notify users of new versions. In the cases of critical updates, we built in a hard stop inside the mobile app requiring the user to download the fix.

Our mobile-first strategy has had a number of key business benefits, including faster decision-making and reduced cycle times. Managers can approve business requests on the go and access business analytics and dashboards wherever they are. We’ve reduced the number of steps to accomplish certain actions by as much as 60%. Most importantly, by supporting our mobile workforce, we’ve improved productivity and increased workforce engagement. In our newer application deployments, mobility and analytics are prerequisites and not an afterthought.

**FRONT-LINE EMPLOYEES, BOTTOM-LINE BENEFITS**

IT has always played a major role in enabling corporate leaders to make decisions and manage the company operationally and financially. But what’s clear today is that IT can also play a critical role in employee engagement, which can have just as much of an impact on the bottom line — especially in an organization like ours, where much of the innovation originates with front-line employees. From the time an employee enters the organization, we are thinking about the systems and applications and networks that will not only make that person productive throughout his or her lifecycle, but also keep him or her passionately involved in delivering business value. That employee engagement is the engine that drives the business.

In the end, one of the best ways IT can bring value to the business is by providing a seamless experience for our employees, irrespective of the nature of their work or their location. Our goal is to make that person’s day-to-day job more effective and efficient. That’s where IT becomes a prime mover.

Online advertising ($26 billion) in the United States surpasses newspaper advertising ($22.8 billion) for the first time.

Production of digital cameras, soon to be replaced by smartphones, peaks at just over 120 million.
**THE TAKEAWAYS:**

- Digital initiatives that allow employees to collaborate in real time across business units and time zones can foster the kind of bottom-up innovation that generates significant value for the company and customers.

- Financial rewards and peer recognition can generate the collaboration that lead to innovative solutions. But the opportunity to expand one’s knowledge base also is an incentive.

- Making mobile devices the primary distribution channel for the apps that employees use in their daily work boosts employee effectiveness, increases organizational agility, and speeds decision making.

Jean-Baptiste Michel, et al., publish “Quantitative Analysis of Culture Using Millions of Digitized Books” in Science. Using a corpus of digitized texts containing about 4% of all books ever printed, they investigate linguistic and cultural phenomena that were reflected in the English language between 1800 and 2000, calling their field of study “culturomics.”
ORSOLYA SEKERKA
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POSITION: Chief IT Officer

COMPANY: Digi Telecommunications

WORKS FROM: Kuala Lumpur

PROFESSIONAL BACKGROUND: Orsolya Sekerka has overall accountability for product development, project and portfolio management, and IT strategy and development at Digi Telecommunications, a provider of mobile voice, Internet, and digital services in Malaysia. Before assuming this role in April 2015, she served as Head of Development at Digi, which is part of the Telenor Group and was recognized by Forbes as one of the World’s 100 Most Innovative Companies in 2014. She joined Digi in June 2013 from Telenor Hungary, where she spent nearly 15 years and held numerous leadership roles, including Head of Business Analysis and Project Management and Head of IT Operations.

EDUCATION: M.S, Business Administration, Budapest University of Economic Sciences.

PERSONAL PASSIONS: Never stop exploring the world – cultures, people, food, nature. Grounding my children (two sons, and I’ll soon be a mother of three) in the importance of always being curious, open, and responsible.
How to Become Agile, Without Making a Mess

Key to success in the digital age is an IT function that is able to respond quickly to changing customer needs. Here’s how one company reorganized itself in order to meet the changing dynamics of IT, without abandoning its traditional responsibilities.

Like most established companies, we have for many years focused on the core tenets of reliability, predictability, interoperability, security, and cost containment in delivering on our IT mission – “doing IT right”. In recent years we have also faced demands from the market and from customers for greater speed and agility, adding to the challenge of doing things right – “doing IT fast.” When I became CIO in 2015, it was clear that we could not continue to operate IT in a traditional manner and remain competitive. Of course, you can’t transform an entire IT organization overnight. Furthermore, there remain aspects of our business that continue to be well-served by a more deliberate approach, areas like billing and invoicing where reliability is the most important factor.

Companies are taking a number of different approaches to meet these new business demands for faster, more flexible system delivery while avoiding undue risks – basically, becoming more agile without making a mess of it. Some appoint a chief digital officer to oversee a team completely outside the purview of IT. Some CIOs start their own segregated agile teams.

At Digi, we have an ambition to create an IT organization that can balance both an agile and traditional IT framework. Gartner calls this “bimodal IT”—the practice of managing two separate, coherent modes of IT delivery, one focused on stability and the other on agility. McKinsey calls it two-speed IT: “a fast-speed, customer-centric front end running alongside a slow-speed, transaction-focused legacy back end.”

Whatever label you want to put on it, we embarked on a plan to incorporate agile capabilities with much shorter cycles in order to deliver certain customer-facing systems, while at the same time maintaining our traditional IT competencies. Along the way, we have learned a few useful lessons.
The first and most important step was to communicate with our team what we were trying to do. We explained that it would be impossible for us to support our near-term business goals by continuing to operate the way we always had, no matter how successful we were in the past.

We identified the competencies we would need and individuals within the organization who possessed them. It is very important to have internal buy-in and identify existing team leaders who can be ambassadors for change.

At the same time, it was equally important to inject some new blood into the team. We sought talent from outside the company who were a natural fit for the agile environment and would complement our existing team.

As for the organization, we didn’t change a thing. Reporting structures and titles remained the same. We simply began assigning our agile-minded team members to dedicated project teams.

Even with this careful preparation and explanation, we had our fair share of challenges. The bimodal model occasionally brought about differing perspectives among teams. However, I believe our decision to have the two teams work together, rather than splitting the function, has made us more efficient. It can only work, though, if it is clear that both are equally valuable and have a part to play as complements to one another.

**EMBRACING THE UNKNOWN**

We started with a project that was well-suited to trying out an agile approach: the makeover of our online channel and mobile application. Being able to try out a lot of things to see what worked best for our customers was important to us. The risk presented by this project was manageable, because this is an area where customers are comfortable with change. Customers may get upset if there’s a problem with billing, but they are typically more tolerant with adjustments to a web site or mobile application, as long as they are seeing periodic improvements through, for example, the introduction of innovative new features or offers.

In addition, although this was a mega project, it comprised a lot of smaller deliverables and milestones. Moving to an agile development model enabled us not only to make successive changes to the systems, but also to fine-tune our approach to two-speed IT. We gained significant knowledge and experience on resource requirements, internal communication, and stakeholder engagement that we are now able to apply to other similar projects.

A traditional IT project is very straightforward. You establish requirements and milestones and follow up afterward to make sure they are achieved. With this project, we only need to identify our high level ambition, with the understanding that even the goal might change over the course of development. It wasn’t clear what the exact scope and milestones would be, and we planned in terms of overall investment, not a detailed cost breakdown, making adjustments along the way. This approach requires much more management attention and supervision to ensure the project progresses well and to monitor the impact on the rest of the organization. Indeed, one of our learnings has been that, although we did a good job preparing the project team, as I described above, we did less well preparing other parts of the organization. For example, we understood that milestones might change along the way, based on customer needs. But this type of planning process was relatively new to Finance and other stakeholders in the company.

There are days when the agile approach continues to deliver some surprises to others in the organization. But it encourages us to foster deeper discussions with...
Digitalization and the Need for Women IT leaders

Most people these days appreciate the benefits of diversity. People of different backgrounds, ages, experience, or gender bring a variety of perspectives to a problem that is likely to result in more innovative solutions than the point of view of a homogeneous group.

But beyond the general benefits of diversity are some specific reasons that I believe we need more women in IT leadership roles now.

Let me say first that I’ve never encountered any hindrances in IT because I am a woman. I was very often the youngest member—and the only female—in an all-male team. I also had no technical background when I started working. I was an economist, with a MSc. in Business Administration. But I ended up spending 18 years of my career in IT project and change management. During this time, I’ve never felt at a disadvantage because I don’t have a technical background.

In fact, I found the most important asset for a career in technology is the ability to change. And the most important competency as an IT leader is the ability to lead a team through change. As we move through this era of digital transformation, a period marked by fast change and the need to constantly adapt, that flexibility and agility is even more important.

Consequently, I regularly encourage women to seize leadership opportunities emerging from the era of digital transformation.

AGILE IT, AGILE LEADERSHIP

Another thing we’ve learned is that the agile model is something more than a different IT development methodology. It requires different skills and competencies, different decision-making processes, different ways of communicating with both our business partners and our external customers, even a different management style.

For example, there were some areas where we underestimated our resource requirements, so we had to expand. You just have to be conscious of the changing conditions and be ready to take a different course.

Ultimately, this is a journey with a fairly clear destination but with an uncertain route. You can try to prepare for it, read articles about the model, and engage consultants, but ultimately the only way to do it well is to get started and course-correct over time. Just as agile development demands continual adjustment, so does incorporating high-speed development into the traditional IT organization and into the enterprise as a whole.

If you think you know all the answers up front, you’re doing it wrong. You can’t pre-define this transformation. You have to be an agile leader to make it work.
THE TAKEAWAYS:

• To succeed in your career, you have to take a DIY – do-it-yourself – approach. You can’t rely on a company or a boss or a mentor to develop your career. You have to take the initiative.

