XaaS, Code Halos, SMAC and the Future of Work

The First Word
XaaS Marks the Spot

Everything as a Service
How BusinessCloud Solutions Can Help Enterprises Run Better, Run Differently

Governance
BPaaS Requires Changing Mindsets Beyond Business Models

Future of Work
Code Rules: A Playbook for Managing at the Crossroads

Essay
The Changing Nature of Work: New Hours, Venues, Values, Norms

The Last Word
Keep on SMACking: Taking Social, Mobile, Analytics and Cloud to the Bottom Line
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Grace Hopper, the late, great computer programming pioneer and U.S. Naval Officer, once said: “A ship in port is safe, but that’s not what ships are built for.”1 The same can be said of business. Companies that circumvent the choppy, uncertain waters of the new global economy – and fail to learn the new ways of working that are necessary for navigating it – will never get the opportunity to glean the applicable customer insights and best practices needed to outmaneuver their rivals. But given the steep economic challenges that confront most companies, embarking on such a journey is clearly not for the faint of heart.

The Ivy League pedigrees, advanced degrees and ju-jitsu techniques learned while ascending the organizational hierarchy will only take business and technology leaders so far. Venturing into uncharted waters requires strength of conviction, perseverance and an innovative mindset, no matter the odds or stakeholder objections. To successfully go where no business has gone before requires corporate captains to test conventional operational assumptions, assess core model change and trial advanced technologies and outcomes-based cost structures. Shipping out beyond safe harbors can lead to the discovery of novel ways of working that both help to contain costs and spark idling innovation engines.

This issue of Cognizanti journal is all about the courage needed to challenge the status quo and successfully transition to the Future of Work. We revisit the expanding world of “everything as a service” (see Cognizanti Volume 4, Issue 2), a way of delivering business and IT services and processes that supplies the business smarts, technological wherewithal and disruptive performance potential to help organizations run better (containing costs) and run differently (embracing new business capabilities that drive innovation). An accompanying piece looks into the soul of this new machine and lays out the mandate for governance, change management and organizational structural change.

We also examine the emerging world of Code Halos™ and the Crossroads Model,™ a place where businesses of all shapes and sizes can unleash new forms of intelligence — and outperformance — by decoding the collisions of digital information that surround every business transaction and personal interaction. Further in, we probe the emerging reality of anytime/anyplace work — and discover the professional and personal implications for us all. And finally, we conclude with sage counsel on how IT and business groups can collaborate to harness the SMAC Stack™ (social, mobile, analytics and cloud technologies), the transformative fuel that underpins Code Halos and catalyzes the Future of Work.

We hope both seafaring explorers and laggardly landlubbers will find these articles pragmatic and inspiring. Let us know what you think: Feel free to share your latest challenges and solutions at cognizantconnections@cognizant.com.

XaaS Marks the Spot

While the BusinessCloud evolves, software, infrastructure and platform services are capturing the imagination and investment of companies across industries.

By Karthik Subramanian

Cloud computing is transforming the enterprise landscape, to the point that almost all business functionality can now be provided “as a service.” Industry experts have promptly labeled this phenomenon, “everything as a service” or, more simply, “XaaS” — a paradigm shift from the conventional form of on-premises business service delivery. We have dubbed it BusinessCloud Solutions.™

Traditionally, on-premises business services required upfront investment in IT systems. These solutions would then be updated and improved over their lifetimes, thereby giving rise to continuously greater operational or maintenance expenditures. The XaaS model redefines the concept of third-party-delivered cloud business and IT services. And as organizations absorb these changes, the cloud space continues to evolve in terms of new software, platform and infrastructure services (see Figure 1).

The Evolution of Cloud Computing

Sources: Salesforce.com, SourceDigit, Cloud.Dzone, ComputerWeekly.com, LinkedIn, Computerworld.com and Symantec.

FIGURE 1
The benefits of XaaS are emerging: reduced capital expenditures on hardware and software, swifter response to marketplace changes, and greater and more timely innovation due to updates being the sole province of a business process or IT specialist. XaaS is primed to take this to the next level by delivering an agile infrastructure and a consumption-based “pay-as-you-go” commercial model that flexes with ever-changing organizational and industry needs. Such agility is critical following last decade's worldwide economic meltdown and the need by many organizations to stay one step ahead of escalating globalization, as well as the increasing virtualization of people, processes and platforms. Not surprisingly, an IDG survey reveals that organizations expect to spend an average of $1.5 million on cloud-based services in the next 12 months, with large enterprises spending an average of $2.8 million. Overall, a majority of organizations polled by Rightscale are either using or plan to use cloud in some shape or form (see Figure 2).

Besides these emerging advantages, additional benefits will come in the form of automatic software updates, embedded fallback and recovery services and increased employee, partner and customer collaboration as enterprise resources are more effectively shared, thereby boosting productivity.

However, companies must be wary of the challenges presented by XaaS. In a May 2012 survey by Intel Corp., 28% of respondents said they had experienced a public cloud-related security breach. Security continues to top the list of concerns, as echoed in a 2013 report by North Bridge Venture Partners and GigaOm Research, in which 46% of respondents cited security as an inhibitor to cloud adoption. Similarly, a report released by CA Technologies found that 46% of respondents were concerned about cloud security (see Figure 3, next page). Cloud services providers, however, are making significant progress in ensuring data security (e.g., CipherCloud, whose open platform promises comprehensive security controls, such as encryption, tokenization, cloud data loss prevention, cloud malware detection and activity monitoring).

Over time, we believe more and more of these security roadblocks will be surmounted.

XaaS concerns are often balanced by potential benefits achieved in the areas of cost, time to market and operational agility. For example, new businesses capabilities can be rolled out within weeks rather than months, and seasonally sensitive retailers can ratchet IT resources and business processing requirements up and down as business requirements dictate. Even a small percentage increase in cost savings could result in better competitive positioning. For all industries, the benefits of BusinessCloud computing are overwhelmingly compelling, despite the risks associated with public cloud environments (see Figure 4, next page).

The Bottom Line

Enterprises are embracing the BusinessCloud because they see its inherent value beyond cost savings. They are keen to incorporate robust operating models and more efficient processes that generate transformative advantages over the long term. XaaS growth appears fundamentally strong on a foundational level, particularly in platform as a service and (Paas) and infrastructure as a service (IaaS).
In an era when businesses are continuously looking to squeeze value from every dollar spent, cloud-powered XaaS has the power to be disruptive and innovative. The true value of BusinessCloud lies in its ability to streamline the way enterprises leverage IT-powered business solutions, enabling them to focus on their core competencies to gain a lasting competitive edge.

Security Concerns Prevail


FIGURE 3

Why a Cloud Application Was Chosen Over Other Options


FIGURE 4
Footnotes


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How BusinessCloud Solutions Can Help Enterprises Run Better, Run Differently

Cloud-based business solutions — integrating people, processes and technology — help leaders create new operating models, drive efficiency and agility, and provide access to new capabilities and innovations to deliver greater levels of performance.

By Mahesh Lunani

The cloud-powered “everything as a service” (XaaS) megatrend is exploding. McKinsey & Co. identifies the “as a service” movement as one of the top IT-enabled business trends and a topic for the management agenda.¹ Until recently, its most visible and successful application has been in the realm of more technical cloud computing services.

Now, XaaS is evolving from technology as a service to business as a service; new delivery models are being adopted, from simple document management as a service to more complex business operations, such as clinical data management as a service. Cloud is a key enabler of business as a service, creating a new set of solutions we call Cognizant BusinessCloud™ Solutions. For enterprises both large and small, BusinessCloud has the potential to deliver game-changing business model advantages that provide not only must-have operational efficiencies but also real-time accessibility to the advanced capabilities and innovations that are the lifeblood of outperformers (see Figure 1, next page).

Enterprises run better with BusinessCloud™. By operating or consuming business as a service, organizations can channel budget dollars that once went to capital investments or fixed costs to more flexible, granular operating expenditures. Companies can quickly pivot their operations: Step up capacity when needed and scale it back when it’s not, thus ratcheting down costs. In other words, BusinessCloud helps drive budget efficiencies and cost agility.

Equally important, BusinessCloud enables enterprises to run differently. An efficiently run BusinessCloud solution helps organizations rethink and redefine core activities, tap the virtualized workplace and reshape how businesses operate inside their four walls and beyond with partners and customers. Such new business models, layered with social, mobile, analytics and cloud technologies (or the SMAC Stack™), provide a unique value proposition. The result: New ways of conducting business and more extensive capabilities that produce improved outcomes (see sidebars, pages 13, 14 and 16 for more detail).
Solutions that enable enterprises to run new business/operating models, thus changing their economic model.

