

Tech Trends for
Consumer Products 2013
Elements of postdigital



Preface

Welcome to Deloitte's annual report examining trends in technology put to business use. Once again, we've selected ten topics that have the potential to impact businesses over the next 18 to 24 months.

Developing the list of trends is an ongoing process of primary and secondary research. The process includes:

- Feedback from client executives on current and future priorities
- Input from Deloitte industry and practice leaders
- Perspectives from industry and academic luminaries
- Research from alliance partners, industry analysts, and competitor positioning
- Crowd-sourced ideas and examples from our global network of practitioners

This year's theme, *Elements of postdigital*, examines the convergence and controlled collision of five forces – Analytics, Mobile, Social, Cloud, and Cyber – as businesses move closer to achieving the possibilities of the Postdigital Enterprise™, where all five forces are mature, implemented, integrated, and baked-in instead of bolted-on. These five forces offer a new set of tools for business, opening the door to a new set of rules for operations, performance, and competition. IT can deliver engagement and empowerment to business customers, both innovating and industrializing.

The Postdigital era, like the post-industrial era, reflects a "new normal" for business and a new basis for competition. In post-industrial times, we didn't forego industrialization, we embraced it. The Postdigital era is similar, but with digitalization as its core.

It's an uncommon time to have five forces – all newly emerged, all evolving, all technology-centric – already impacting business so strongly. It is an opportunity for IT to deliver extraordinary value via modest investments on top of a strong legacy technology footprint.

Our 2013 report shares ten trends grouped into two categories. *Disruptors* are opportunities that can create sustainable positive disruption in IT capabilities, business operations, and sometimes even business models. *Enablers* are technologies in which many CIOs have already invested time and effort, but which warrant another look because of new developments or opportunities. Enablers may be more evolutionary than revolutionary, but the potential is often there nonetheless to elevate the business game.

For 2013 we have also attempted to personalize our general Tech Trends article to include topics and examples specifically relevant to the Consumer Product industry. While we have maintained much of the rich content contained in the original version of this article, we've specifically included examples from leading Consumer Products companies such as Schwan's (Mobile Only and Beyond) and OfficeMax (Design as a Discipline), and have also featured our collaboration on Big Data with the Grocery Manufacturers Association (GMA).

Each topic also includes an external point-of-view in the *My Take*. This year, you'll also find a new section called *Flying Car Future*, which takes a provocative view into where the trend may be headed in Horizon 3 – and beyond. Last but not least, where we deem applicable, we've included our Consumer Products perspective to share our industry insight on the implications of the respective trend.

Each of the 2013 trends is relevant today. Each has significant momentum and potential to make an impact. And each warrants timely consideration. Forward-thinking Consumer Products organizations should consider developing an explicit strategy in each area – even if that strategy is to wait and see. But whatever you do, step up. Provoke and harvest disruption. Don't get caught unaware or unprepared.

Thank you for your interest in this year's report. We welcome your feedback and questions. To the many executives who have provided input into Tech Trends for Consumer Products 2013, thank you for your time and insight. We look forward to having more of the essential dialog between business and IT.

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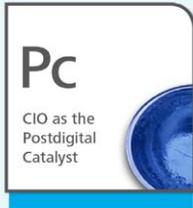
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At a Glance

Disruptors

Opportunities that can create sustainable positive disruption in IT capabilities, business operations, and sometimes even business models.



CIO as the Postdigital Catalyst

Catalyzing value from the elements of mobile, social, analytics, cloud and cyber

CIOs can lead the move to tomorrow – reshaping business as usual, and driving innovation. They are faced with unprecedented opportunity for innovation such as the potential to enable Customer Intimacy at scale for Consumer Products Organizations. How should business respond? When CIOs harness the convergence of the five postdigital forces, they can change the conversation from systems to capabilities and from technical issues to business impact. Plan big, start small, fail fast, scale appropriately.