• Reaching your career goals requires taking some calculated risks, both in deciding to make the move to a new company and in establishing your position within an organization.

• At some point in your career, it becomes less about you and more about the positive difference you can make, in the lives of customers and the young talent coming up behind you.

• Things change so fast in IT that, more than in many industries, you need to constantly be learning and updating your skills. And that’s what makes this field so exciting.

Sources:
A MEETING OF THE MINDS HAS A DIGITAL ADDRESS

Join the community at straighttalkonline.com/community

Winner of 2013 ITSMA Diamond Award and 2015 BMA Excellence Award for Thought Leadership
To create business value, the IT function must be proficient in three main competencies. Here’s how one organization has managed to excel in all of them.

Merck Animal Health offers veterinarians, farmers, pet owners, and governments a wide range of vaccines and health-management solutions and services.

A New Formula for IT Success

To create business value, the IT function must be proficient in three main competencies. Here’s how one organization has managed to excel in all of them.

POSITION
Associate Vice President and Chief Information Officer

COMPANY
Merck Animal Health

WORKS FROM
Madison, New Jersey
PROFESSIONAL BACKGROUND
Dave Williams is Associate Vice President and CIO of Merck Animal Health — a division of Merck that develops, manufactures, and markets a broad range of veterinary medicines and services. Williams is a member of the Merck Animal Health Leadership Team and is responsible for Information Technology globally across the value chain — R&D, Manufacturing, Sales and Marketing, and enterprise processes such as Finance. He is also a member of Merck’s Executive IT Leadership Team.
Prior to his current role, Williams led Enterprise Information Management for Merck. From 2002 to 2009, he held IT leadership roles at Schering-Plough, including Divisional Information Officer (DIO) for Global Corporate Systems. The first ten years of his career included roles in health care, chemical industries, and consulting, where he worked with a variety of companies, from startups to multinational corporations.

EDUCATION
BS in Economics and Finance, University of Scranton

PERSONAL PASSIONS
Family time, exercise, and golf
Business value is the only reason we in IT exist. The skills required to deliver value in today’s dynamic environment are more wide ranging than ever, resulting in a new success formula for IT professionals. I believe that my organization, comprising talented people with the right mind-set, has validated this new formula by generating tremendous value for Merck Animal Health, a $3.4 billion business with 6,500 employees worldwide.

Success in IT was once based on a single competence: technology expertise. Today, success requires three broad competencies. Technology, and especially data, expertise remains critical, particularly given the rapid innovation in our industry. But a deep understanding of the business and its processes is also needed, in order to earn IT a seat at the table with its business partners. Finally, the ability to lead change — change related to the deployment and adoption of new technologies, processes, and even business models — has become indispensable. Only when all three come together can IT deliver real value to the business.

The Right Mind-Set

Not everyone in the IT organization is proficient in technology, business knowledge, and driving change. It simply isn’t practical to assume that every person in the IT organization is going to possess that triumvirate.

As an IT leader, it is my job to seek out individuals who possess certain aspects of those capabilities and bring them together. I want that hard-core tech guy who can make the best solution better, but if I don’t have someone with the consultative and relationship building skills to get the business to adopt that technology, we won’t deliver any return. We must master that formula every time.

Just having a team with complementary skills won’t lead to success in IT, though. To deploy those skills effectively, everyone on the team needs a new mind-set.

Traditionally, IT has been hierarchical. You have a job description — that’s what you do. You don’t know what’s happening to the left or right of you. This is an ineffective model that leads to inefficiencies and sub-optimal solutions. On my team, each person invests time building networks of contacts, across organizational boundaries and without regard to hierarchy. It is these networks that enable us to create value for the organization.

It’s also important for members of our team to be able to deal with intense ambiguity. With the rapid pace of change in technology and in our industry, we need IT professionals who can adapt, be flexible, and make rapid (and informed) decisions.

Perhaps most important, I look for people who know how to market and sell our IT services and solutions and are intensely focused on our business partners. We can’t sit in our offices and wait for business partners to come ask for IT solutions. It’s our job to market and sell IT solutions that can drive value.

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Success in IT was once based on a single competence: technology expertise. Today, success requires three broad competencies.... Only when all three come together can IT deliver real value to the business.

With this mind-set, a new one for most IT professionals, we can leverage the three essential elements of today’s IT success story.

Technology and Data Expertise

Having deep technical and data expertise is obviously a critical success factor for any organization. But that isn’t easy, considering the rapid pace of technology change and the complexity of our business model. If we don’t stay current on the latest technologies and understand the data structures that drive our business, we’ll struggle to deliver solutions that generate value.

To be sure that doesn’t happen, we focus on three things: platform, partners, and the cloud.

At Merck we define a platform as “a set of highly related information and technology capabilities that, when combined, provide economic value to Merck’s business through faster speed to market and reduced unit costs.” Taking a platform-centric approach in Animal Health IT enables us to focus our resources on a specific set of technologies and data sources that drive the greatest value for our business. Our internal employees have deep technical knowledge in the platforms and processes we support, which include ERP, analytics, commercial, and R&D. Mature platforms, along with our deep technical knowledge and our understanding of the data that drives the business, is a powerful combination.

External partners are a critical component in our operating model. We recognize that a lot of innovation happens outside the four walls of Merck. We rely on our strategic partners to help keep us up-to-date on the latest innovations and share their views on how those innovations can create value for our business.

Our partners also help us accelerate our learning curve as it relates to the evaluation, selection, and deployment of new technologies. Solutions drawn up on a whiteboard rarely translate easily to the real world. The positive and less-than-positive experiences our partners have had deploying new technologies outside of Merck help us accelerate time to market and develop high-quality solutions inside of Merck.

Cloud means many things to many people. For Merck Animal Health, we focus mainly on the platform-as-a-service type of cloud. PaaS offerings such as Veeva and Salesforce.com enable our team to shift our focus from coding and testing activities to integration and adoption activities, which we feel drive greater value and accelerate time to market.

A platform-centric approach, leveraging our partners, and utilizing the cloud enable our organization to stay current on the most important technologies — and focus on our business.

Business Knowledge

While there isn’t a single playbook for developing business knowledge, I ask our team to do three things — develop strong business partner relationships, get out into the field, and know our products.

When I joined Merck Animal Health, in 2012, the first thing I did was meet with as many business partners as I could, in every business function, to understand their challenges and opportunities. With each interaction I learned more about
the business and how IT can bring value to the table. It sounds very basic, but we often lose touch with our business partners over time, which results in solutions that miss the mark. Imagine the cumulative benefit of having everyone in the IT organization meet one new business partner a month! On the contrary, imagine how challenging it would be to deliver value if you’re not constantly in touch with those partners and their evolving needs.

We go into the field to experience things as our partners and customers do. You can’t achieve the required level of business knowledge just by sitting in the office. I encourage everyone in our team to get out and spend time with our business partners and customers. If someone works in ERP they need to spend time at a manufacturing plant or distribution center. If they’re supporting our commercial business, they ride along with sales reps and visit customers. I’ve had the opportunity to meet veterinarians in several countries and visit hog farms, dairy farms, and cattle feed lots. Each visit increases my knowledge of our industry and customers, and I usually come back with several new ideas.

Finally, it’s important to know your company’s products, services, and go-to-market strategies. Many of our IT solutions are designed to help our sales and marketing teams better connect with our customers. If you don’t have a solid understanding of our products and how we sell them, it’s tough to develop solutions that will add value.

Change Leadership

As IT professionals we often fall into the mind-set that “go live” of a new platform or application is the finish line. In reality, it’s the point at which you’ve spent the majority of the money but have received no value. Our organization focuses intently on leading change and driving adoption of new technologies and solutions to ensure we realize the “R” in ROI.

There are three things we focus on relative to leading change. First, there must be a clear value proposition for the change. We articulate this in a formal business case that clearly identifies the value in terms of the P&L, the balance sheet, or both. Second, the solution must be intuitive and easy to use. The easier the solution, the more likely users are to embrace it. When’s the last time you had to go to training to learn how to use an iPhone app? Third, we ensure our “change agents” have the necessary soft skills and business knowledge to partner with the business on adopting the new solution. Change agents who know the business, know the solution, and have the ability to communicate, influence, and partner with our users are usually successful.

Creating Business Value

These three competencies aren’t worth much unless they create business value for Merck.

One of our biggest opportunities to create value involves increasing our market share in the flea and tick...
segment, one of the largest segments in the animal health market.

In 2014 we launched BRAVECTO, a 12-week chewable flea and tick treatment for dogs. Understanding the market, the flea and tick segment, and our target customers enabled us to support the launch of BRAVECTO with a new multichannel marketing solution. This solution, based on the Salesforce Marketing Cloud, enabled us to connect with vets and pet owners via digital marketing campaigns. In the past, we would have relied on our field sales force, but this new capability extends our reach and improves the frequency with which we’re connecting with customers. We also have an ability to measure the effectiveness of our campaigns in near real time. The success of this project ties directly to the variables in our success formula:

**Technology & Data Expertise.**
We selected Exact Target (now known as the Salesforce Marketing Cloud) because it’s a cloud-based platform with robust functionality that connects with Veeva, our CRM platform. We also focused on ensuring we had high-quality customer data to maximize e-mail deliverability, opens, and click-through rates.