Solutions that enable enterprises to run efficiently and globally, thus reducing costs.

Run Different

COGS (cost of goods sold)

Run Better

SG&A (selling, general and administrative expenses)

A well-designed BusinessCloud solution often enables businesses to transition to an as-a-service model in weeks and sometimes days, depending on the extent of security, data integration and migration challenges, as well as the complexity of the solution deployed.

Cloud computing has whetted enterprise appetites for XaaS by continuously extending new capabilities via a pay-per-use, service consumption model that flexes with business needs and shifts capital expenses to operating expenses.

XaaS: A New Operating Reality

The success of the XaaS model in IT services demonstrates organizations’ ability – and desire – to shift to an as-a-service model. In a recent survey by IDG Research Services, over 60% of respondents said they had implemented or piloted cloud computing. Cloud computing has whetted enterprise appetites for XaaS by continuously extending new capabilities via a pay-per-use, service consumption model that flexes with business needs and shifts capital expenses to operating expenses.

Likewise, packaging mainstream business functions as a service and operating them through the cloud offers even greater impact. The BusinessCloud is set to become the Swiss Army knife of enterprise services. Multifunctional, flexible and cost-effective, it is already redefining functions and reaching more
areas within organizations. It also seamlessly integrates people, processes, technology and, in some cases, physical assets.

Take the example of 3-D printing as a service. Rather than maintaining expensive printers, consumers or manufacturers can leverage cloud-based business services from 3D Systems Corp. for their 3-D printing needs. Enterprises can upload 3-D digital files and specify material type, and the company’s on-demand service then processes and ships 3-D assets to its customers. This application has the potential to change business dynamics across aerospace, medical device and automotive enterprises, allowing them to run better and run differently, across their prototype, production and service parts operations.

**BusinessCloud: Rethinking the Enterprise**

BusinessCloud empowers business leaders to deconstruct their enterprises and rebuild them in ways that offer new strategic advantages and, ultimately, better economic models that radically alter the rules of the game.

An example of how BusinessCloud empowers business leaders is in the area of medical management. Medical management is a core business operation that health plans execute to administer the appropriateness of medical services, engage risky populations in preventive care programs and address chronic diseases. The cost of administering medical management is roughly $2.00 to $3.00 per month per member across the insured U.S. population. These costs increase significantly for severely ill, Medicare and Medicaid populations. The total administrative cost of medical management represents multiple billions spent annually by payers, considering there are roughly 250 million insured individuals in the U.S.

With medical management as a service, health plans leverage a fully integrated solution combining medical management software and the talents of a virtualized clinical global workforce. By delivering more efficient and on-demand use of expensive clinical resources — as well as automation algorithms, analytics and economies of scale with cloud software and infrastructure — medical management as a service enables health plans to reduce administration costs by upwards of 45% and minimize capital expenditures and fixed costs.

**Reducing Health Plan Costs, Driving Innovation with Cognizant’s Medical Management as a Service**

![Diagram](https://connections.cognizant.com/)

*FIGURE 2*

- **“Run Different,” impacting 85% of health plan costs and medical expenses**
- **“Run Better,” impacting 15% of health plan and admin costs**

- Provider-led utilization management
- Bundled episode medical payments
- Differential care management
- Patient-centric integrated care
- Customer self-service

- Technology, analytics automation
- Global clinical workforce/best practices
- IT hosting, maintenance
As-a-service approaches to medical management enable health plans to also run differently, as risk-bearing providers rather than health plans are engaged in decision-making on medical services and patient treatments. As such, hospitals or physician groups are compensated with a fixed fee per episode, not on the traditional fee-for-service model. This approach drives greater patient engagement. By re-architecting medical management operations, health plans free up significant capital to invest in patient-centric care management and enable organizations to focus on increasing their member population while reducing medical costs. Our CareSERV™ BusinessCloud solution helps health plans build stronger businesses by delivering medical management as a service (see Figure 2, previous page).3

Cloud-delivered business solutions fit consistently and nicely into Clayton Christensen’s framework for “disruptive innovation,”6 according to Aaron Levie, CEO and co-founder of Box.net, a provider of a cloud-delivered document and file-sharing service. Since its 2005 inception, the company has attracted 15 million users, small businesses and Fortune 500 companies to its as-a-service model for document and file sharing. As such, it has reshaped how enterprises share content and create a ubiquitous work environment for knowledge workers.

Benefits of BusinessCloud Solutions

Our work in XaaS includes cloud-based business utilities that span a wide spectrum of industry and horizontal solutions. One such example is our SmartTrials™ BusinessCloud solution,7 which lets pharmaceutical companies manage clinical trials with an on-demand platform, centralized and remote monitors, and a risk-based monitoring process.

Based on our experience, organizations can expect to gain the following benefits when they implement BusinessCloud solutions (see Figure 3):

1. **New business value.** With BusinessCloud solutions, enterprises gain new capabilities and operating models that create new sources of value. A major mobile reseller, for example, supplements its brick-and-mortar operations with our Order Management as a Service (OMaaS™) BusinessCloud solution. It enables the reseller to not only run better – through automated order management, activation and fulfillment – but also to run differently by offering a unified, multichannel customer experience across the Web and its retail stores. (See sidebar, “Wireless Retailer Creates a Unified Customer Experience.”)

**FIGURE 3**

**New Business Value**
Access to new capabilities, new operating models and new sources of customer value.

**Disruptive Performance**
Multiplier effect of global workforce and virtualized process layered with SMAC technologies.

**Ubiquitous and Knowledge Work Efficiencies**
On-demand, standardized work while driving collaboration and creativity.

**Budget Efficiencies and Cost Agility**
Asset-light model, allowing for business pivots, scale and business growth.
Few marketplaces are as hot as mobile. To distinguish itself and gain a fresh edge on its competition, a U.S. wireless retailer worked with us to create a customer experience as modern and flexible as its products.

The company is a retailer of all things mobile: cellular devices, smartphones, tablets and mobile broadband devices that operate on the Verizon Wireless network. It is a retailer, however, and not a carrier, meaning that its customers can also choose to do business with Verizon. To earn repeat business, the distributor needs to offer a simple and seamless experience. Purchasing channels have clearly expanded, and consumers now move quickly among them. Online, mobile, store – customers choose how and when to make contact.

To stay successful, the retailer needed a consistent customer experience and marketing message. It chose our BusinessCloud solution called OMaaaS to create an integrated, cross-channel shopping experience, as well as deliver a flexible, end-to-end order management platform.

OMaaS manages the distributor’s customer experience across multiple channels and provides a more holistic approach for store associates, as well. For example, when customers who used the company’s online channel then visit one of its several hundred stores, associates can access their transactions and offer promotions and service bundles tailored to individual buyers’ past purchases.

In addition to driving more foot traffic to stores, the new system enables associates to direct customers to online promotions, allowing the company to capture incremental sales opportunities from store to Web and back again, from Web to store.

The OMaaaS subscription service lets the company quickly launch new products and services, minimizing upfront capital outlays. It also links operational expenses to order volume. And in addition to shopping and ordering, it integrates fulfillment, social media and customer care. The real-time analytics and reporting capabilities allow the company to make more informed decisions.

OMaaS puts the company at the forefront of a shared e-commerce and point-of-service experience that its competitors can’t match.

Todd Weinert is Cognizant’s AVP and OMaaaS Venture Leader. He can be reached at Todd.Weinert@cognizant.com.
Like all new companies, a client that recently spun off from an established healthcare giant wanted to distinguish itself in the eyes of key influencers—prescribing doctors. Its goal: To more easily create and share sophisticated digital collateral that highlights the remedial qualities of its products.

Sophisticated, interactive and detailed presentations for the iPad, however, are expensive to produce and manage. The company’s global marketing teams worked largely independently of each other, with few opportunities to share and reuse creative assets such as brochures, videos and images.

Moreover, costs ran high, even for a well-capitalized company. For instance, each interactive, detailed presentation costs tens of thousands of dollars to produce. The repeat work among multiple brands and global locations slowed time to market and hindered sales momentum.

For this client, creating a ubiquitous process of gathering its digital assets onto a cloud-based platform was a natural choice. The company embraced our assetSERV™ BusinessCloud digital asset management solution for its operational flexibility, economies of scale and secure data transmission. As such, assetSERV is now a critical cog in the company’s digital marketing makeover.

Traditional digital asset management systems can take several months to implement, but in seven weeks, this client rolled out assetSERV for five brands in 22 European countries. (See “Revitalizing Marketing’s Digital Content Chain,” Cognizant Journal, Volume 4, Issue 2.) It plans to eventually expand the use of assetSERV globally. The cloud-delivered service standardizes the management and storage of images, videos and all collateral components. The improved and newly efficient processes allow the pharma company’s creative teams to repurpose brand content quickly and localize it for regional markets. Internal teams and external partners store presentation components as reusable content in a centrally accessible library.