Mobile Only (and beyond)

The enterprise potential of mobile is greater than today's smartphone and tablet apps

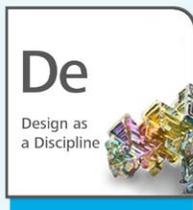
Mobile should be top of mind for organizations. But don't limit your ideas to Mobile First. Think *Mobile Only*, imagining an untethered, connected enterprise. The next wave of mobile may fundamentally reshape operations, businesses and marketplaces – delivering information and services to where decisions are made and transactions occur. The very definition of mobile is changing – as evidenced by our featured Consumer Products organization that already improved customer service efficiency and quality through the Mobile Only paradigm.



Social Reengineering by Design

How work gets done is no longer constrained by 19th century platforms

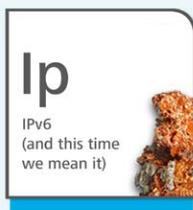
Businesses are no longer building technologies just to enable interaction – they are now engineering social platforms for specific context – platforms that can relieve rather than serve traditional organizational constraints such as deep hierarchies, command-and-control cultures, physical proximity and resource concentration. Social reengineering can fundamentally transform how work gets done, but it isn't just a "project." It's a strategy. It's time to uncover the opportunities for Consumer Product organizations to harness the power of the crowd to augment business operations through external communities.



Design as a Discipline

Inherent, pervasive and persistent design opens the path to enterprise value

Driven by consumer experience, intuitiveness and simplicity are moving from IT aspirations to enterprise mandates. Design is not a phase; it's a way of thinking. Beyond look and feel, beyond user interfaces. Isolated in silos of user experience (UX), marketing and product development, individual design functions may be reaching their limits. What's needed is a collaborative, immersive environment to work together. Design is not just an "IT thing" or a "marketing thing" or a "product engineering thing." It's an *enterprise* thing as evidenced by our featured Consumer Products organization that dramatically improved user productivity and customer experience.



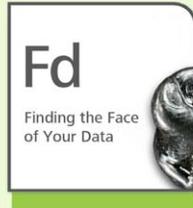
IPv6 (and this time we mean it)

Ubiquitous connected computing is straining the underlying foundation of the Internet

Internet Protocol is the foundation of networking, but we've run out of addressable space for addressable items. The more important it is for your business to connect with the outside world, the more important IPv6 is for your future – and the more urgent this issue is for you today. IP addresses are woven deep into applications and infrastructure, and migration can bring challenges. While there's no drop dead date for IPv6, the final IPv4 address blocks have already been allocated. Careful and proper adoption will take time for planning, execution and verification. The time to start is now.

Enablers

Technologies in which many CIOs have already invested time and effort, but which warrant another look because of new developments or opportunities.



Finding the Face of Your Data

Fuse people and technology to discover new answers in data – and new questions, too

Humans do some things really well, while computers are better at other things. It is this particular combination that enables the identification of new patterns and relationships across dimensions of data – structured and unstructured, internal or external, big or otherwise. By combining human insight and intuition with machine number-crunching and visualization, companies can answer questions they've never answered before. For Consumer Products organizations, Deloitte's collaboration with the Grocery Manufacturer's Association is raising awareness of the business value of data visualization.



Gamification Goes to Work

Driving engagement by embedding gaming in day-to-day business processes

Gamification can encourage engagement and change employee, customer and supplier behavior, creating new ways to meet business objectives. The goal is to recognize and encourage behaviors that drive performance – sometimes in unlikely places. This trend has moved beyond hype and is already demonstrating business value. More specifically, Deloitte's collaboration with the Grocery Manufacturer's Association is exposing the significant potential for consumer-targeted applications (such as in-store gamification).



Reinventing the ERP Engine

Revvng up data, hardware, deployment and business model architectures at the core

If you could really get ERP cheaper and faster, what would you do differently? Run materials requirement planning (MRP) many times each day? Close the books in a matter of minutes? Optimize delivery routes on-the-fly in response to new orders, traffic or customer preferences? What would it mean for business agility, capability and competitiveness? If approached with a focus on reinventing business capabilities, the evolution of the ERP engine can yield significant competitive edge.



No Such Thing as Hacker-proof

If you build it, they will hack it. How do you deal with that?