**Business Knowledge.** To be credible with our business partners and maximize our contribution to this initiative, it was important that we were familiar with the market, product, and digital marketing best practices.

**Change Leadership.**
Multichannel marketing is a new capability for many of our business partners, so it can be a bit intimidating. Our approach here was to have the technology and business teams sit side by side and travel this change journey together. If you joined one of the team meetings it would be hard to tell who was in an IT function and who was in a Marketing function — and that’s how I like it.

Fast-forward to today and my biggest problem is that I don’t have enough capacity to meet the incredible demand for multichannel marketing coming from our global markets. They’ve seen the impact it can have on our top line, and they’re anxious to move faster. This is a good problem to have and a direct reflection on the talent of the team.

We remind ourselves daily that business value is the only reason we in IT exist. As long as we remain focused on developing our three main competencies, I’m confident we’ll continue to deliver real value.

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**The Takeaways**

- IT success used to depend just on technology expertise. But to deliver real business value, IT organizations must now also have a deep understanding of the business and its processes and an ability to lead change in technologies, processes, and even business models.

- Acquiring these three competencies—technology and data expertise, business knowledge, and the capacity to drive change—requires a new mind-set. Whereas IT used to be a rigid hierarchy, it now must include networks of relationships that span boundaries. Relationships with internal and external partners, and with customers, are especially crucial for generating business value.
From Intuitive to Data-Driven Decision Making

Employing predictive analytics to improve oil and gas production uptime and curb maintenance costs presents a complex IT challenge – and a human one, as well.

POSITION
Chief Information Officer

COMPANY
Santos

WORKS FROM
Adelaide, Australia
PROFESSIONAL BACKGROUND
Hugh Banister is responsible for IT operations and ensuring that Santos’s information systems support the business’s strategic direction and ambitious growth plans. He has been responsible for the strategic implementation of the systems that support the multi-billion dollar Gladstone Liquid Natural Gas (GLNG) project in Queensland, which converts coal seam gas into liquid natural gas. Before joining Santos in 2008, he worked in operational and strategic roles in the U.K. for oil and gas exploration and production companies, both multinational firms such as Chevron and smaller operators such as Premier Oil. In 2013, he was named the iAwards South Australia CIO of the Year.

EDUCATION
B.Sc., Mining Geology and Computing Science, University of Leicester; M.Sc., Marine Geology & Geophysics, Distinction, Imperial College London and University College London

PERSONAL PASSIONS
Keeping mind and body healthy. When not working, I’m often on my bicycle or in a swimming pool
Santos is an upstream oil and gas exploration company which originated in South Australia. We’ve been producing oil and gas from the Cooper Basin in Queensland for 44 years to supply the domestic market. And we have some very old equipment assets in the field, run by professionals who have been doing this all their working lives and have made decisions, based on experience and intuition, about how to manage that critical equipment.

Take a compressor, which boosts the pressure of gas as it is extracted from the earth so that it can be transported efficiently through a pipeline. One of our men in the field might listen to the sound it is making and decide to increase or reduce the feed, based on his experience and gut feel. If his intuition is wrong, there is a direct impact on production.

For years, that human assessment was the best way to do things. Today, there are other options, which allow for more fact-based decision-making. To take advantage of these new technology options, however, the company has to change. And the IT function is playing a critical role in that change, transforming Santos from an intuition-based to a data-driven organization, resulting in actionable intelligence and a direct impact on corporate profitability.

Taking Advantage of Greener Fields

A testing ground for this new decision-making approach is an $18.5 billion initiative Santos is leading called the Gladstone Liquid Natural Gas project, or GLNG. In partnership with Malaysia’s PETRONAS, France’s Total, and South Korea’s KOGAS, we have begun this year producing natural gas from coal seams in Queensland’s Surat and Bowen Basins, shipping it via a 420-kilometer gas transmission pipeline to a new plant on Curtis Island, and converting it there into liquefied natural gas for sale to the global market.

Because the process of extracting gas from coal seams is different from our conventional method of extracting gas from sandstone reservoirs, the project is a true greenfield operation. This has allowed Santos to take a very different approach to building and managing assets in the Queensland fields and to improve safety and decrease costs. We’re replacing a lot of what was traditionally done by people onsite with automated solutions. These are integrated into a back-end collaboration and control environment in a centralized location that is staffed by our experts around the clock.

The GLNG project has helped us understand how we can use data and information to make better decisions throughout our entire operations. The concept of smarter production has been around for at least eight years. But the sensor technology and advanced analytics required to achieve this have only recently matured to a point where automating production is achievable and effective. The key problem continues to be not a shortage of information but rather the overwhelming abundance of data produced by these systems. It can be very difficult to identify the wood from the trees, so the secret is to identify exceptions and filter out the information where nothing exceptional is occurring.

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tens of thousands of dollars for every hour a well is offline. And it costs more to repair a failed piece of equipment than to repair something that’s about to fail.

To build the complex models that would enable this sort of predictive maintenance, we used data collected over the last 20 years in one of our more mature fields, called Big Lake. This helped us discover the common signatures for failure and then compare those signatures to our current operations. Today, using that predictive model, we typically get 48 hours notice that a piece of equipment is about to fail.

The abundance of data produced by these systems. It can be very difficult to identify the wood from the trees, so the secret is to identify exceptions and filter out the information where nothing exceptional is occurring.

Putting Predictive Analytics to Work

Our primary goals are to keep production flowing and to control maintenance costs. And that requires both reliable data-gathering equipment in the field and the analytics and data-delivery systems that will empower professionals to make better decisions about production and equipment in the field.

We started with predictive analytics that focused on equipment reliability, which would give us some advanced warning when a piece of equipment was about to fail. We work in very remote areas, with vast distances between wells and compressor stations. Doing regular maintenance on the equipment is labor intensive and costly. And if a piece of equipment does fail, production stops. We stand to lose staff in the Cooper Basin have worked there for 30 years. Sure, sometimes their gut decisions aren’t right. But if we alert them to an issue where there is none, they will immediately lose confidence in these models. We can’t afford that. So we have to make sure the predictions of equipment failure are correct as close to 100% of the time as possible.

Winning over the Skeptics

The team in GLNG lapped up the new working environment in Queensland. It was a completely new area of the business, and they were able to work that way from day one. That’s the easiest way to introduce this kind of change. Everyone in the BOC believed passionately in the benefits of a data-driven environment and were pushing the boundaries to make it work.

The brownfield sites are a different story, particularly for our unionized field force that worries about job security. There, we have to take a much more consensus-based approach. We’re not trying to control upstream operations from Adelaide but rather offer collaborative support from the head office.
We do what we can to physically break down any barriers between corporate headquarters and our field operations. Here at our corporate center, we’ve created a very industrial looking environment. There are no ceiling tiles in the building, so the pipes are exposed. The professionals who work in our collaboration center wear the same “Santos Blues” safety kit as those in the field. We want to minimize visible distinctions, so there doesn’t appear to be much difference between sitting in the office or working in a remote site in the Cooper Basin.

Still, change is difficult. The always-on video allows everyone to communicate as if they are in the same location. It is just like saying something to the person sitting next to you, even though he may be 600 kilometers away. This also helps with situational awareness and improves safety. We recently found one of those cameras in a remote location with a wig over it. I think that the initial fear was that the cameras were being used to spy on individuals. Clearly more change management is required to explain the purpose of the always-on video – and prove the value of our new approach to everyone.

The Takeaways
- Today’s predictive analytics technologies allow for more fact-based decision making, rather than decisions relying on human assessment skills. But companies need to change how they operate if they hope to take advantage of these new options—and IT will play a critical role.
- Because of the overwhelming abundance of data these new systems produce, the challenge is finding ways to filter out superfluous information in order to identify major problems.
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The ROI of Taking Career Chances

By taking personal responsibility for his career – and by taking some risks – this IT executive achieved his goal of becoming a CIO by the time he was 40.

POSITION
Vice President and Chief Information Officer

COMPANY
Purdue Pharma LP

WORKS FROM
Stamford, Connecticut

At Purdue Pharma, known for its pioneering research in pain, scientists provide technical support to production, testing tablets prior to full manufacture.
PROFESSIONAL BACKGROUND
Larry Pickett has responsibility for all information technology functions at Purdue Pharma, including IT strategy, business process transformation, technology infrastructure, and applications development. In the 18 years since joining the research-based pharmaceutical company, he has led the company’s implementation of core business systems and international research and development systems, including a successful on-time, under-budget implementation of SAP. Current areas of focus include business analytics, sensor and wearable tech, IT value, cloud computing, virtualization, enabling mobile solutions, and creating competitive advantage through innovative software and business process optimization. He is a founding member of the Westchester/Fairfield chapter of the Society for Information Management and is active with the Pharmaceutical Information Systems Association, an association of CIOs in the pharmaceutical industry. He is on various CIO customer advisory boards and life sciences advisory boards. He has also served on committees within the Pharmaceutical Research and Manufacturers of America (PhRMA). Before joining Purdue, he held senior IT positions with Merck, Glaxo Welcome, and GE.