With its end-to-end digital content solution, which includes the assetSERV platform and creative services to produce and reuse content, the client and its agencies seamlessly exchange content and use a staging area for pre-production content. Today, the company can host and repurpose content like never before, and its iPad presentations are sophisticated and unified.

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2. **Disruptive performance** is made possible when organizations marry a virtualized workplace and new operating models with SMAC technologies. This multiplier effect enables BusinessCloud solutions to deliver improved business outcomes, such as cost per customer, number of orders, revenue per customer and time to market – all of which are measurements that can yield deeper and more granular insight into true business performance. (See sidebar, “From 12 Weeks to 39 Minutes: An Insurer Speeds IT Updates – and Strengthens its Business.”)

3. **Budget efficiencies and cost agility.** BusinessCloud solutions allow enterprises to eliminate large chunks of upfront capital investments and operationalize their expenses. The change provides an economic model that is scalable and lowers the break-even point. This model is one of the drivers of success for cloud computing services. Similar budget efficiencies and cost agility will be offered to business functions using cloud-based business solutions, to create more nimble and improved return on investment.

4. **Ubiquitous enterprise work and knowledge worker efficiencies.** BusinessCloud allows work that is ubiquitous and standardized across the enterprise, while configured to differentiate an enterprise or knowledge worker. Our assetSERV solution provides a cloud-based global platform that enables marketing organizations and creative agencies to produce, manage, store and retrieve their marketing digital assets, whenever and wherever needed. (See sidebar, “Life Sciences Spin-off Revs Up its Global Marketing with Digital Asset Management.”)

**Executing on the BusinessCloud Promise**

From a design point of view, enterprises need to develop their strategies for XaaS and BusinessCloud at corporate or functional levels. Whether they want to consume cloud-based business solutions or offer them to their end customers, they need to determine how these solutions will help them create more competitive economic models. And when it comes to execution, they need to select the right partner, assess the opportunities and risks, and launch pilots that instill confidence and drive success.

The following enterprise conditions typically lend themselves to successful use of BusinessCloud solutions:

- The need for ubiquitous and standardized work across the enterprise.
- A virtualized workplace with highly skilled and scarce knowledge workers.
- The need for a flexible cost structure and limited CapEx spending.
- The need for innovation and new operating models to be implemented rapidly and allow for business pivots.
- A high cost to transition from the current to the next-generation technology platform.
- A desire to pay per outcome rather than pay per service.

Companies are changing because the world is changing around them. According to an analysis of *Forbes* magazine’s annual ranking of the world’s largest companies, there has been a significant shift in the global landscape of large companies. The Americas had 189 fewer companies on the list in 2012 than in 2004.

In today’s business world, there are no more sacred cows. Organizations need to radically rethink their underlying operating models to run better and run differently and respond to market changes. BusinessCloud Solutions delivered via an as-a-service model is an enabler for enterprises looking to alter the rules of the game.
From 12 Weeks to 39 Minutes: An Insurer Speeds IT Updates – and Strengthens its Business

By Ramesh Panuganty

Financial services companies routinely maintain hundreds of core applications and systems for everything from billing and claims to fraud detection. Upgrades can easily become overwhelming.

When a leading investment and insurance company found its application updates required a lengthy 12 weeks, slowing its ability to roll out new products, it looked to a software as a service solution. The insurer leveraged our Cloud360™ BusinessCloud solution to quickly shift its development and test environments to a public cloud. The shift automated the company’s project synchronization and brought new life to its development efforts. The time now required to update cloud-based applications? Thirty-nine minutes.

The new environment, launched in the first quarter of 2013, is the insurer’s first foray into cloud-based technology. In addition to the speedy system updates, the insurer also gained consistency across all of its environments and greater insight into its operations, with the ability to track each business unit’s resource consumption.

After a week of planning and identifying the requirements, the team completed implementation in four weeks. Validation took four more weeks. Our team created a hybrid architecture that integrated the existing system’s components and migrated development, user acceptance testing, regression and performance testing to Amazon Web Services.

Our Cloud360 solution monitors consumption across the environments and recommends optimized usage. By reducing the provisioning timelines from months to minutes and implementing usage metrics, the investment and insurance company gained a more adaptive and elastic business environment. It also enabled scalability, reduced costs and increased operational efficiencies, such as speeding batch application performance by 40%.

Today, the company builds more applications faster, and without the delays of unwieldy logistics and overly complex project management.

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Footnotes


2 “Enterprises See Key Benefits in Deploying Cloud Services with Virtualized Network Resources,” IDG Research, March 2012.


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BPaaS Requires Changing Mindsets Beyond Business Models

Delivery models based on business process as a service demand that providers, buyers and vendors not only collaborate but also work as one.

By Anbu Muppidathi

The accelerating growth of virtualization and cloud computing has meant that application environments are increasingly moving into the cloud. This, in turn, has caused organizations to increasingly migrate their traditional business process outsourcing (BPO) to the business process as a service (BPaaS) model.

The transition from BPO to BPaaS involves three significant and simultaneous transformations.

- **Buyer transformation:** The wider deployment of cloud services in the enterprise tends to cause a tectonic shift in the buyer’s business model. Although the size and culture of the organization generally determines the pace of transformation, organizations are almost always under pressure from their customers and shareholders to invest in BPaaS as the next step. Additionally, increasing cost pressures drive buyers to monetize their nondifferentiating assets or establish joint investments with others. As assets are monetized, the only meaningful alternative is to buy services through utilities. In such a situation, BPaaS becomes the natural choice.

- **Service provider transformation:** BPaaS is disrupting providers’ service models by cannibalizing their traditional revenue stream and forcing them to invest in BPaaS to stay relevant in the era of social, mobile, analytics and the cloud, or the SMAC Stack. As service providers develop utilities (i.e., business processes to host over the cloud), they need to either partner with vendors (product/hardware companies) or build their own platforms. This requires them to embrace a product-service mindset.

- **Vendor transformation:** Over the past decade, software development lifecycle (SDLC) tools for development through deployment have been radically transformed. Similarly, collaboration, customer engagement and fee models have also evolved to adjust to emerging technology megatrends. Vendors are forced to invest in service models that are easy and effective to administer, leading them to develop BPaaS models, or partner with BPaaS service providers, to bring their products to the cloud. As a result, vendors are embracing a services mindset.
The result of these simultaneous transformations means buyers, service providers and vendors must work as one to achieve business results that deliver on BPaaS’s improved economies of scale and cost efficiency for one and all constituents.

By design, BPaaS shifts the cost burden of asset ownership to the provider, leaving the buyer’s organization to focus on the quality (i.e., outcomes) of cloud-based business process service delivery. As buyers focus more on outcomes, their feedback helps providers fine-tune their products (business process and infrastructure). Such collaboration is required not only for business effectiveness but also for business agility and regulatory reasons. However, it also leads to managerial, operational and regulatory complexities for buyers, providers and vendors. For example, buyers and providers may need to react to changes in industry regulations. As the providers own the business process, it becomes their responsibility to address the change. Such a need will inevitably cause a product-services mindset to evolve among the three parties (see Figure 1).

Achieving the product-services mindset involves transitioning from the buy/sell mentality to a state of universal collaboration.

Achieving the product-services mindset involves transitioning from the buy/sell mentality to a state of universal collaboration, and the convergence among buyers, service providers and vendors makes this mindset change almost inevitable. Some best practices that must be considered while adopting BPaaS include:

- Metrics must shift from service levels to business outcomes (change in governance).
- The buyer must provide guidance in the BPaaS deployment cycle (change in production environment).
- Collaboration must move from “inside” to “outside” the organization (change in collaboration).
- The role of CIOs and other key managers must be redefined as the organization adapts to a BPaaS model (change in the role of IT).

Convergence Leads to Mindset and Model Changes

![Figure 1](https://connections.cognizant.com/)
These best practices are especially relevant now, as BPaaS adoption moves into the mainstream, and the teams on the ground are forced to change. It is important to acknowledge the transformation that buyers and sellers must undergo, since any resistance to these changes will impact the maturity of the BPaaS adoption. On the other hand, taking the necessary steps to voluntarily bring about these changes will lay a strong foundation for successful BPaaS deployment (see Figure 2).