You've either been breached – or you soon will be. Your boss knows it, your business knows it, your board knows it, your customers know it, and hackers know it. It's your job to deal with it. That means changing the way you think about defending yourself. Be more proactive about the threat – and react more rapidly when breaches do occur. Detect them quickly, respond, clean up and adjust your tactics. Be outward-facing, prepared and ready in advance. Anticipate and prevent when possible, but be ready to isolate and encapsulate intrusions to minimize impact. It's better to lose a finger than to lose an arm.



The Business of IT

After reengineering the rest of the business, IT's children deserve some shoes

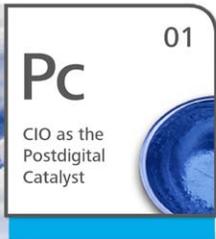
Fragmented processes and systems can prevent IT from effectively delivering on the changing demands of the business. IT may need to transform its own management systems to keep up. Is this ERP for IT? Maybe someday. Today, CIOs are crafting solutions from industry-leading products and testing business cases at each step. And the potential benefits are worth the investment – not only in driving down costs and better managing risks, but in positioning IT as the business partner in provoking and harvesting disruption in the Postdigital era.

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Disruptors



1 CIO as the Postdigital Catalyst

Technology-centric forces are driving business innovation. Who will lead the charge?

Five macro forces – analytics, mobile, social, cloud, and cyber – are hard at work enabling and disrupting organizations of many shapes and sizes. The Postdigital Enterprise™ provokes and harvests these disruptions by changing operating models, capabilities, and perhaps even business models. Industrialization wasn't complete when we entered the post-industrial era; it had simply become the new basis for competition. The same holds true for these digital forces in the Postdigital era.

CIOs are in a unique position to be the harbingers of change. To serve as catalysts across the executive suite, helping others understand the boundaries of the possible. To force thinking beyond venerating existing solutions and processes. To stand accountable for realizing transformation.

In almost every organization, the relationship between the business and IT is – at best – complicated. On one hand, technology lies at the heart of the business strategy – a tool for efficiency and an engine for growth. On the other hand, IT departments should manage the realities of being a high profile cost center – in many companies they are the single largest expense on the balance sheet¹. It's no wonder

that a recent Gartner study reported that 45% of IT leaders report to the CFO, more than to any other executive, and that this represents an increase of 3% from 2011 to 2012². There are shrinking budgets, a shrinking tolerance for long projects, and an end-user community whose benchmark for effective IT initiatives has shifted from enterprise systems to consumer products – notably around the definitions of responsiveness and usability.

At the same time, the five postdigital forces are changing the very nature of IT. Mobile has destroyed constraints based on physical location. Users now expect that the power of the enterprise should be available at the point where decisions are made and where business is transacted – no matter where that is. Social is flattening internal hierarchies, rewriting the possibilities of global collaboration inside and outside of organizational boundaries, and allowing engagement with consumers as individuals – customer segments of one. Analytics is unlocking insights from data to support human decision making – from big data and transactional data to what's in-between – using advanced statistical models and visualization techniques to fuel descriptive, predictive, and prescriptive decision and action. Cloud has changed the economics and cadence of technology investments. On the subscriber side, a growing collection of services is available for subscription – with an acquisition model that is elastic in both cost and capacity. On the provider side, cloud presents opportunities to monetize information and services in new ways – new or adjacent business models for many sectors, not just high tech, media, and entertainment. Cyber security and privacy are part of a constant conversation – guiding innovation in emerging spaces in advance of regulatory concerns, while also dealing with relentless and growing threats.

A mature Postdigital Enterprise™ leverages innovation and drives change. A recent research report identified that 39% of the companies studied exhibited excellence in multiple postdigital domains. On average, these organizations are 26% more profitable than their industry competitors. They generated 9% more revenue through their employees and physical assets, and they exhibited 12% higher market valuation ratios³.