EDUCATION
BA Chemistry, University of North Carolina at Chapel Hill; MBA, University of North Carolina at Greensboro

PERSONAL PASSIONS
Helping to develop the next generation of IT leaders; applying new technology to solve business problems; innovative technology and management applications; fitness, hiking, and family
If there were a recipe for a successful career as an IT leader, the most important ingredient would be initiative. When I give advice to potential IT leaders, I tell them they have to take control of their professional destiny. Unfortunately, you can’t rely on a company, boss, or mentor to develop your career. You have to take the initiative. You have to have something in your gut that says, “This is my goal, this is my plan, I’m going for it!”

Ambition to make it to the highest levels is something I see missing in a lot of job candidates today. They have the experience. They have the skills. They have the knowledge. But they don’t have the drive.

Just as importantly, you have to take risks. You never know where your career may take you. That path rarely proceeds in a straight line. There will invariably be a lot of zig-zagging before you get to your end goal. But with a clear goal in mind—and the willingness to embrace the unknown—you may go further than you ever imagined.

I speak from experience. When I got my undergraduate degree in chemistry at the University of North Carolina at Chapel Hill, I was planning to become a pharmacist. I’d been working part time at a small publishing house to help pay for school. I wasn’t terribly thrilled about working in a lab after graduation and I was eager to stay in my home state. So I kept working for that publishing company after I got my degree. The director let me work in every department, giving me six-month stints to troubleshoot problems in various areas of the business. I learned about process improvement and business transformation. I would analyze the way things were done and come up with a plan to optimize and automate those processes. I learned success was as much about people and change as it was about process. What I realize now is that this was the perfect training ground to become a CIO.

It would be years before I became a CIO. Years filled not only with tremendous learning and growth, but also unexpected disappointment and setbacks. But with drive — and willingness to take chances — I achieved the somewhat ambitious career goal I had set for myself.

Expecting the Unexpected

I realized early on that IT was the place for me. I don’t know how anyone in IT could ever be bored. Technology moves so quickly and is constantly changing. People who are good at it are fueled by that speed and pace. It’s what drives us. For some people, change is difficult. But those of us in IT love it. And things are accelerating even faster now.

While I was working at the publishing company, mini computers arrived on the scene. I was learning about technology, how to apply it to the business, and getting my MBA at night. I thought there was great potential to use technology to optimize and automate the various business functions in the company, and that’s how I stumbled into IT in a way I never could have anticipated. I
learned programming, started buying computers, and took on new people-management responsibilities. I got amazing on-the-job education over the course of my five years with the publishing company that I could have never gotten anywhere else.

Of course, changes aren’t always easy. I left the publishing company to join ITT Telecom, and along with my new wife I moved to a new city. Then one Friday afternoon — an afternoon I remember well — I was laid off along with 1,200 other people, including my wife, who was six months pregnant.

It was a major shock. I thought that working for a big company would provide stability. I learned an important lesson that day. You can never rely on a company for your career. You have to rely on your own skills and abilities. And you have to take control of your own career by learning constantly and staying current. The constant change of IT also helped shape my leadership style, and I encourage my team to continually update their skills.

I took a job at GE’s semiconductor business division. Jack Welch was the new CEO and his strategy was clear. If a division was not number one or two in its industry, it was not going to continue to be a part of the organization. Our business was number three. I saw the writing on the wall.

Not wanting to go through another downsizing, I found a job at Glaxo. ITT Telecom and GE were big companies and they were great companies – they just weren’t the right industry for me. But they led me to make a really great next decision.

DIY Career Development

As I moved into IT middle management at Glaxo, it became clear to me that I eventually wanted to take the top IT spot at a pharmaceutical company. I set an ambitious career goal for myself — to become a pharma CIO within 10 years, by age 40.

With that as my objective, I sought out as many different experiences in IT and the business as I could: end-user computing, research and development, manufacturing, commercial, application development. I forced myself to rotate through as many different areas as I could. And because the company was expanding rapidly during my eight years there — growing from a $750 million company to an $8 billion one — there was plenty of opportunity for me to do so.

That’s something I tell both the candidates I interview and the IT leaders that I develop: you will only be limited by yourself and your thinking. A lot of people assume that companies are going to take care of their career development. Some may help, but you really need to take a DIY — a do-it-yourself — approach. You ultimately have to take the initiative to make it happen.

When Glaxo merged with Wellcome in 1995, creating new positions, I felt I was ready to advance to a role leading the company’s commercial systems. I knew that was the next logical step if I were to become a CIO. When I was told they had gone with someone else, I didn’t hesitate and immediately began working on my resume.

Leaving Glaxo — a big growing company where I was comfortable in my native North Carolina — was the biggest and hardest career decision I ever made. I didn’t want to leave, but I had exhausted all the possibilities there. Thirty days later, I had a job offer at Merck Medco and was packing up my family and moving to New Jersey.

Embracing the Unknown

It wasn’t a huge career risk to move to Merck, another big healthcare company with a large commercial business. But it was difficult.
personally, uprooting my family from our home.

Just three months after I arrived, however, I got a call from a much smaller company called Purdue Pharma about their CIO position. I'd never heard of them, and I was enjoying Merck. I loved working for and learning from Stuart McGuigan – now the CIO at J&J – who was a phenomenal leader. The company was treating me well. I was just getting started there. So I said, “No.” It was way too soon. Three months later, they called again. And then again. After a year, I decided I would at least talk to them.

I interviewed six times with Purdue. At one point, I told the recruiter to just forget it. If they couldn’t decide after that many interviews and that much time that I could do the job, I thought, they’d never move quickly enough to keep pace with technology changes. Luckily, the recruiter talked me off the ledge. He explained that broad buy-in was part of the company culture and they wanted to make sure I was the right person for the critical role of CIO. And eventually they decided that I was. I had achieved a key career goal – becoming a CIO – but quickly learned that was just the beginning.

I had been preparing myself to become a CIO when I joined Purdue. What I wasn’t prepared for was the magnitude of the problems I was inheriting. IT had been underfunded and the environment was broken. Skills needed upgrading. Sixty days after I arrived, I told my boss, “If I knew then what I know now, I wouldn’t have taken this job.”

There were so many challenges. I just had to go about systematically addressing each one, starting with understanding the business needs, upgrading our talent while building a team culture, and finally introducing new technology—skills I’d been acquiring and developing in my years leading up to becoming a CIO.

The company was planning to implement a part of the legacy SSA Business Planning and upgrade the Control System from an AS/400 environment to Unix. I knew it was a huge risk and not the right platform for the future. If Purdue wanted to scale from a $250 million company to a multi-billion dollar one, it needed to be on SAP rather than fragmented legacy systems. It took some time, but I convinced the Board to make the biggest IT investment the company had ever made. But having gotten that buy-in, it was critical to deliver. We couldn’t do it alone – any critical business system implementation has to be a partnership between the business and IT. We created a steering committee of business leaders that closely managed the resources and scope month by month. And we jointly delivered, on time and under budget. We are still leveraging that enterprise platform today.

**Encouraging the CIOs of Tomorrow**

I’ve had several opportunities to leave or make a career change in my time at Purdue Pharma, but I’ve always chosen to stay. The Board and leadership team have been extremely...
supportive and see effective IT as a competitive advantage. They keep raising the bar and our team keeps delivering. And, more importantly, I enjoy my team and the people with whom I work.

I feel like I’ve worked for four different companies since I joined Purdue Pharma. When I first came aboard we were in a period of rapid growth. Then we lost a very important patent and had to restructure, entering a very difficult period of downsizing. After things stabilized, we started growing again and got even larger. Then last year, we hired our first external CEO (from Merck, coincidentally) who is bringing an exciting, new strategy and culture to the company.

As IT gets more and more embedded in the business, I’ve had the chance to have an even more significant impact in my role. We are striving to apply technology to improve the lives of patients and improve engagement with our customers. It’s less about my personal career path now and more about making a difference in the business while developing IT leaders of the future. I’ve said you can never be bored in IT. There’s always something new. Most recently, we’ve been investing in predictive analytics and machine learning—something we weren’t even thinking about five years ago. We created an innovative analytics capability that delivers 10x performance at 20% of the cost with positive business results.

One of my passions is to help others develop and find ways in which they can make an impact and grow their careers. I enjoy the challenge of finding exceptional talent and developing them into leaders. It took more than a year and many interviews to hire each of my two direct reports, but they’re top performers. Another two of my direct reports started at the very lowest level of the IT organization. One was working on the service desk; he’s our CTO now. The other was a contract programmer; today he’s the head of systems development and analytics. Now I learn from them every day and they will be CIOs one day – when they choose.

In all my experiences and through all the changes, one concept stayed true and unwavering – when you combine what’s best for the business and what’s best for an individual’s career, and then add challenging assignments to the mix, you can really make good things happen. How will you take control of your professional destiny today?

The Takeaways

- To succeed in your career, you have to take a DIY – do-it-yourself – approach. You can’t rely on a company or a boss or a mentor to develop your career. You have to take the initiative.

- Reaching your career goals requires taking some calculated risks, both in deciding to make the move to a new company and in establishing your position within an organization.

- At some point in your career, it becomes less about you and more about the positive difference you can make, in the lives of customers and the young talent coming up behind you.