**Shifting from Service Levels to Business Outcomes**

BPaaS shifts the focus from suppliers’ operational service levels to the buyer’s business outcomes. This change in focus requires collaboration between the provider and buyer to enable them to define, align and govern the measures around it. The only way “value” can be defined is by translating the provider’s operational service levels to the organization’s business performance. For example, when it comes to a trade management system at a financial services company, reducing the “cost-per-trade” is far more relevant than reducing the supplier’s “turnaround time.” Similarly, in a customer management system, “customer onboarding time” is considered more important than “query response time.” The takeaway: The buyer’s governance team must assume the responsibility of administering business measures in the BPaaS model that is deployed. However, it is equally important to periodically review and align metrics that measure outcomes because the business and IT teams have widely differing views on the value that service providers deliver.

BPaaS models automatically establish business outcomes as the expected service level. Customers do not manage the software or service components. Hence, it may not make sense to establish operational parameters as service levels. By establishing proper business measures, the risk of “value leakage” becomes the supplier’s responsibility. Once business outcome is established as the expected service level, it becomes easier to track the cost aspects of the BPaaS model being deployed. The organization is able to effectively establish the cost structure, a reward/penalty structure and year-over-year expected productivity improvements. As the focus changes from external to internal performance parameters, organizations must compare BPaaS effectiveness with others in the marketplace. Hence, industry-standard benchmarks are critical.
The good news: Requiring the provider community (service provider and hardware/product vendors) to aim at expected business outcomes will facilitate increased collaboration between them. This will simplify the tracking mechanism and increase the chances of achieving the business outcome consistently.

Providing Guidance in the BPaaS Deployment Cycle

As BPaaS solutions shift product development responsibilities to the provider or vendor, the customer is freed to focus on business outcomes that are differentiating and drive competitive advantage. However, forces such as increasing regulations ensure that it is in the interest of the buyer and provider to ensure that the BPaaS deployment processes are mutually controlled. Buyers should carefully manage their participation in the providers’ “solutioning” activities; otherwise, the core benefit of the utility model that BPaaS enables will be undermined. The organization’s role should only be in an advisory capacity and should not require actual development. This can be achieved by setting up an advisory council with representatives possibly from the buyer, providers and vendors.

In a typical BPaaS deployment cycle, the advisory council should be heavily involved in solutioning activities to ensure the services provided under BPaaS consistently meet the fundamental expectations of the buyer.

In a typical BPaaS deployment cycle, the advisory council should be heavily involved in solutioning activities to ensure the services provided under BPaaS consistently meet the fundamental expectations of the buyer (see Figure 3). Such a mechanism will also help define any external (regulatory) control parameters in addition to the business outcome. The buyer’s involvement in the BPaaS deployment processes also helps improve the providers’ development lifecycle activities so that the quality of the productized service continually improves and achieves pre-set business outcome metrics. In this way, BPaaS becomes a win-win for both the buyer and provider.

Advisory Council Involvement in BPaaS

FIGURE 3

BPaaS Deployment Lifecycle

Product Advisory Council
Provider, Buyer, Vendor(s)

Positioning and Directional Inputs

Solutioning
Business solution
Technology solution
Product features and business requirements
Operations design
Collaboration: Moving from ‘Inside’ to ‘Outside’

Traditional businesses focus on building forums for collaboration within the organization. When it comes to BPaaS, the focus of collaboration should move from “inside” to “outside” the organization, bringing together buyers, their customers, vendors and providers.

Providers should be responsible for building and administering collaboration forums. Distilling the knowledge achieved through collaboration and using it in the BPaaS deployment lifecycle activities should be the provider’s responsibility. The advisory council should ensure that the necessary steps are taken to achieve the defined level of collaboration. The role and involvement of the advisory council will vary, depending on the business process/utility development methodology adopted by the provider.

It is important to establish guidelines and processes between buyer and provider at the outset of the contractual arrangement. As the provider’s collaboration focus shifts from inside to outside, its BPaaS components also mature and should yield much better value to the buyer (see Figure 4).

Role of IT in a BPaaS Environment

CIOs on the buyer’s side are responsible for administering the infrastructure and information of their own business content. As in any “buy” situation, CIOs should ensure that service providers properly administer interfacing systems/applications/data. CIOs must also ensure that the provider establishes and administers infrastructure for the universal collaboration discussed earlier. With the BPaaS provider assuming responsibility for business support functions, the role of the CIO changes substantially, as explained in the next section.

Production vs. Consumption

BPaaS adoption will generate knowledge within the buyer’s environment, and it is in the interest of both the buyer and provider to manage this knowledge appropriately. It is important to devise ways to translate the end-user experience into codified knowledge on which the provider can act, as it will ensure that the adopted BPaaS solution continuously improves and is increasingly effective within the buyer’s environment.

Moving Collaboration from ‘Inside’ to ‘Outside’

**FIGURE 4**
environment. Buyers must share knowledge appropriately in order to improve their own and their service providers’ operating model. CIOs should take on the responsibility of not only managing the “production” of knowledge/information but also improving business outcome quality. Improving and carefully administering the production, sharing and consumption of knowledge will make the established BPaaS business model agile and yield greater economic results for both the buyer and provider.

Talent Management

As BPaaS solutions shift product development to the provider’s vendor of choice, managers on the buyer side must participate in the providers’ solutioning activities. Again, a hybrid product-services mindset will be helpful in ensuring that the BPaaS delivery model achieves the desired set of business outcomes. It is imperative, therefore, that these managers receive appropriate training to ensure the effectiveness of their participation in providers’ BPaaS deployment lifecycle activities. They must be taught to focus not on operational SLAs but on the business outcomes and learn to play an advisory role rather than monitor the delivery process.

A hybrid product-services mindset will be helpful in ensuring that the BPaaS delivery model achieves the desired set of business outcomes.

Additionally, collaboration models must extend beyond core BPaaS stakeholders into the bowels of the organization (line of business leaders and process owners). This, again, means a mindset change among buyer managers to facilitate collaboration that runs deep and wide and delivers benefits to all participants. Managers lacking these skills and tendencies will find them difficult to improvise and will fail to deliver the envisioned benefits of BPaaS. Hence, these managers must be trained on how to effectively function in a global network of collaborative virtual teams.

As the role of the CIO and key managers changes during the run-up to BPaaS delivery, so must the embrace of a product-services mindset within the buyer’s IT environment. This helps build stronger relationships not only with providers but also with their vendor business partners.

Moving Forward

Adoption of BPaaS is not just about buying services over the cloud; it is a mindset change and model change. It forces the organizations of buyers, providers and vendors to change their approach to governance, production and collaboration, as well as the role of CIOs. BPaaS introduces an entirely new mindset among providers, buyers and product/hardware vendors, requiring tighter alignment for all to prosper and for each member of the triumvirate – buyer’s organization, service provider and vendors – to achieve business success.

The transformation of the buyer’s organization business model happens automatically as advanced algorithms, access to global talent with precise domain specialization and consumption-based, “pay as you go” commercial models generate pre-set performance targets, making their businesses stronger. Mindset change is the challenge. Unless the buyer, provider and the vendors properly prepare, it will be difficult to create a sustainable model to co-create value for each other.

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Think fast: What separates today’s high-flying outliers – such as Apple, Google, Amazon, Netflix and Pandora – from fast-followers and wannabes? It’s the ability to disrupt markets by capturing customer insight and market meaning from the flood of data swirling around us all. In fact, the data that accompanies people, organizations and devices contains a richness of potential business meaning that far outstrips the value of bricks, mortar and other physical assets that have historically powered market leadership.

Now, think about your personal mobile and computing gadgets, and all the things you do with them: connect with friends, play games, manage your money, read books, work, watch movies, listen to music, monitor your fitness, get directions, buy any number of products and so on. Consider also all the digital information flowing daily between every “computing” device – tablets, mobile phones, gaming consoles and “things” (cars, televisions, airplanes, even toothbrushes). Each is surrounded by a blanket of invisible energy. But it’s not electricity; it’s a halo of digital information connecting people, organizations, processes and devices.

These valuable digital records – which we call “Code Halos” – comprise all of our digital activity, from buying behaviors, social media interactions and song preferences, through searches and even our geographic location. Every click, swipe, “like,” buy, comment, deposit, jog and search produces information that creates a unique virtual identity. Code Halos are important to us as individuals – most of us generate and share digital information every day (see Figure 1, next page, for an illustrative view).