Consumer Products Perspective

One of the impacts of the postdigital forces has been the radical empowerment of the consumer, the ease with which they can compare product attributes, prices and use their social networks to change the trajectory of a products' market success. The CIO and the IT organization are a critical component of the organization's response in engaging with the consumer. The CIO can facilitate this engagement through:

1. The potential/reach of mobile, through apps and devices, to provide context relevant information to consumers, sales teams and ecosystem partners. This allows the enterprise to go beyond the simple examples of price comparison to understanding the consumer's need and meeting it.
2. Internal, external, structured and unstructured (e.g., videos, searches, conversations) data to help the Marketing and Sales function understand the intention of the consumer prior to them making a purchase. Truly insert the enterprise in the decision cycle versus waiting until the decision is made.
3. Cloud, collaboration and social technologies to address the need for agility and the inclusion of the consumer earlier in the process.

In summary the primary role the CIO as a Postdigital Catalyst plays in the Consumer Products industry is enabling Customer Intimacy at scale and increasing the agility of enterprise response to rapidly changing consumer and competitive environments.

In response to this type of advantage, Gartner predicts that by 2015 about 25% of companies will create a Chief Digital Officer (CDO) role, leading digital sources of revenue as well as digital marketplace products and services⁴. This evolution acknowledges that many parts of the business can reap benefits from postdigital convergence. This postdigital environment creates both the opportunity for innovation and the existential threat of disruption – especially now as many businesses are inherently digital. What’s at stake may very well be the future of the business. Tomorrow’s leading CIOs are likely to be those who rise to the challenge, perhaps reframed as the CDO, forging new identities as a postdigital catalyst – an agent to provoke or speed the move to the Postdigital era.

History repeating itself?

The evolving nature of IT and the role of the CIO have been the subject of much debate over the past several decades – and a consistent feature of our Technology Trends research. The message has focused on the dual challenge of industrializing core delivery and operations, while elevating the position of IT to help inform the innovation agenda. But practical realities have changed in 2013 – creating not only a sense of urgency, but an opportunity to redefine the role.

	What were the challenges?	What’s different in 2013?
<p>CIOs as revolutionaries⁵</p>	<ul style="list-style-type: none"> • Warnings of the declining influence of the CIO had not yet become budget realities, often with the majority of technology spend remaining within the IT department. • Institutional baggage has had an impact, where IT has been saddled with production outages or perceived budget and timeline overruns for discretionary projects. It has been difficult for some CIOs to play an expanded leadership role as they have had to focus on disciplined execution of their baseline mission. • Technology innovations have often not been well understood within the business – leading to lack of enthusiasm for exploring new concepts. Without business sponsorship, many CIOs who have attempted to play revolutionary roles have done so in isolation – trying to anticipate what the business will need, and building what they perceive to be innovative solutions in a vacuum. • Rigid procurement processes and limited technology skills outside of the IT shop provided some incentive to include IT in forward-looking projects; even if CIOs weren’t revolutionary in defining the vision, they were often pulled into the effort. 	<ul style="list-style-type: none"> • Analysts predict that, by 2017, the average Chief Marketing Officer (CMO) will spend more on IT than the average CIO⁶. The CIO may no longer just be fighting for recognition, but also for relevance. • Renewed focus on running the business of IT⁷, creating foundational services for efficiency and transparency of the IT function, and creating deliberate disciplines to drive innovation⁸. • Advances in consumer technology and high rates of adoption have created more technologically savvy business counterparts. There is new incentive for the business to participate in innovative IT efforts. • Cloud computing and “app store” platforms have led to more experimentation within the lines of business – with low-code/no-code configuration tools that reduce skill barriers. IT has the chance to insert itself into conversations by providing offerings around security, integration, and data correlation – hurdles that often limit how far “shadow IT” can take potential solutions.



Technology implications

CIOs have enormous assets under their control – from applications to infrastructure (including devices, facilities, and operations), from solution sourcing to managing the end-user experience, from planning and demand management to project and financial management. They are also responsible for a large amount of human capital – including full-time, contractor, consultant, on-site, off-site, and off-shore resources.

Becoming a postdigital catalyst is not simply a change in philosophy or mindset. There are a number of tangible implications that should be addressed.