- Things change so fast in IT that, more than in many industries, you need to constantly be learning and updating your skills. And that’s what makes this field so exciting.
A curious CIO saw a unique opportunity in the transformation of a decentralized organization into a market-oriented, globally operating company.

POSITION
Chief Information Officer

COMPANY
Sulzer

WORKS FROM
Winterthur, Switzerland
PROFESSIONAL BACKGROUND
Ursula Soritsch-Renier became CIO of Sulzer in 2013 and since then has worked to create one global IT function from the company’s previously decentralized divisional IT departments. She started her career at a software startup, then joined Royal Philips Electronics. From 1995 until 2009, she held various IT and business assignments for Philips in Austria, the Netherlands, Belgium, and the U.S. From 2009 until 2013, she served as Global Head for IT Strategy, Sourcing, Project Management, and Enterprise Architecture at Novartis, in Cambridge, Massachusetts. She was named Swiss CIO of the Year in 2014.

EDUCATION
Master’s degree in Philosophy, Minor in Computer Science, University of Vienna; Diploma from the WIFI College for Economics

PERSONAL PASSIONS
My family, in combination with all kinds of outdoor sports; art or theater in the evenings
When I was approached three years ago to take on the role of CIO at Sulzer, an industrial technology company that was embarking on a comprehensive transformation, I seized the opportunity.

Why? The IT function at Sulzer was decentralized among five local business units, each IT group of equal status. They worked together only as opportunities arose. The challenge of integrating these separate IT operations into a single function was somewhat daunting.

But the potential for positive change, as the company embarked on a major strategic transformation, was – and still is – tremendous.

An Exciting Challenge

I’m a curious person by nature. I graduated with a degree in economics and then studied philosophy and computer science. That combination made perfect sense for me, as technology is only one part of the business equation. I’m interested in how to make technology work for the company and its end users. It’s the result that is important. The how is nothing more than a means to get there.

I’ve had the opportunity to experience many different aspects of corporate leadership, both in IT and on the business side, from product manager in consumer electronics at Philips to head of IT strategy at Novartis. So, when Sulzer offered me the role of CIO, I was intrigued—it was another opportunity to grow and learn.

In a discussion with the CEO, to whom I report, he described his ambitious plan for transforming Sulzer from a decentralized manufacturing conglomerate to a market-oriented globally operating company. It was clear that all those new global business processes would have to be enabled by IT. To be part of that undertaking from hour zero, as a CIO working alongside the CEO, was a unique and exciting opportunity.

The Allure of the CIO Role

I have always wanted to be a CIO. That may be hard for the typical business executive to understand. After all, IT is a difficult area. When the lights are on, no one pats you on the back.

But the CIO has such an important role in making things happen. In an IT leadership role, you are not confined to the finance area or the supply chain area or to sales or product development. You are involved with it all. The CIO is not owner of the technology or system or business process, but she can negotiate the best solution to a problem with her business partners. IT is a function that really spans the enterprise. And by its very nature, IT is extremely dynamic. It’s all about change.

That means that the CIO role is full of potential. We’re not talking about the traditional IT role of a technology order taker. We’re not talking about improving operational efficiency by, for example, moving people and processes to a lower cost country. We’re talking about leading change that directly enables a company’s strategy.

Transforming the Organization – Incrementally

The first thing I did was to make sure we had an overall vision for this transformative organizational change. Within the first year of my arrival, we had created a three-year
IT strategy that is now embedded in the three-year business strategy of Sulzer.

But while you need a vision that will keep you headed in the right direction, you have to work toward the vision in increments. You don’t go from “local-to-local” to global overnight. You need to break the journey down into individual steps.

Taking it step by step means that you are delivering near-term benefits to the organization as you go. You can’t stand up and present an ERP project and expect the business to stand still for three to five years while you implement it. You need to manage an ongoing improvement process that from the beginning supports the business. So, for example, as we were working on integrating the IT function globally, we implemented a global Excel app—a small step but one that offered immediate benefits.

You also need to be agile and flexible, able to adjust your plan as conditions warrant. For example, you may have ambitious plans to move much of your operations to the cloud, only to realize that you lack the network security to make the move as soon as you would like. You can’t be rigid, because there will be detours on your journey.

Furthermore, as a CIO working with legacy systems, you won’t be able to create the perfect system from scratch. There may be limits on how much you can standardize processes. You may have to optimize some of the existing diversity and make the best of it. Our goal is to make our business more profitable and enable it to grow. Agility is more important than perfection.

Optimizing the People Engine

No matter what you’re doing, people make things happen. Managing the changes they are going through is as important as managing the changes in the technology.

That is another benefit of the incremental approach. It helps make the transformation digestible to the people being asked to implement it. It allows you to celebrate each step, creating a positive motivational spiral that increases employee engagement.

My biggest task has been to organize people to make best use of their strengths. We defined clear roles and responsibilities. We had to create new roles for a global IT organization, including IT procurement, information security, project and program management, and enterprise architecture. These roles don’t exist when you have a decentralized organization and you’re only responsible for your own site.

You’ll always have some people who are happy with the status quo and feel that change isn’t necessary. That’s to be expected, and we have tried to create a very inclusive environment. We need “local” people. But we also have to make sure even they have the correct mindset and attitude for the newly global organization.

Communication is key. It’s been a huge effort for me over the last two years. I host webinars, I travel around the world, and I sit in town
hall meetings. I want to give every IT employee around the globe the chance to talk with me personally, to get everyone rallied around this larger vision and the incremental steps it takes to get there.

The Work Continues

We’ve now become one IT team, which is enabling Sulzer to become a market-oriented globally operating company organized around our three core divisions. But having set up a global organization, we’re hardly finished.

We’re now focusing on optimizing our IT capabilities and introducing better IT service management to improve user satisfaction. We met last year as a leadership team and identified specific things that we as a company would like to accomplish in the next three years. We continue to discuss them, argue for or against them, and refine our goals.

What’s great is that, at Sulzer, I don’t have to passively wait for the business to tell me what to do. As CIO, I’m part of that dialogue. I can propose and consult and advise. It’s a very proactive role. The challenges are huge and ongoing. But that’s what makes it so much fun!

The Takeaways

• Transforming a decentralized organization into a global, market-oriented company allows a CIO to call on all of her skills and talents—leading not just one part of the organization but becoming deeply involved in every business process.

• Taking change one step at a time allows you to deliver near-term benefits to the organization as you implement long-term change. For example, while this CIO was working on integrating the IT function globally, she made sure she implemented a global Excel app that offered immediate benefits.

• When working with legacy systems, you may face limits on how much you can standardize processes. Keep focused therefore on agility over perfection.

“ But the CIO has such an important role in making things happen. In an IT leadership role, you are not confined to the finance area or the supply chain area or to sales or product development. You are involved with it all. ”
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Fostering Incremental Innovation to Drive Business Value

Small-scale innovations – some of them seemingly trivial – can have a significant positive impact in terms of cost-savings and improved efficiency.

POSITION
Head of IT Strategy and PMO

COMPANY
Shire Pharmaceuticals

WORKS FROM
Lexington, MA
PROFESSIONAL BACKGROUND
Paul Cassidy joined Shire in 2009, and has held a variety of roles, including Technical Operations Business Partner, Head of IT for Shire Human Genetic Therapies. In his current role as Head of IT Strategy and PMO, he has overall responsibility for shaping IT strategy, forming the enterprise view of the technology portfolio, and managing key suppliers for the delivery of IT services. Prior to joining Shire, Paul held a variety of roles in a number of industries, including program management at Fidelity Investments, security and risk consulting for Ernst & Young, and a number of roles for small and medium-size resellers and start-ups.

EDUCATION
Bachelor of Arts, Mathematics, Boston University

PERSONAL PASSIONS
Paul has two sons, four dogs, and has been married for more than 25 years. He is an avid cyclist, enthusiastic reader, and active member in his church’s strategy committee.
Two years ago, under a new CEO, Shire underwent a significant reorganization designed to better serve patients and grow our business by collapsing multiple businesses and establishing a simple “One Shire” organizational model. We also had a new CIO, who viewed that larger transformation as an opportunity to streamline how we had been delivering IT products and services.

Prior to that, IT was organized around our therapeutic business lines. We had a number of IT functions that reported into local business lines rather than the corporate headquarters. When our CIO joined, it was readily apparent that the way we delivered IT services and capacity created numerous redundancies and prevented IT from responding effectively to overarching business demands. So as the company reorganized and embraced a global supply chain and quality model, IT also came together as one global corporate IT function.

We took several months to review how IT operated in the past and rethink how it might function in the future to better support the business. One of the biggest outcomes of that effort was our Effectiveness and Efficiency initiative, which fell under my team’s responsibility. We wanted to identify the most obvious areas where we could expend a little bit of effort to greatly streamline certain IT capabilities and deliver more value to the business. Those could be simple things, like eliminating the cost of redundant systems and the related infrastructure needed to support them, or more complicated initiatives, such as building consensus around the varied processes done different ways in different business units.

An IT Efficiency Reboot

We started from a clean sheet of paper. Our charter was to come up with innovations, often small in scale, which could have a big impact in terms of cost savings and improved efficiency.