But Code Halos are also vital to future business success. Historically, if organizations made the best product for the money or provided the best customer service, their company would succeed. But that’s no longer the case. It’s still essential to have great products and people, but future-ready businesses understand that it’s the digital information – the Code Halos – that customers, products, partners and employees build and share that can create unprecedented levels of insight and business value, when handled with respect to privacy and security.
Amazon beating Borders ... Netflix knocking off Blockbuster ... Apple acing Kodak – these are not isolated or random events. Instead, they are canaries in the coal mine. Traditional companies, as well as those “born digital,” are now harnessing the power of Code Halos. GE is creating “Brilliant Machines” ... Disney is launching the “Magic Band” at its theme parks ... Allstate uses a mobile telematics device and analytics to transform auto insurance ... Nike has gained tremendous traction with its “Fuel Band.” When companies base their business models on the insights and meaning derived from intersecting (or colliding) Code Halos, they cause market reverberations that can quickly topple even the most stalwart of industry incumbents.

By decoding the digital information contained in Code Halos, leaders in industries ripe for disruption – banking, insurance, manufacturing, healthcare and others – can embrace a new business-technology model and avoid business catastrophes as already experienced by Borders Books, Blockbuster, HMV, Circuit City, Kodak and others.

In studying these dynamics – which have been repeated in multiple industries, including books, movie rentals, mobile phones, insurance, consumer goods, newspapers and travel services – we recognize that vast industry transformations and the resulting violent value migrations have followed a similar pattern. This pattern is what we call the Crossroads Model™ (see Figure 2), which explains how Code Halos are forever changing business.

Managing at the Crossroads

The Crossroads Model consists of five key stages:

1. Ionization: The combination of changing economic pressures, enhanced customer expectations and new technologies creates a fertile context and environment for the establishment of Code Halos and related new business models.
2. The Spark: Once Code Halos build, associated algorithms are also developed. New ideas and offerings are then formed, based on the intersection of Code Halos. An innovative “Spark” then quickly reshapes processes inside the enterprise, as well as at the customer interface. Think Pandora in music or Progressive in insurance.

3. Enrichment: This is the period where Code Halos – if created and managed correctly – grow by orders of magnitude, both in number of users and value of data, giving rise to new products, processes and models for value creation.

4. The Crossroads: This is a compressed period of time – often between one and three years – where industry leadership shifts, quickly. At the Crossroads, Code Halos have reached critical mass and are creating new customer expectations and economic models. This drives a rapid, sometimes violent, swing in reputation, revenue and market value.

5. The New Code Rush (or Extinction Event): After the Crossroads, companies face two widely divergent paths, with significant momentum (either positive or negative) that is extremely difficult to reverse. Either they recognize and respond to the signposts of the preceding phases and ascend rapidly, gaining in market relevance and value, or – if they are not prepared for the rapid market shift – they head painfully and dramatically toward stagnation or an Extinction Event.

Crossroads Model in Action
Timing and process targets may differ, but this five-step Crossroads Model is holding true across many sectors. For example, upon Amazon’s IPO in 1997 – in spite of the lofty valuation that the consumer e-commerce pioneer achieved amid the Internet bubble and its resulting overinflation of value – Borders and Barnes & Noble were collectively eight times the value of the online retail giant, with roughly 50 times the revenue and 100 times the customer base.
As Amazon quickly enriched its understanding of Code Halos, consumer e-commerce entered the Crossroads in 2002. By 2005, Amazon was worth twice as much as Borders and Barnes & Noble combined, and had equaled both retailers’ customer count (in similar markets such as book, movie and music retailing) and associated revenues. Just five years later, Amazon was worth 100 times more than Borders and Barnes & Noble combined, and had driven Borders to bankruptcy.1 Barnes & Noble’s struggles, meanwhile, recently deepened amid the sudden resignation of its CEO (who championed its underperforming Nook e-book reader) and word that the company is pursuing a radical restructuring.

In the mobile phone sector, similar dynamics have occurred. The dominant player of the late 1990s and early 2000s – Nokia – has been replaced by organizations less focused on hardware features and more attuned to the Code Rules of a digitizing marketplace. Beyond books and mobile devices, our research has uncovered a similar pattern that has occurred consistently across more than a dozen industries to date.

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**Quick Take**

**Code Halos: Early Days**

We believe we are in the initial stages of the Code Halo phenomenon, marked by the following characteristics:

- **Secular changes in business and technology are reshaping work:** Our personal technology experiences, with their heightened expectations of efficiency and elegance, are genuinely reshaping enterprise work. Changing demographics, economic volatility, new tools and a raised bar about how work should be performed have all created a fertile context for business innovation.

- **Code Halos are the new basis of competition:** Code Halos are critical to gaining new business value in almost every industry. Business and technology leaders need to follow early winners that have changed the rules of their industry by delighting end customers, improving productivity and reducing costs by focusing on Code Halos.

- **“Managing on meaning” is a key business competency:** Companies that proactively enrich their understanding of Code Halos with analytics and sophisticated algorithms are creating the knowledge base for successful competition and market disruption across industries, companies and key business processes.

- **Understanding the Crossroads Model is essential for winning in information markets:** Winning at the “Crossroads” – a compressed time period in which market leadership flips dramatically – requires focusing on Code Halos over hard assets. A five-stage model for success, which we detail later in this paper, has emerged.

- **The SMAC Stack™ is the new technical foundation:** New technologies – social, mobile, business analytics and cloud solutions – are converging to form a new IT architecture. The SMAC Stack is now embedded in the enterprise, and it’s helping to rewire many key knowledge processes and associated business models.
Determining Where Your Company Stands in the Crossroads Model

So, do you know your own company’s Code Halo and its place in the Crossroads Model? Do you know the code of your best customers? And do you have a mechanism that allows these code bases to easily connect and integrate? If this is an institutionalized capability at scale, you can profoundly change your business for the better.

Where are the best places to start to understand how to apply Code Halo thinking to your organization? Based on our industry-wide travels and client work, we have concluded that savvy business leaders can take practical steps to derive value in this new age of business and technology:

- **Analyze your company at the process level.** The road is littered with failed initiatives attempting to reboot an entire organization or business unit. You know better. Take a hard look at your real business process anatomy (management, new product and service development, sales and customer relationship management, operations, etc.), and find the squeakiest wheels. Look for processes that shape more than 20% of cost or revenue, and pick two. Work to apply Code Halo thinking to those processes. Target tangible process metrics that are meaningful to your industry – cost per claim, clinical trial yield, healthcare unit cost, fraud prevention rates, etc. Find the Spark where code meets code, and work to recode moments of engagement with clients, internal workers and partners.²

- **See people, products and organizations as code.** Many of the near-term targets will be internal business processes, but many will be aligned with customer interaction. “You had me at ‘hello’” is now more like, “You had me at 0100100001000101010011000100110001001111.”³ Think of customers as essential because of their data, not just because they are near-term sales prospects. It may seem counterintuitive, but Code Halos can create more authentic experiences by building affinity and communicating your company’s value.

- **Don’t hide under your “security blanket.”** It would be naïve to think that issues of security, privacy and the ethics of data management and exchange are simple to resolve. But it would be similarly naïve to conclude that these issues are impossible to overcome or that Code Halo sharing is not worth doing. The U.S. Department of Defense is crowdsourcing design and implementing BYOD (bring your own device) strategies. Google Apps is FISMA accredited (an information security management certification).⁴ There are bad people out there, but there always have been. During the Renaissance, bandits on trade routes didn’t stop the explosion of trade. In the Wild West, bank robbers didn’t slow a nation’s expansion. And more recently, phishers have not slowed e-commerce. As with any form of commerce, there are risks associated with Code Halos; in some places of the world, sharing your code is a good way to get hurt, and there are many for whom the idea of offering up their Code Halo is unsettling and paralyzing, bringing as it does both the specter of Anonymous (the infamous hacking group) and “Big Brother.” But we see this shift as a song of hope. Supreme Court Justice Louis D. Brandeis put it best: “Sunlight is said to be the best of disinfectants.” We are convinced that smart deployment of Code Halo thinking – driving transparency and agility – will ultimately help your organization and your customers.

Look for processes that shape more than 20% of cost or revenue, and pick two. Work to apply Code Halo thinking to those processes.
Don't get SMACked! In many sectors and processes, SMAC Stack technologies are already impacting the fundamental nature of business. Most cases cited in this article simply would not work without this technology foundation. The SMAC Stack is enabling new organizational models, economic value and the foundation of competitive advantage. Very plainly, if you are not building key portions of your business on the principles and realities of an emerging SMAC-powered model, then you are at risk of being usurped by competitors that have.

Learn the new language of Code Halos. Making business meaning out of code is already changing how companies – both those that are “born digital” and “digital immigrants” – create value. S&P 500 outliers of the past five years have won based on knowledge and meaning, not just assets and capital. Some decision-makers may categorize this opportunity as “the CIO’s problem.” Others might focus on the more immediate demands of the current quarter. Keep in mind that people – inside and outside your company’s walls – want to engage with you and each other in dramatically different ways. They have emerging expectations for how they want to interact, buy, sell, communicate and collaborate. Business leaders should pick a few key spots and create a reasonable and feasible plan to embrace this shift. The opportunity is vast, and the punishment for missing this trend will be swift and harsh.