Topic	Description
Budget / portfolio management	Many organizations have a rigid investment process – requiring a well-defined business case and reasonably understood requirements, which are then evaluated at a few predefined times during the calendar year. This often works fine for large ticket, multi-year initiatives like data center modernization or an ERP rollout. But for CIOs to become true postdigital catalysts, they should have a more agile, responsive planning and prioritization function. Project, portfolio, and IT finance management disciplines can help with this journey, adding discipline and visibility around the pipeline of asks, project status, and resource/budget/release performance.
IT delivery model flexibility	Waterfall delivery is an important part of many IT organizations, but what’s good for long-running, widely scoped projects can be anathema for smaller, dynamic efforts. Create a SWAT team with diverse skill sets, including some that may be foreign to your IT department. Think graphic designers, user experience engineers, or even anthropologists and cognitive psychologists, in addition to business leads, technology engineers, QA resources, and project managers capable of cultivating your own flavor of Agile. Business owners respond to show, not <i>tell</i> , in the postdigital world. Cultivate ideas, develop working prototypes with core concepts, and grow your thinking about what is wanted and needed through hands-on experimentation.
Information disciplines	Data management, stewardship, correlation, cleansing, analytics, and visualization can be critical disciplines in the Postdigital era. The “informationalization” of the enterprise should be at the fore of the CIO’s agenda – turning data into decisions, shifting reports into metrics that matter, moving from stove-piped processes to service-based capabilities, and articulating IT’s mission and related services in terms that the business can understand, anchored in business impact.
Integration	Integration and orchestration will likely become the building blocks of tomorrow’s IT organization. A dynamic middle tier is important for managing end-to-end interactions between legacy on-premise packages, rapidly developed emerging technologies, and cloud solutions. Flexibility in terms of service quality, transaction management, the degree of routing determinism, business rules, and policy management will likely be critical.
Vendor management	Technology footprints are trending toward more heterogeneity. Managing contracts, licenses, subscriptions, service levels, updates, patches, and release schedules should be a priority. More strategically, pursuing joint ventures or value-based arrangements with a mix of established players and start-ups can help fuel innovation and hedge against disruption.
Architecture	Architecture and design ⁹ are the core currency of the Postdigital Enterprise™. While solution architects conversant with business processes and objectives will likely become the most sought after talent, enterprise architecture up and down the stack should be treated as a serious discipline with codified assets.
Enabling skills, methods, and tools	Each postdigital force requires a set of skills, methods, and tools that may or may not be mature in the organization – or even in the market. What are the right mobile app development tools for your needs? As “bring your own device” (BYOD) evolves to “bring your own app” (BYOA), what are the right mobile app management (MAM) and mobile device management (MDM) approaches? Do you have the data science experience for valid taxonomy and pattern discovery that can allow actionable insight from the rising flood of unstructured data? Do you understand the people, process, and technology implications of an increasingly social business environment? What is the right blend of IT services catalog and business services catalog in the hybrid-cloud environment? What are the right methods for digital asset management and cyber intelligent innovation with the intersection – even collision – of analytics, social, and mobile in the borderless cloud? These questions should be addressed as the vendor space evolves with breathtaking speed. This calls for an experimental IT approach, using prototypes and multiple initiatives to find the most appropriate choices in an iterative manner.

Lessons from the frontlines

Super-sized innovation

Red Robin Gourmet Burgers needed to boost slumping revenues, connect more efficiently with customers, and revitalize its restaurant business. CIO Chris Laping had already built a reputation as a problem solver, using IT resources to manage complex projects such as improving the company's distributor supply chain. So when the CEO, Stephen Carley, was looking for help to manage organizational change, Laping was named SVP of Business Transformation. IT's track record in meeting tough challenges became a catalyst for driving change in other parts of the company.

To improve customer experience, Laping worked with marketing to leverage the power of analytics. Together, they created the company's loyalty program. The program allows the organization to analyze customer activity – leading to improved insights, tailored marketing communications, and an improved dining experience.

The CIO also sponsored deployment of mobile device management (MDM) software as part of a customer service change initiative, allowing the company to upload applications on tablets shipped to restaurants all over the country. Employees now use tablets to maintain waiting lists and to page customers via their mobile phones when their tables are ready. They also use the tablets to connect customers to their loyalty program.¹⁰

Laping's vision for business transformation extended beyond customer management to include workforce development. To modernize employee training, a new self-paced, interactive program was rolled out via mobile channels. The company also uses internal social networking to crowdsource feedback from managers and employees across the company. In one early achievement, the time required to roll-out a new menu was reduced from a year-and-a-half to one month¹¹.