We began implementing the concept two years ago, talking among the IT leadership and some consultants we were working with. We knew there were some glaringly obvious opportunities for us. We had nine different learning management systems. There was no question that going from nine to something less than nine would have a positive impact. We had 13 different analytics platforms, some of which should have been retired years ago or were only used for a very small function within the business. We had five different change management systems. It was clear we needed to settle on one.

Crowdsourcing IT Transformation

As a first step, the leadership team looked at the whole of the IT function—essentially broken down into plan, build, and run—to figure out what systems and processes we needed to harmonize. We planned to tackle the low-hanging fruit first.

Then we continued meeting to ask, “What else would make a difference? What else could we do differently to drive more value from IT and deliver more value for the business?” We’d gotten as far as we could get on our own, but we knew we had an IT organization eager to share their ideas.

First, I identified a leader for the IT Effectiveness and Efficiency “Office.” Our appointed leader had come to us through the acquisition of a biotech company. He was a great technical leader who worked...
well with both vendors and the broader IT organization. It was a challenging position that often placed the Effectiveness and Efficiency lead in the middle of the long-standing “business-as-usual-why-would-we-change?” crowd and the emerging “we-have-to-get-better-or-else” pack.

While we socialized our desire to gather ideas for improvement from everyone in the IT team, we accumulated a large list of suggestions. Our leadership team grouped them into three categories: those with a high likelihood of success, those that needed more research – and those that weren’t worth pursuing.

We then began prioritizing those proposals based on their probable value. One idea that we immediately tested was a tool that was able to take a production snapshot of an environment so that an exact copy could be spun-up in a new virtual environment within a couple of hours, thus eliminating the need to maintain a development environment for that system. Ideas like this promised significant savings and the elimination of the complexity of managing servers only used when there were new projects.

A Culture of Improvement, One Stakeholder at a Time

Another quick pay-off involved rethinking the capabilities of the iPads we were purchasing. Standard-issue iPads automatically have 3G or 4G connectivity. But the person who runs our mobility platform pointed out that the vast majority of users never use the 3G or 4G. With the exception of our sales force, most of our tablet users employing the iPad to monitor a plant or do analytics in a meeting don’t need that capability. That idea saved us a half a million dollars a year.

Simple as it sounds, the idea wasn’t the most straightforward one to implement. Our carrier didn’t want to sell us non-3G or -4G iPads. So we had to renegotiate our contract with them, stipulating that we would purchase iPads for our sales force from them but could buy iPads for any other purpose from any retailer we wanted, including Apple.

Some of the ideas have come from the business, like the decision to standardize on an enterprise platform for business analytics. But the vast majority of ideas have come from IT.

The biggest challenges remain making this initiative a priority amid the increasing IT demands of the business and getting the people who generate the ideas to make enough time to see their innovations through. There’s no question everyone already has a lot on their plate. But if you put your idea out there and it has legs, you have to be willing to own it. I want our employees to have the experience of not only coming up with a great idea, but getting it done.

There’s no question everyone already has a lot on their plate. But if you put your idea out there and it has legs, you have to be willing to own it. I want our employees to have the experience of not only coming up with a great idea, but getting it done.
end budgeting cycles. I can turn to my colleagues and show them how we’ve identified $5 million worth of savings that’s deliverable using just $500,000 worth of investment in full-time employee time. That’s $4.5 million worth of savings we can take to the bottom line immediately. We try to make the benefit as concrete as we can.

And we explain not only the cost savings we’ll be able to achieve but also the improvements in efficiency and effectiveness. By consolidating our change management platform, we were able to reduce the amount of time it takes for a change to move through the system by 30% and to reduce errors associated with management of that change.

We have not offered any financial incentives for employees to participate in the program. Instead, we have marketed our IT transformation crowdsourcing program by highlighting the satisfaction our people get from suggesting – and being recognized for – an improvement that positively impacts Shire’s ability to serve our patients around the world. We’ve found that, generally speaking, IT people are excited about being able to change something for the better.

**From Small Improvements to Major Changes**

Last fall, a larger company made an acquisition bid for Shire. After months of uncertainty, Shire emerged from the failed acquisition as a separate entity. But the innovation mindset we had worked so hard to foster had stalled. Team members had changed, and with our new-found freedom in the marketplace, Shire immediately made an acquisition of our own.

As we gained our identity back, we continued to make progress on a number of our initial recommendations and decided to implement the biggest idea we had: a comprehensive supplier strategy, which we called Partner Full Potential. The hallmark of this program was to streamline our supplier landscape from 55-plus vendors to a handful that would enter into multi-year “exclusive” contracts with Shire to deliver IT services.

As with our previous innovation initiatives, our focus would continue to be on value, efficiency, and cost. That program is currently in the implementation phase. And while it has brought significant cost savings, we continue to look for those smaller opportunities that will help us deliver the IT services that will support Shire’s aspiration of becoming a leading biotech focused on rare diseases and specialty conditions and that make IT a better place.

As we continue to negotiate new contracts with our suppliers, one thing we are very keen on is innovation. Each supplier now includes an “innovation fund” in the contract, which is money that comes back to Shire for our investment in something new. While the original innovation initiative gained traction within IT, we are finding that suppliers are eager to participate in

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“One idea that we immediately tested was a tool that was able to take a production snapshot of an environment so that an exact copy could be spun-up in a new virtual environment within a couple of hours, thus eliminating the need to maintain a development environment for that system.”
the process, representing a win for both parties. An investment that improves a process, for example, makes it easier for the supplier to manage that process and also delivers better results for us.

Our original incremental innovation process has gone through an incremental change. While there is always a need for innovation on even the smallest of things, we have broadened our focus to include larger programs that will make a more significant impact on Shire’s ability to enable people with life-altering conditions to lead better lives. In the end, all of our innovations, whether small or large, have an impact on our patients. That’s the reason why we are all here and what keeps driving us to do better every day.

The Takeaways

• Small-scale innovation can have a surprisingly big impact in terms of cost savings and improved efficiency.

• When you have run out of ideas for innovation, tap the creativity of the entire IT team, effectively crowdsourcing your innovation initiative.

• Despite the regular demands that people have on their time, encourage the people who generate the ideas to see their innovations through. The most effective execution of a good idea will come from someone who knows his or her area inside and out.

“I can turn to my colleagues and show them how we’ve identified $5 million worth of savings that’s deliverable using just $500,000 worth of investment in full-time employee time. That’s $4.5 million worth of savings we can take to the bottom line immediately. We try to make the benefit as concrete as we can.”
When the Regulators Have a Say in IT Governance

The code of corporate conduct in South Africa requires the boards of public companies to monitor and assess IT’s performance in numerous areas. This CIO’s balanced scorecard helps them do that – and offers a useful template for companies elsewhere.

POSITION
Group Chief Information Officer

COMPANY
Telkom South Africa

WORKS FROM
Pretoria, South Africa
PROFESSIONAL BACKGROUND
Len de Villiers joined Telkom as CIO in January 2014 from Transaction Capital, where as Group CIO he was responsible for technology functions. Previously, he spent over 20 years in banking, first as General Manager/Technology at First National Bank, then as CIO of Nedbank, and finally as CIO of Absa/Barclays. He is currently Chairman of the CIO Council of South Africa, which voted him the most admired CIO in South Africa in 2009.

EDUCATION
RAU, Wits, Insead (France), Harvard (U.S.)

PERSONAL PASSIONS
Cycling, Mentoring
We’re all aware that Information technology is central to a company’s success. No longer merely an enabler of business, IT is integral to corporate strategy – especially as most enterprises become digital enterprises.

Given this, it shouldn’t come as a surprise – though it undoubtedly will to some – that here in South Africa the IT function is today the most audited component of the business. Just as publicly traded companies are required to audit their financial accounts, the boards of companies listed on the Johannesburg Stock Exchange are required to monitor and assess IT’s performance in areas ranging from network security to capital investments.

This means that CIOs must justify their activity and performance to the board. But board members, although they increasingly understand the crucial role that IT plays in corporate success and failure, usually aren’t very IT savvy, compared to their financial acumen.

So I have devised a tool to help boards understand where IT is meeting strategic expectations and where it isn’t. Such a tool, tailored to a particular company’s situation or business environment, may prove useful to CIOs in other countries – even though they might not face the scrutiny from regulators that IT does in South Africa.

A New Burden for Boards

The third report of the King Committee on Corporate Governance, issued in 2009 (following earlier reports issued in 1994 and 2002) and known as King III, described the changing role that IT plays in business. E-commerce, electronic communication, the automation of many operational tasks – these and many other developments had made businesses heavily reliant on information systems while creating new kinds of risks. And whereas information systems once were business enablers, they now were central to business strategy. This “pervasiveness of IT in business today mandates the governance of IT as a corporate imperative,” the report said.

Corporate boards were charged with overseeing a number of specific areas of IT responsibility and following a set of principles when making decisions about IT. This put a heavy new burden on board members. The world of technology is a fast-moving environment. It’s difficult for even the most tech-minded of us to stay abreast of it all, and most board members are not well versed in technology.

I wanted some way to help boards fulfill their responsibility. The result was a balanced scorecard that the board could review at every one of their quarterly meetings. The balanced scorecard, which originated as a performance measurement framework that added strategic non-financial performance measure to traditional financial metrics, has become a widely used tool for providing a concise snapshot of how certain activities are furthering an organization’s strategic agenda.