To learn more about the Crossroads Model and how Code Halos transform companies – and entire industries – read our white paper “Code Rules: A Playbook for Managing at the Crossroads” available on our Future of Work and Unevenlydistributed.com Web sites and begin crafting a strategy for winning the new “code rush.”

In addition, a Code Halo book, e-book and app are coming soon. The app will be available this fall through the Apple App Store. It will deliver a truly immersive experience via deep-dive videos, interactive graphics and diagnostic tools.

Footnotes

1 In looking at the impact of Amazon, the firm has already forced a significant value shift in two industries – books and technology – and is currently poised to do the same in several other sectors, including technology services. Such has been the power of Amazon in transforming the customer interface as well as the partner and supply chain.


3 Apologies to Jerry McGuire writer/director Cameron Crowe and to Stanley Kubrick.


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Paul Roehrig, Ph.D., leads Cognizant’s Center for the Future of Work and drives strategy and market outreach for the Business Process Services Practice. Prior to joining Cognizant, Paul was a Principal Analyst at Forrester Research, where he researched and advised senior IT leadership on a broad range of topics, including sourcing strategy, trends and best practices. Paul also held key positions in planning, negotiation and successful global program implementation for customers from a variety of industries, including financial services, technology, federal government and telecommunications for Hewlett-Packard and Compaq Computer Corp. He holds a degree in journalism from the University of Florida and graduate degrees from Syracuse University.

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The Changing Nature of Work: New Hours, Venues, Values, Norms

We are in the midst of inescapable change predicated on our hyperconnected, always-on reality, in which work can be done anytime, anywhere. The key for enterprises is to define which types of work require presence and which do not, and master a tempo that shows no sign of slowing.

By Ben Pring

Earlier this year, newly installed Yahoo CEO Marissa Mayer set off a media firestorm when she canceled Yahoo’s work-at-home policy. Coming from a Silicon Valley company assumed to be on the leading edge of the changing workplace zeitgeist, Mayer’s move simultaneously surprised, confused, delighted and angered the professional and citizen commentariat.

To us at Cognizant’s Center for the Future of Work, Mayer’s edict was especially provocative. In some ways, her view was a direct shot across our bow; if the CEO of a big, important technology company was in essence saying that the way we work — and the approaches to work that we recommend to our clients — was suboptimal, then perhaps we should pause for a moment to reconsider whether the way we work is still working.

Having taken that moment, we’ve decided the answer is “yes.” We’ve laid out here some of our points of view on the future of work and why we strongly believe they are still the imminent future.

Reports of the Death of the Commute Are Not Greatly Exaggerated

Fundamentally, we remain convinced that over the next 10 to 20 years, the death of the commute will be one of the most significant shifts (from a societal, corporate and personal perspective) that will occur. In another generation’s time, historians will create apps about the odd period in man’s existence when people sat in a car, train or bus for 30, 60 or even 120 minutes early in the morning, traveling to their place of work. Then, early in the evening, they spent the same amount of time traveling back to their residence. The next day, they did the same thing. And the day after that ... and the day after that ... five days a week ... 48 weeks a year ... for 40 years.
The future historian will struggle to explain the madness that overcame late-20th-century man to a society in which the vast majority of knowledge-based work — which will represent most of the work that gets done — occurs in homes built (or retrofitted) with “offices” (really just a space where one works).

To truly understand the future of work, one needs to understand a little of the history of work. For most of the world’s history, there has been little separation between where one lived and where one worked. Soldiers, sailors, farmers and adventurers, as well as everyday people, worked in their homes or short distances away in their villages or towns. The growth of industrialization forced individuals to travel farther to their work, but through the 19th century, even large production or extraction facilities were typically surrounded by housing, and “commutes” were counted in minutes, not hours.

The development and commercial exploitation of transportation was the main catalyst of change. Entrepreneurs behind the expansion of the railways needed to encourage people to travel to profit on their investments. Hence was born the idea of building housing away from places of work. The Metropolitan Railway Country Estates Limited was established in 1919 in the UK to build housing in leafy northwest London and beyond, into rural Middlesex, Hertfordshire and Buckinghamshire, to create passengers for the Metropolitan Railway, which had been established in the 1860s but with limited success. The commute was born and was copied throughout London, Paris (Metropolitan became the “Metro”) and every other city in the world as populations exploded and societies configured themselves to make sense of modern work and modern living.

The car-based commute emerged in the U.S. during the post-WWII era to supplement railroad infrastructure as towns such as Levittown in Long Island, N.Y., offered housing in commutable distance to New York City. The combination of affordable cars, low gas prices and undeveloped land produced a spurt of development that gave rise to the The Man in the Gray Flannel Suit’s middle-class aspirations, satisfied by the daily trip to his Madison Avenue office.

Fast-forward to 2013, and the “success” of this commuting era is everywhere. Modern Western societies are built on the movement of people to work. Train infrastructure, road infrastructure, air infrastructure, the shape and look and feel of our cities, suburbs and towns all have at their core the transportation of a person to his (her) job.

And yet, we can see the downsides of this phase of man’s history. The biggest, of course, is ecological. Although arguments rage (and we have no intention of wading into socio-political waters here), inconvenient truths are self-evident: Workers’ commutes are contributing (in a major way) to the warming of the planet, with profound and unpredictable consequences. In less macro ways, the commute’s downsides are more visible than ever. Now a victim of its own success, the commute’s infrastructure is crumbling as tubes and rails built for tens of thousands handle tens of millions, and freeways built for freedom pave over paradise and became (elongated) parking lots. The personal cost of these downsides hardly needs articulating; nobody in their right mind would expound the virtues of their daily commute. It is simply a necessary evil to be borne until better times prevail.

The future of work represents those better times. With the industrialization of the Internet, the need to travel to work is diminishing. Work is now moving to where you are. The physical infrastructure of work is being supplemented (and over time replaced) by the virtual infrastructure of work. The Internet highway is being overlaid with more and more sophisticated and affordable functionality (e-mail, messaging, high-definition videoconferencing, collaboration tools, etc.) that is making the online experience as good as (and arguably at times better than) the in-person experience.

To truly understand the future of work, one needs to understand a little of the history of work.
Some work will, of course, remain geo-specific and, therefore, still require a commute. And to be fair to Marissa Mayer, this may be exactly her point. Many physical tasks (mining, waitressing, policing, etc.) will remain highly location-specific. Some location-specific work will simply be enhanced by virtual capabilities (robotic mining, “surface-based” menu displays, “pre-crime” analytics downloaded to the cop’s goggles). But the majority of knowledge work is already executable anywhere, and more and more knowledge workers are already working where it makes sense for them to work, which increasingly does not mean their company-provided cubicle. Extraordinary events such as major storms or rail crashes are increasingly giving people occasion to try telecommuting, making what has already been “a good idea for others but not for me” a familiar part of their new routine.

The commute started out as the leading edge of modernity; business travel was the province of masters of the universe. Now, smart execs use private plane services like NetJets when in-person presence is absolutely necessary, but more often, they simply stay home and “Tandberg” or “Skype.” The commute is now the lagging edge of modernity and is the physical embodiment of the drudgery of the salary man.

The movement of people to work will be seen in time as an aberration. While some might imagine that the commuting model (and all the infrastructure that surrounds and supports it) is the natural pre-ordained order of things, it is not. The commute was manufactured by those with a vested interest in its success and was shaped by the dominant technologies of its time. The cultural norms that surround it (having to be seen in the office to establish whether one is working or not is one notable example) will morph. Once-dominant technologies will be replaced by new ones of another era, such as the SMAC Stack™ (social, mobile, analytics and cloud), interactive surfaces, wearables and IP-addressable and always-connected devices (the Internet of Things). As the advocates of these technologies will have different vested interests, the commuting model will be replaced by a new approach, with different cultural norms that make more sense to workers brought up on and accustomed to working in very different ways.

The Internet highway is being overlaid with more and more sophisticated and affordable functionality that is making the online experience as good as (and arguably at times better than) the in-person experience.

Knowledge workers will still travel for work; the face-to-face will retain its role and currency in business development, as well as building and maintaining corporate esprit de corps. Many creative/knowledge jobs will still require the heat generated by hand-to-hand combat, but the commute (i.e., the routine day-to-day trip just to get to work) will, in time, be as antiquated as the telegraph, the typewriter and the fabled buggy whip.

Many creative/knowledge jobs will still require the heat generated by hand-to-hand combat, but the commute will, in time, be as antiquated as the telegraph, the typewriter and the fabled buggy whip.