The CEO recognizes the role of IT as a major driver of innovation for the company, and the efforts of the CIO have translated into increased market share for the company. Profits and stock price have increased, and the company is seeing more repeat customers.

A winning hand¹²

In the elusive quest for innovation deep in research labs of large corporations, CIOs today have been dealt game-changing cards. IT may have been traditionally known for being risk-averse, but the unfolding of breakthrough business turnarounds led by technology has turned the heads of executives and has them looking to the CIO for the next move. One area of opportunity is developing in the automotive and transportation industry. With the ability to capture and process data from remote train and track sensors and weatherforecasts in real-time, Norfolk Southern Railway has been enhancing its dispatcher decision-making capabilities. Not only is it a cloud play, it's also a big data and analytics one, too.

Using data to automate basic dispatcher decisions, dispatchers and train engineers can spend more time on managing exceptions, moving freight in a timely manner and providing improved service for the company's rail customers. Behind the cards is Deborah Butler, Norfolk Southern's CIO. When fully deployed, the systems are expected to reduce fuel consumption by 6% or more, translating to annual operating cost savings of \$80-\$100 million. Capital investment savings, in the form of reduced asset requirements, could save another \$200-\$400 million.

Turning trash into treasure

To Puneet Bhasin, Waste Management is not just a garbage company. With more than 22 million customers and 20,000 trucks driving two million miles each day, he describes Waste Management as a logistics and energy company. Bhasin, the company's CIO and SVP of Technology, Logistics, and Customer Service, is working closely with other executives to put technology at the center of the Waste Management network.¹³

When he joined Waste Management, Bhasin's goal was to figure out how the company could leverage emerging technologies. He developed a Decisions Sciences group, now a subsidiary called Waste Management Logistics, to gain insight on operations by using the massive quantities of data the company already had. He worked closely with the CEO and CFO to establish the group, and soon the team was providing data analytics, research, and industrial engineering services. The new capabilities now provide the basis for many new initiatives at the company such as the rollout of custom mobile devices and sensors to trucks to track information such as load weights, routes, and time spent at stops. This allows the company to make routes more efficient, reassign work if trucks become full, and report information back to customers to help them change their trash and recycling habits.

Analytics also forms the basis for a pricing application similar to those used in the airline and hotel industries. Waste Management provides more than 100,000 service quotes a month, specific to each customer¹⁴. Bhasin determined that salespeople were spending less than half of their time on selling and the rest on administrative tasks such as determining pricing plans. His Decision Sciences group built a predictive analytics model which uses factors such as location, type of waste, weight, local regulations, and competing services to generate price quotes. The application also predicts whether customers with expiring contracts might accept a price increase.

Puneet Bhasin has taken his position as CIO beyond an enabling role to that of a strategic leader, and his vision has put IT at the core of revenue-generating projects. The pricing application, for example, increased revenue by \$218 million in 2010¹⁵. As Waste Management changes its business, postdigital forces will continue to provide the basis for turning trash into treasure.





My take

Doug Albrecht

Director of Information Management
Port of Long Beach

At the Port of Long Beach, we help move the nation's goods. My job is to figure out how technology can support this mission effectively in today's postdigital environment. All of the postdigital forces – mobile, analytics, cloud, social, and cyber – are at work at the Port of Long Beach. On the mobile front, smartphone and tablet apps are still emerging for us, but our “mobile first” direction will eventually allow everyone – from executives in Asia to engineers on the job site – to access the Port's systems whenever and wherever. That said, we are pros with mobile sensors and machine-to-machine. We already have many sensor technologies running at the Port: seismologic sensors alert us of earthquakes and potential infrastructure damage, RFID tags control truck access to our terminals, sewer and storm water control sensors measure performance and environmental impact and monitor security.