With a scorecard devised

South Africa’s IT Governance Principles

The following principles are laid out in Chapter 5 of “King III,” the third installment of the King Report on Corporate Governance, which was issued in 2009 and applies to all companies listed on the Johannesburg Stock Exchange:

5.1 The board should be responsible for information technology (IT) governance

5.2 IT should be aligned with the performance and sustainability objectives of the company

5.3 The board should delegate to management the responsibility for the implementation of an IT governance framework

5.4 The board should monitor and evaluate significant IT investments and expenditure

5.5 IT should form an integral part of the company’s risk management

5.6 The board should ensure that information assets are managed effectively

5.7 A risk committee and audit committee should assist the board in carrying out its IT responsibilities
A Balanced Scorecard for IT

The balanced scorecard prepared quarterly by Telkom South Africa’s IT function (shown here in an illustrative rather than actual example) provides board members with a concise and transparent look at how IT is performing in the seven areas mandated by regulators.
specifically to meet the requirements of the King III code of governance, we can quickly and clearly show the board how we’re doing – good, bad, or indifferent – against the seven key issues they are charged with tracking. When they see a green, they know we are doing well and they can move on. An amber indicates that things are not in good shape, but there are plans to address the issue and bring it back in line. When it’s red, they know we’re off track and they need to pay attention to the problem. (See the sidebar “A Balanced Scorecard for IT.”)

### Seven Principles of IT Excellence

We take what we’re doing in IT and fit those activities into the seven principles of good IT performance outlined in the code:

- Board oversight
- Performance and sustainability
- IT governance framework
- IT investments
- Risk management
- Information security
- Governance structure

(See the sidebar “South Africa’s IT Governance Principles.”)

For performance and sustainability, for example, we created a matrix that outlines the performance of the strategic systems integral to our operations. If there are major outages, we indicate what the root causes were and what plans we’ve introduced to prevent recurrence. In terms of sustainability, we let the board know, for example, which systems may be decommissioned and which are going to be replaced by new technology.

Information security garners the most attention from the board these days, given the high-profile cyber-attacks that have made headlines in recent years. We give our board members assurance that the information assets of the firm are securely protected through authentication, firewalls, active monitoring of access, and the like. They want to know that our data assets are as locked down as they can be.

Other CIOs have taken their own approach to explaining IT’s performance to the board, but I find the balanced scorecard works best. Board members don’t want a big report to read. They’re busy people. They have much more to worry about than IT. They like a flash of light on what’s really important. We need to be circumspect about what we give them. This way they can see all the statuses on two pages and move on.

Of course, IT is more than the sum of its metrics. So we supplement the balanced scorecard with an outline detailing the overall performance of the technology function—including the softer side of what makes IT really work. We inform them about the more nuanced dynamics critical to successful IT delivery: how we’re doing managing our people, for example. How many people have we lost? How many new employees have we recruited? How is IT morale?

A board is usually driven by metrics like return on equity, profits, revenue targets, earnings before interest, taxes, depreciation, and amortization. But they also

“**In South Africa today, the IT function is the most audited component of the business.**”
realize that the culture of a firm is the underlying success factor in delivering effectively against those key performance indicators. So we let them know what we’re doing to motivate our workforce or improve our Net Promoter Score.

Seeing Red

As board members review the scorecard, they discard all the green. The simply don’t have time to waste reviewing those things that are going well. They give their attention to the red statuses first and ask the CEO—whom I brief—why something is red and what the prognosis is for getting it to green.

For example, one of our biggest programs is a ZAR 12 billion rand (US $830 million) next-generation network project that we are implementing over a five-year period. It’s the most capital-intensive project we’ve embarked upon and will bring fiber connectivity to every home and business in the country. It involves significant coordination among 25 project managers. And if any project stream is off track, it shows up as amber on the balanced scorecard. If we miss a target date, it’s red. If the board asks why, for example, we are delaying the rollout into the eastern Cape region, we can go in and explain why.

Nowhere to Hide

The balanced scorecard has been well received by our board of directors and corporate leadership. It gives board members transparency into what IT is doing, and that gives them a sense of assurance in meeting their fiduciary responsibilities. In some cases, a board member may ask me to come explain things to him individually and in private so that he can be best equipped to make decisions and ask questions during the board meeting. In addition to the openness, they appreciate the brevity, simplicity, and ease of use. At the same time, it is meaningful information.

But behind that simplicity is massive complexity. It’s difficult to build and track and report all the data necessary to deliver a concise and digestible scorecard. It’s not easy to populate. You have to make sure you’re tracking the right things. That doesn’t come overnight. We worked over many months to develop our own system for producing the report. There’s a whole machine and system behind the matrix to gather data, monitor system performance, review incidents, and scrutinize projects.

You must resist the urge to boil the ocean on these issues, but rather get to the point on them. Why is this project in trouble? How will it be resolved? I always tell my fellow CIOs that board members don’t care about the labor pains, they just want to see the baby. You should be able to cover everything in 15 minutes—what the issues are, what commitments you are making to resolve them, and when you will report back to the board on your progress.

Once you have a prototype scorecard in place, it’s important to take it to the CEO and ultimately

“Companies listed on the Johannesburg Stock Exchange are required to monitor and assess IT’s performance in areas ranging from network security to capital investments.”
the board and have them review it. You need a good relationship with the board members and corporate leaders for this to work. You must sell the concept to them. It’s critical to talk to them about it privately and see if it resonates. That buy-in is critical. Here, we went to the audit and risk committee of the board to give us initial guidance. A standard approach won’t work for every firm. You have to customize it to your culture, run a few pilots, and continue to refine it over time. Some of our metrics are solidly in place, while others are evolving. As each board meeting comes and goes, the process gets better and better.

The key selling point of the balanced scorecard system—its transparency—means that IT has nowhere to hide anymore. That’s clearly a benefit for the board, but it can be difficult for the IT group. Consequently, I make sure that we, as an executive team, do make time to celebrate the successes. That’s critical in motivating my team to continue to delivering a steady stream of greens on the red-amber-green color spectrum of this transparent performance scorecard.

“With a scorecard devised to meet the King III requirements, we can quickly and clearly show the board how we’re doing against the seven key issues.”

The Takeaways

- In South Africa, regulations for publicly traded companies mandate that the Board of Directors is responsible for oversight of the IT function, given its importance to the business. Consequently, IT generally has become the most audited business function, subjecting it to formal scrutiny not commonly found elsewhere.

- A balanced scorecard, prepared by the CIO and using the red-amber-green mechanism, can help boards monitor and assess IT’s performance in areas ranging from network security to capital investments.

- The balanced scorecard tool, tailored to a particular company’s situation or business environment, may prove useful to CIOs in other countries, even if they don’t face the scrutiny from regulators that IT does in South Africa.
HIGHLIGHTS FROM OUR PREVIOUS ISSUES

ISSUE 1
ARE YOU A REINCARNATE CIO?

ISSUE 2
SO WHAT DO CIOs WANT?

ISSUE 3
BIG DATA: A RARE BUSINESS OPPORTUNITY FOR CIOs

ISSUE 4
7 THINGS CIOs ARE DOING TO GET AHEAD IN THE DIGITAL ECONOMY

ISSUE 5
MAKING ENTERPRISE MOBILITY A REALITY

ISSUE 6
WOMEN, LEADERSHIP & IT

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Big Thinking

GEORGE WESTERMAN
Principal Research Scientist
MIT Sloan Initiative on the Digital Economy

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Leading Digital

Driving digital transformation is not primarily about technology but about leadership. There are lessons to be learned from digital leaders who have transformed large established companies that weren’t “born digital.”
“Digital Masters excel at two essential capabilities. They build digital capabilities by rethinking and improving their business processes, their customer engagements, and their business models. They also build strong leadership capabilities to envision and drive transformation,” writes George Westerman in his latest book, Leading Digital: Turning Technology into Business Transformation.

The book, co-authored with Didier Bonnet and Andrew McAfee, grew out of a study of more than 400 large global firms in traditional industries, from manufacturing to pharmaceuticals. The authors’ research was designed to, in effect, sequence the DNA of what Westerman and his coauthors call Digital Masters by studying the patterns underlying successful digital transformations.

Westerman is a Principal Research Scientist with the MIT Sloan Initiative on the Digital Economy, where his research portfolio and teaching focus on digital technology leadership and innovation. His previous books include The Real Business of IT: How CIOs Create and Communicate Value, and IT Risk: Turning Business Threats into Competitive Advantage, both co-authored with Richard Hunter. The Real Business of IT, which CIO Insight magazine named the best IT-business book of 2009, showed CIOs how to change IT’s role from that of order taker to strategic partner by taking charge of the value conversation. IT Risk, one of CIO Insight’s ten best books of 2007, showed CIOs how they can use risk concepts to change the nature of the IT/Business conversation.

Westerman is a member of the Board of Directors of the Technology Business Management Council, Co-Chairman of the MIT Sloan CIO Leadership Awards, and faculty director of the MIT Sloan course “Essential IT for Non-IT Executives.” Prior to joining the MIT Sloan School of Management in 2002, George earned a doctorate from Harvard Business School. Earlier, he gained more than 13 years of experience in product development and technology management roles.