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With telecommuting, nontrivial costs such as HVAC, catering, beverages and network and physical infrastructure can be passed back to employees, and corporations can shed underutilized office space. Perhaps most important, a substantial body of evidence is emerging to support the notion that telecommuters are more productive than in-office workers and have greater job satisfaction, which in turn helps with recruitment and retention. Employees benefit from reduced commuting costs and more flexible schedules, which helps with domestic responsibilities and family involvement and leads to higher job satisfaction. Lastly, societies benefit from reduced carbon emissions, as one simple but fundamental example.

A moment’s self-reflection makes it clear that the very idea of the “9-to-5” is diffusing, as previously distinct working hours and nonworking hours meld, merge and morph.

In 20 years time (and probably sooner), the renaissance of the “artisanal” pre-commuting model will be in full force. Scale required people to be co-located in the past, but now and in the future, the management of scale virtually will be a well-understood management discipline. Crowdsourcing, micro-tasking and being a TaskRabbit² offer a glimpse of a post-commuting world in which physical presence is sufficient but not necessary.

Working 5-to-9, Trying to Make a Living

Just as technology changed the structure of where we work, technology is also fundamentally changing the nature of when we work. A moment’s self-reflection makes it clear that the very idea of the “9-to-5” is diffusing, as previously distinct working hours and nonworking hours meld, merge and morph. With the advent of laptops, commonly available broadband Internet access and the rise of telecommuting, a structured work day is now supplemented and overlaid with nonstructured working time.

At first, this reality manifested itself in the tendency to check e-mails or write reports before and after the formal work day, at home and while commuting. As this approach became more widespread, and as the requirement from management for physical presence became less pressing, the norm of working in set hours became less normalized. As mobile technology has developed (i.e., miniaturization, functionality, form factor, hipness), a hybridization of working and nonworking hours has become increasingly common for knowledge workers in every corner of the planet.

Telecommuters now commonly mix working and nonworking hours throughout the 24 hours of a day; they get up at 5:00 AM and do an hour of e-mail, get the kids ready for school, get on a conference call at 8:00, walk the dog, write a report from 9:30 until noon, go to the gym, watch The Colbert Report with a Lean Cuisine lunch, write from 2:00 until 3:30, Skype with co-workers until 4:00, chat with the kids until 5:00, do more e-mail until dinner at 6:00, help with homework until 7:00, write until 8:00, check e-mail until 9:00 and then collapse. Work-free Saturdays and Sundays – sacrosanct under the old model – today see blocks of writing or e-mail catch-up time, too.

As this new approach becomes more widely accepted, its edges are being stretched even further. The 9-to-5 workday is taking on quite different meanings for different types of work and styles of working; for coders and creatives, technicians and technocrats alike, 9-to-5 may now mean, as in the above example, 5:00 AM to 9:00 PM, or for others, 9:00 PM to 5:00 AM.
In a world of work distributed across locations and time zones – in which faces are only a screen away, and where people are managed by the measurement of outputs and not just the input of time – the old 9-to-5 is increasingly anachronistic. In its time, amid its shaping technologies, it was an entirely logical (indeed admirable) convention that improved the lives of millions of people all around the world. In our 24/7, global, always-on environment, the 9-to-5 is becoming a relic of the past.

Although knowledge-based teleworkers are growing in numbers and impact, and their work practices are becoming less the exception and more the rule, a good deal of insight and wisdom is lacking in making the new 9-to-5 work for employee and employer alike. For many, the ability to work anytime-anywhere, which at first was a tremendous blessing, is increasingly becoming a curse. Craving the endorphin rush of receiving an e-mail, text or tweet, or anxiously beavering away at 3:00 AM on the 27th draft of the morning’s presentation (amid tweeted news reports of the current unemployment rate), many a modern cybernaut is manifesting addictive tendencies that can only end in tears.

Most “9-to-5ers” were able to put their work down when the whistle blew or they punched the clock, and they were then free to concentrate on the nonworking part of their day (remember “hobbies” anyone?). The modern “5-to-9er” has trouble turning off his mind, let alone his device. The nature of modern work is such that the tools that promised us new freedoms have perhaps simply ended up giving us new (designed in California) shackles.

We are in the midst of generational, secular changes predicated on the inescapable reality that the hyperconnected, always-on environment in which most of the Western world now lives – and which more and more of the developing world is joining – is irreversible.

While it is perhaps tempting to imagine that new parent Marissa Mayer has work-life balance at the top of her mind, it is unlikely that it was the motivation behind her “return to the office” manifesto. Figuring out how to maximize the upsides (personally, corporately) of the new zeitgeist and minimize its downsides is a task for every contemporary worker and manager. Doing this is nontrivial, and the temptation to simply turn one’s back on the future and revert to old and trusted approaches is understandable. But that approach misses the point that is at the heart of our future of work vision: We are in the midst of generational, secular changes predicated on the inescapable reality that the hyper-connected, always-on environment in which most of the Western world now lives – and which more and more of the developing world is joining – is irreversible. The Internet is not about to be uninvented.

You Take the High Road, We’ll Take the Low Road, And We’ll Be in the Future Before You

Of course, nothing in the real world is ever black or white; the complexity of gray surrounds us. Many people – including, presumably, many Yahooites – will continue to work in their offices until their 401ks mature. The infrastructure of the commute will not be fully overgrown by sylvan glades within our lifetimes (although it may be in Detroit). The new Infrastructur

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fall based on its mastery. Generating clarity from within the grayness starts with understanding (at an individual, team, unit and corporate level):

- Which work requires presence and which work does not?
- What are the precise elements of a job that need presence? Can these elements be structured logically into presence and nonpresence blocks?
- What is the employee’s attitude toward presence? Does he (she) welcome or resent it?
- What are the employee’s personal circumstances that impact work undertaken with presence/nonpresence?
- How well does the employee work remotely?
- What are the implications of a policy of presence on recruitment and retention?

Of course, each organization’s individual circumstances will ultimately determine how questions such as these (and many more, including – most importantly – a cost/benefit analysis of presence/nonpresence) are posed and addressed.

But it is undeniable that we are all now working in ways and moving at a pace that would surprise us if we could roll back the clock even 10 years and that our parents – at their peak earning years – would have found truly bewildering. The network infrastructure that supercharges commerce means the old “24-hour” rule (i.e., returning e-mails and phone calls within 24 hours made famous by Larry Ellison and Tom Seibel in the 1990s) is hopelessly outdated and has been replaced by a new “24-minute” one. The “industrial mediatainment complex” feeds and nurtures our need for speed and urgency in 70-inch 3-D high definition. And the volatile, plastic, morphing norms of the “social mediasphere” require sub-nano-second participation that advertisers with a vested interest mock and celebrate simultaneously. Every aspect of our working and nonworking lives is moving faster and faster, and we all need to react to, embrace and master a tempo that shows no sign of slowing.

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Ms. Mayer obviously had the interests of her specific company and her company’s specific circumstances at the forefront when she made her recent decision; time – and the market – will be the judge if it was the correct call.

But seen in the broader context of all the forces and dynamics and trends that we have outlined, the commute and the 9-to-5 are vestiges of the past of work. So, if it’s all the same to you, Marissa, we will continue to work on and in the future of work – remotely and at whatever time of day it makes sense.

Footnotes

1 According to a 2012 Reuters/IPSOS survey, 20% of Americans are regularly telecommuting (the term invented by University of Southern California’s Center for Futures Research professor Jack Nilles in 1972), and a wide array of reports from distinguished academics and analysts suggest these numbers are only moving in one direction. According to Carnegie Mellon University, 40% of current work could already be done from home.
2 TaskRabbit is an online marketplace where people can post jobs that they need to get done and the price they are willing to pay. A network of “TaskRabbits” can bid to complete the job. For more information: https://www.taskrabbit.com/business.


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Keep on SMACking: Taking Social, Mobile, Analytics and Cloud to the Bottom Line

Winning organizations have programs in place to identify, understand, prioritize and overcome emerging SMAC challenges and have established ‘Big Rules’ for business and IT leaders to work through governance and technological roadblocks.

By Bruce J. Rogow

With all the hype and confusion about emerging information technologies, particularly social, mobile, analytics and cloud (what we call the SMAC Stack™), it is very easy to lose sight of the big picture and its implications.

SMAC and a growing array of IT alternative delivery vehicles – such as software as a service (SaaS) and business process as a service (BPaaS) – are the major tradewinds swirling into the enterprise at the same time that industry structures and business architectures are changing. SMAC must be considered not as a set of “cute things we can do” but as an enabler for a wider context of profound business and technology transformation.