Sensor data enters directly into our systems and moves all the way up to the analytics for operational dashboards. For example, we receive ship movement data that tracks entry to and exit from the harbor, all integrated with our billing system. The Green Flag Program automatically applies incentive discounts to ships that manage their speed nearing the port, smoothing traffic and mitigating environmental impact. A Green Flag dashboard shows monthly and yearly performance of all carriers calling the Port of Long Beach.

We use a private cloud to get the benefits of business continuity, resilience, and ease of maintenance – even though it creates challenges of complexity and the need for different skill sets. Hardware is a commodity and eventually we will move to a public cloud. I would rather my team worry about Port business than memory needed in a new server.

In terms of social media, we've just begun to use it for external marketing. But internally, a sophisticated project management system connects people and information creating a central source of information for large capital projects, like the \$1.2 billion middle harbor project. We also recently implemented unified communications to facilitate collaboration between our employees. The next step will be to tie it all to mobile.

Cyber security is an imperative. We are part of the U.S. Coast Guard's cyber command center and participate in TSA's Cyber Working Group for the transportation sector. We've implemented a hardened outer shell and deployed multiple in-depth tools and techniques. We also emphasize the “human firewall” by training our employees to understand that no matter how many protections we have, if someone asks for your password and you give it to them, it's all out the window.

I have three pieces of advice for CIOs. First, know what team you're on. I've come to realize that my team at the Port includes both IT and the Directors running other parts of the business. To do my job, I should understand what they're doing, and communicate with them clearly. We invite Port Directors to our IT staff meetings to get to know them and learn how to better support their needs, and build a foundation of trust. Second, develop your people. Teach them leadership, communications, and how the business works. Third, trust your staff to do the work they're supposed to do. That will open up time for you to get out and see what else is going on. Being well-read is important, but not sufficient. It's essential to meet and interact with other IT executives – to bring back ideas that will continue to make postdigital forces more valuable to your business.

Flying car future

Some predict the slow demise of the CIO¹⁶ – as if IT will become a utility, managed as a distributed function across the business. We predict the opposite. CIOs will likely not only become omnipresent on executive committees, but also become consigliere to CEOs as they navigate an increasingly digital business environment.

Business in the future will likely be conducted as a combination of discrete services – command and control giving way to service levels and outcomes. In this model, outside-in architecture¹⁷ becomes the norm, mandating a platform mentality when building new capabilities. Integration and orchestration of services are more than technical challenges – they may become the basis for market offerings. Social graphs trump organizational structures, computing becomes pervasive and ubiquitous, event-driven replaces process-driven thinking, and experiences may be valued more than fixed processes and predefined standards.

The CIO of the future may look a lot like a venture capitalist – maintaining principles for what makes a solid investment, defining the boundaries upon which deals will be conducted, and driving funding, staffing, and strategic support based on often-changing needs and the emerging value of individual initiatives. Though innovation investments may dominate the portfolio, there will still be a need for care and feeding of the existing operating environment.

Postdigital catalysts are not likely to commoditize operations and maintenance, but rather use it as a feedback loop to guide consistent improvement and more disruptive efforts. How people interact, how business is conducted, and even how the lights are kept on can provide insight.

Finally, completing the shift to postdigital mirrors the shift from a product to an information economy. Much like the CFO manages the capital position of the organization and the Chief Human Resource Officer manages talent, the CIO will likely be responsible for information assets in many forms. This is especially important with the merging of the physical and the digital world, and with the shift to open arbitrage of business IT services. CIOs have had the important elements to the future in their very title. The CIO of the Flying Car Future will likely serve as the evangelist, translator, and arbiter of *information* – not only an important corporate asset, but also the currency upon which dynamic new offerings can be constructed.



Where do you start?

CIOs should begin with a self-assessment of their relationships with fellow C-suite officers. How is the IT department perceived? Does the head of sales or the CFO have an opinion on the value that IT is creating for the organization? What do they know about the emerging postdigital forces of mobile, social, cloud, analytics, and cyber? What are they doing about them? And, very importantly, how are they engaging with IT to pursue potential benefits?