In the following edited conversation with CIO Straight Talk Editor Paul Hemp and Associate Editor Venumadhav Pandit, Westerman describes some of the attributes of companies that have undergone a successful digital transformation.
How did you go about studying companies that are “leading digital”?

We didn’t go out and look for companies that we knew were Digital Masters. We started with companies that were big, at least $1 billion in annual revenue, and well-managed. We wanted to see what they were doing with technology, as opposed to what the born-digital companies, the Amazons and the Googles of the world, were doing. We chose not to focus on born-digital companies because executives in large companies often say, “Yes, I understand that Google does it that way. It’ll never work for us.” What we found was that there are large companies around the world who may not be doing it the Google way but who are doing great things with digital.

Perhaps the biggest surprise was that every industry we studied, whether a technology industry or a financial services industry or even paint manufacturing, already had digital masters in it. These are not digital companies; they’re traditional companies that are using digital really well. Another surprise was just the broad diversity of exciting things that are happening in these less-than-exciting businesses, things that really transform the way that they’re working with customers and transform the way that they’re working internally.

The last surprise would be the level to which the board room and the senior executive team have woken up to technology questions. They understand that they need to be smarter about technology. They were willing to spend time with me, as a researcher, to talk through it; it was that important for them. In the past, it was really hard not only for a researcher but for a CIO to get the attention of the rest of the senior team on these technology issues.

We wanted to see what they were doing with technology, as opposed to what the born-digital companies, the Amazons and the Googles of the world, were doing.
So you found some digital success stories among the large incumbents you studied?

What we found was that a lot of companies were doing things; very few companies were doing things well. However, the Digital Masters – companies such as Caesars Entertainment, Nike, Asian Paints, Codelco, and Burberry – are in a variety of industries and geographic regions. They are getting more value from technology and they’re using it in various ways to transform their organizations.

The big difference between Digital Masters and other companies is that they excel in two important dimensions of capability. They have exceptional digital capability in their customer experience, operations, and business models. Even more importantly, they have created the leadership capability – vision, engagement, and governance – to drive transformation.

You talk about vision. Why does that matter?

The research has shown me, very clearly, how important it is to have a strong vision for the transformation that you’re driving. Nike doesn’t want to be a company that sells you things you wear. It wants to be part of your life. Boeing doesn’t want to sell you airplanes. It wants to be the center of the digital airline.

Burberry didn’t want to be a chain of stores selling fashion to wealthy older people. It wants to serve the millennial customer in whatever way and at whatever time and in whatever channel that customer wants to work.

These visions are extremely important because everybody in your company has a mental picture of how the company works. If you want to transform the company, you need to start by helping people see how the company will be different. You need to change that mental picture. Engaging your employees around a new vision – what it is and how they fit in – that is a great starting point for driving transformation forward.

For CIOs, this presents a tremendous opportunity – and also a requirement – to think beyond technology, to think how your company can be different in our digital world, and help the senior leadership team develop that vision of where you’re going to go.

They don’t think, “Hey, let’s put mobile into customer experiences.” They say, “How can we get as close as possible to customers, wherever they want us, whenever they want us?”
In the cases that you just mentioned, where did that vision originate?

In some cases, the vision came down from the CEO as someone who really got the change and the need to drive it. In other cases, it came from the CIO. For example, leaders of Codelco, the world’s largest copper mining company, have a vision where no miner ever needs to work underground. The vision, as they roll it out, was identified by the CIO and the transformation is being led by the CIO. But the entire senior team is involved in making that happen.

In fact, technology is something that can’t be left to the CIO anymore. The CIO has a really important role to play, but the real value of technology comes from the chance to change the customer’s experience, to change the ways that employees engage with each other, to change the way decisions are made. These are the sorts of things that business managers need to know how to drive.

Interestingly, in the early stages of the research, I talked to CEOs and other very senior executives at 50 companies. A lot of them said, “This digital stuff is too fast; it’s too innovative. We cannot leave it to our IT department because the IT department can’t handle it.” What they wanted to do was to work around their IT departments. Yet among the digital masters that we identified, the companies that are doing this right, every single one of them found ways to work with their IT department to drive the transformation. Sometimes that meant changing the opinions of the business leaders. Often it involved changing how IT worked. IT people have an interesting role to play; they just can’t do it alone.

What is it that the digital masters are getting right?

The way to think about this is that you can transform in three areas: customer experience, operations, and business models. Transforming in one area makes transformation in other areas possible. It’s really hard to create a phenomenal customer experience unless your operations are clean. If you’ve got great information and you’ve got great customer experience, new business models can emerge. The Digital Masters, whether it be Caesars in hospitality or Nike in apparel or Asian Paints in paint or Burberry in retail, these companies often start with one area but they find that they end up transforming a lot of areas as they move on. (See the sidebar “Asian Paints: From Consolidation to a New Business Model.”)

The key thing about the

Digital is about changing the business, not just changing the technology. Organizations need somebody who can own that vision and can work with the different parts of the business to drive that transformation.
Digital Masters is that they don’t think about it in terms of technology; they think in terms of transformation. They don’t think, “Hey, let’s put mobile into customer experiences.” They say, “How can we get as close as possible to customers, wherever they want us, whenever they want us?” With operations, they think about how processes can become more connected, smarter, collaborative. And by focusing on transformation rather than technology, companies are seeing opportunities to transform their business models.

Progressive Insurance has changed the way that it rates car insurance by putting a device in your car to see how you actually drive, rather than basing rates on your demographics.

Daimler is connecting the trucks it makes directly to Daimler so, when a driver’s check-engine light goes on, Daimler can tell the driver immediately what’s wrong. That new service-driven business model is built on digital capabilities. But the big thing is that drivers and fleet managers are far happier.

What are some things that you recommend to companies when they say, “where do we start?”

Of course, you can start with some digital experiments to test the waters. But do more than that.

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Boeing doesn’t want to sell you airplanes. It wants to be the center of the digital airline.

Asian Paints: From Consolidation to a New Business Model

George Westerman’s latest book, Leading Digital: Turning Technology into Business Transformation, focuses on companies that power much of the economy but are rarely mentioned as technology innovators. In this edited excerpt from the interview, Westerman describes how Asian Paints – India’s largest and Asia’s third-largest paint company – leveraged digital capabilities to consolidate its businesses, thereby enabling improved relationship with its retail customers, a rethinking of its operations, and finally the transformation of its business model to create an extended enterprise:

Asian Paints was a business spread over 13 regions that operated largely independently. The company began its transformation by taking steps to unify these regions – to create a common platform, standardized processes, and a single corporate call center that would centralize routine order taking processes.

This changed the nature of the relationship with the retailers who bought Asian Paints’ products because they now connected directly with the company through the call center rather than through a salesperson. It made customer service more consistent and provided Asian Paints with analytics that told them which products were selling well and how to address customer complaints better.
to drive that transformation, to identify the innovation needed to drive the change, to build governance. The Chief Digital Officer is becoming more common in organizations, whether that is the actual title or not.

The best digital transformation is built on a very strong technology backbone — a very strong platform of operational and customer information. You may need to rework your back office. You may need to rework your platform to enable that truly stellar customer experience.

Then you need very strong governance to steer your platform — and your organization — in the right direction. An important thing to remember about digital governance is that great IT leaders already know how to do this. Great marketing leaders don’t always understand this.

**Why is that?**

Because it’s a natural role for CIOs to play. Governance across the organization is something that IT has learned over decades, and it is something that the rest of the business doesn’t always have much experience with. It’s an opportunity for CIOs to add to the conversation and show that they have a role to play.

Let me put it this way: governance in digital is just as essential as it is in IT, but it’s now a broader thing. It’s about the transformation of the whole business. Governance needs to be aimed at the right level of

*Technology is something that can’t be left to the CIO anymore.*

This allowed salespeople to change from order takers to relationship builders.

The unification laid the foundation for other changes. Executives shifted their attention to operations and concluded that automated factories were better than those staffed with people. The factories had been difficult to staff and had high turnover, leading to quality problems. Today, Asian Paints is building large factories that have virtually nobody in them.

At the same time, though, the company is creating jobs in new areas. Executives realized that services are a huge opportunity for India’s busy middle class. Today, Asian Paints can sell you a painted wall, not just a can of paint. Moving into services helped the company ensure that its products were applied properly, thereby enhancing customer satisfaction.

It also helped the firm to get closer to end consumers that it didn’t have contact with before.

What started as a unification exercise turned into a transformation of the company’s relationships with retailers. It led to operational changes in the manufacture and distribution of the product, which in turn led to services that brought the company closer to its end customers. It even enabled global expansion; the company is now in 17 countries around the world.
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Coordination and sharing among all the things you’re doing around the organization. Nike has its Nike Digital Sport unit that’s helping to drive digital transformation in marketing, in customer experience, and operations. P&G has its Global Business Services unit. Other companies have digital leadership roles and processes but not units. Whatever the approach, you need to make sure that the right levels of sharing and coordination are happening.

Vision and governance are an opportunity for great CIOs to step up and become a driver of the digital conversation. If you’re not helping to drive that conversation, you will become a support person for the person that is.

There’s never been a better time to be a truly great IT leader, and there’s never been a worse time to be an average IT leader.
THE VOICES OF EXPERIENCE

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