- **Seed innovation.** Create a pocket within your organization that has goals involving research and development (R&D). This can be heavier “D”, but it is important to explore the five postdigital forces and identify specific ways they can be applied to improve your business. Ask vendors and other business partners to fuel the ideation – not with abstract rhetoric, but with real examples with tangible outcomes. Find use cases that make the concepts real, regardless of industry or sector alignment. Innovation is just as much about the import/export flow of ideas than the “eureka” moments. Nurture the discovery of these potential catalytic possibilities.
- **Have essential conversations.** Sit down and talk with each functional head. Understand their priorities, solicit feedback on your organization, and start a dialogue about the potential of the postdigital forces based on real-world stories you’ve uncovered. Find out if they’ve started dabbling in any of the areas – even at the conceptual level. Acknowledge the need for a different operating and delivery model in these new spaces.
- **Retool.** Few IT organizations are equipped to transition to the Postdigital era. Increased depth in both business and technical skills will likely be required, with a different mentality about what is possible, and what new techniques are needed to deliver on the possibilities. Focus on business and technical architecture, creating expectations for both specialization and a broader understanding across solution touch points and the entire delivery lifecycle. This new world will likely require the close teaming of people with a wide range of skills, so grow your postdigital innovation team with that expectation in mind. Use it to guide hiring, facilities build-out (the physical space they’ll be working in matters), and methodologies for planning and delivery.
- **Prototype.** Commit to expediting concept development using your modified approach. Ground projects in business objectives and simple metrics. Fight for a single, empowered business owner who can guide both the big picture direction and the tactical decisions of the project. Create a cadence of releasable code every few weeks – even if many of the incremental sprints will likely never be widely distributed. Pilot as soon as possible, using user feedback to guide the future direction of the solution. Adopt the mantra of plan big, start small, fail fast, and scale appropriately. Rinse and repeat – adding additional domain areas across lines of business, and building towards more ambitious improvement initiatives.



Bottom line

It is the best of times. It is the worst of times. There has likely never been more potential for the CIO to shape business performance and competitive stance. The collision of the five postdigital forces creates complexity along with opportunity. Innovation can start with ERP. Combine analytics, mobile, and social for new triple-threat potential. Cloud allows marginal investment experiments with substantial business value. Cyber is important for risk-intelligent innovation. Pressures to deliver value persist. IT departments that aren't seen as reliable, efficient, and effective will likely be relegated to utility status.

The CIO can lead the move to tomorrow, reshaping business as usual, and driving innovation. When CIOs catalyze the convergence of the postdigital forces, they can change the conversation from systems to capabilities and from technical issues to business impact. Plan big, start small, fail fast, scale appropriately.

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Endnotes

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Conclusion

Faithful readers of our Tech Trends reports will find some familiar topics in these pages. The postdigital forces have seen extraordinary attention in the past four years – and each is still in the early stages of adoption. The book on how each can fundamentally reshape business is still being written.

Although the topics are familiar, the underlying trends continue to evolve at an astounding pace. Take mobile, for example. In 2010 the story was about ubiquitous connectivity and device (i.e., smartphone) advances. In 2011, the focus was on the “app” – and the advent of the tablet. In 2012, we covered enterprise implications for prioritization of opportunities, as well as the operational realities of governing, managing, and delivering mobile solutions. And now in 2013, we consider mobile’s place as an utmost strategic priority. The very notion of “devices” is exploding into near-ubiquitous connectivity of many physical objects. The fundamental element of mobile still applies – the innovative idea of removing limitations based on physical location, and of a truly untethered enterprise. But the supporting nuance and details are moving at a rapid clip, making it paramount for IT executives to keep pace with change.

Postdigital’s potential can spur both offensive and defensive responses. On one side lies opportunity for innovation. On the other, the existential threat of disruption. Every industry may be affected by the underlying digital forces. Every market may be reshaped by their controlled collision.

Who will lead the charge? The reports of IT’s demise may be exaggerated, but there is often truth behind the rhetoric. How will CIOs reimagine their roles in business strategy? What will the corresponding IT department look like? One thing is for certain: the elements of postdigital will play a foundational role.

We close this year’s report with the familiar quote from futurist William Gibson: “The future is already here...it is just not evenly distributed.” Our hope is that the Tech Trends reports will help you discover the elements of postdigital in your enterprise.

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