As industries change and new IT products and services emerge, businesses must adapt their IT architectures and capabilities to take advantage of what can be sourced internally and through third parties. These adaptations typically take 15 or more years, but leaders at winning organizations recognize the stakes, scope and challenges early on. They blend new, changing and existing parts to ensure material business contribution and increased competitiveness over the short-, mid- and long-term. In today’s SMAC context, winners see and execute against the strategic shift amid business change.

Winners don’t wait for change to sort itself out or assume that they will succeed by continuing to do what they have been doing, only more diligently. They try to take advantage of the short-term opportunities afforded or demanded by the changing landscape and begin to work toward a scalable and iterative IT vision as they connect the dots and lay a proper foundation.
When navigating into new waters, such as we are, prudent executives will identify the key challenges and adopt “Big Rules” to guide their efforts.

**Lessons Learned So Far: Key Challenges**

In times of major change, when business and IT platforms are being transformed, leading organizations force themselves to pause from the day-to-day mayhem to identify primary strategic challenges and then determine whether they present threat or opportunity. They use these as their radar and compass to keep moving forward and avoid veering off course.

As originally described in more depth in my Cognizant Connections blog posts, the challenges I hear most often from senior business leaders include:

- **Keep your eye on the prize:** Businesses face an imperfect storm of challenges, attempted business model changes, new IT applications and evolving IT delivery mechanisms. It is easy to focus on the shiny new thing. How do business leaders tackle necessary changes that deliver traction at scale and impart positive business impact? Doing so requires dedicated and qualified resources, the building of management platforms (similar to what was done for PCs and minis), scalable support and deployment models, continuous inspection, financial scrutiny and processes for refresh and maintenance.

- **Manage the moving parts:** The ordinary business of annual planning, budgeting, capital allocations, application portfolio selections, governance structures and succession plans can create a same-old, same-old rhythm. The current environment forces business and IT leaders to reconsider all the moving parts of the evolving environment and the interchange between them rather than just going through routine management processes. The challenge centers on defining and organizing the moving parts (see Figure 1 for the most common moving parts).

**While your organization may restrict alternatives to internal IT, this will likely change as competitors grow more agile as a result of their greater reliance on quick-turn business capability and IT specialization.**

- **Understand how consumerization changes the IT game:** The IT organization is now in a competitive market. Users want it now, at low acquisition cost and in an easily adopted manner. Internal IT must provide and/or facilitate easily understood services rather than complex technology brews, system development extravaganzas or rules that ignore these new realities. Users have alternatives to internal IT. While your organization may restrict external alternatives, this will likely change as competitors grow more agile as a result of their greater reliance on quick-turn business capability and IT specialization.

- **When going to the future, bring money or find it:** The changes to the business model, SMAC and adoption of an IT as a service model will cost money. What percent of your IT budget last decade was dedicated to PCs and distributed systems introduced in the last great IT platform change? In tight economic times, there must be a balance between creative innovation and intense scrutiny to harvest material economic benefit. It’s not good enough to say that social media has enlarged our group of friends or that data analytics has given us insight or that cloud-enabled collaboration has made our people more aware. As
we heard in the movie *Jerry Maguire*, “Show us the money!” Real money will be needed to fund the SMAC transformation.

- **Fog and clouds ... deal with it:** Businesses and IT organizations face major ambiguity and uncertainty at almost every level of operation. They get it that they must move ahead. The challenge is determining exactly what needs to change and how to enable change. It can be helpful to think in terms of plateaus of change. This requires a constant and dedicated effort to re-examine what the next plateau may be, how to get there, how to acquire that capability, who will make that happen and when it will be done. This process must be performed for each chunk of the business and for the business as a whole. It is foolhardy, for the foreseeable future, to wait for a universal solution.

- **Life is a paradox ... deal with it:** Business and IT organizations have been finely honed to exacting processes and structured strategic objectives. Decisions and execution pivot...
around governance, financial evaluation processes, standards, approval processes, risk elimination, following tight rules and enforcing standards. What lies ahead is massive uncertainty. How do organizations that have cleared all risk and uncertainty off the table deal with massive ambiguity and paradox? As an example, how do they contend with the demand for greater operational agility but also ensure better IT performance and security on more diverse devices. What does that mean, what are the tradeoffs, and how do you do it? This requires major changes to IT principles, decision-making, policies and governance.

- **Lots of pieces are missing or relatively immature ... deal with it:** We are blessed today with platforms, tools, vendors, applications, major skills or experience bases and management approaches for managing the IT lifecycle from centralized through distributed implementations. Entering the SMAC world, you find, at best, primitive support vehicles. There is risk in moving ahead, but waiting for the rest of the support vehicle kit to arrive is not prudent. Competitors may move ahead, and you will lack the years of experiential learning required to take advantage of the new capabilities. This requires tiering your IT investment and deployment into practical chunks and different approaches for short-, mid- and long-term investments. Fully expect that many short-term IT and business capability investments that can have major economic return will require scaffolding to tie into existing systems and business processes. Many will need replacement or refreshment as the capabilities become more robust and the business requirements change. An essential expectation in the foreseeable timeframe is to invest short, get a significant short-term return and allow for mid- to longer-term solutions.

- **Villager unrest will only get worse:** Senior executives, users, vendors, consultants and academics will only step up their demands to accelerate the move to a future state. In many cases, they may be clueless about the details or how to get there. IT must get in front of this tsunami and programmatically help senior execs balance out their increasing frustration with IT’s perceived lack of agility, flexibility, responsiveness and acceleration abilities – as well as the Byzantine processes and pervasive shortage of proper skill sets – against the risk of creating an unmanageable, overly complex and unsecure IT and business capability mess.

The enterprises that are making the most sustained progress with SMAC and a services-enabled future all have programs in place to identify, better understand, prioritize and deal with a similar list of challenges as they see them.

**Steering Through the Challenges**

Most leading companies I visit tell me that many of their old policies, practices, resource allocations, standards, organizational structures, incentives, measurements and governance policies do not accommodate or actually hinder the direction in which they need/want to go. It is too early to lock in replacements. To get beyond the on-ramp for business model change and SMAC, many are adopting a set of interim guidelines, maxims or “Big Rules.”
You don’t need all or even a majority of the Big Rules detailed in the checklist below. However, every one missed makes your journey harder. The most common Big Rules include the following:

- **For boards of directors:**
  > Obtain expertise and perspective: Add an IT-savvy executive or, better yet, a proven CIO. If the board is full, create an IT advisory council for the board.
  > Communicate, understand, review beyond the IT audit material: Ask for an overall vision of how SMAC and the availability of outside services will impact operations, progress to date and mechanisms for change; request a semi-annual update.
  > Ask the business leadership: As senior business executives present their plans and progress in regular board sessions, don’t hesitate to ask questions, such as whether IT adequately supports the business; where the missed opportunities are to take advantage of the changes in outside services and SMAC; how your business function or unit is taking advantage of technology or services; how the IT you provide to your staff and customers compares with that of your competitors; whether IT enhances or detracts from the brand or customer experience.

Recognize that SMAC and emerging alternative IT delivery vehicles are like “free puppies.” They are cheap and cute on the front end, but they require funding, health checks, care and support over time.

- **For CEOs and senior leadership teams:**
  > Set aside quality time: Sponsor sessions to produce SMAC visions, impacts and plans from each business unit. Use these to provide the board an update as outlined above or be better prepared for the board’s questions. This process and output may be included within conventional business strategy efforts; however, special consideration should be given to ensure that proper effort and quality time is allocated. A board member of a distribution company recently told me that his board had awarded its CEO and her executive VPs with a, “We expect you to do much better” probation when it found that the senior leadership team had spent less than one hour of quality time over the past year considering how IT could benefit the business. Such a taunt from the board is one level below a no confidence or material liability on these critical issues.
  > Turn ambiguity to advantage: Examine the issues of managing in ambiguous times and provide a program for addressing the required organizational, incentive, style and motivational changes required. Promote prudent risk-taking, as well as risk assessment, abatement and tolerance.
  > Expect, inspect and fund success: Demonstrate that consideration is being given and steps taken to harvest the benefits afforded by SMAC and the provisions made (i.e., budgeted) to support the changed environment. Recognize that SMAC and emerging alternative IT delivery vehicles are like “free puppies.” They are cheap and cute on the front end, but they require funding, health checks, care and support over time.
  > Build recognition that IT is becoming a part of or is already a major enabler of the enterprise brand: Unless all these shiny new SMAC capabilities, services,
outside wonders and legacy systems can operate in a seamless and easily manageable fashion, the brand and business can be hurt rather than enhanced. Discipline is still required.

● For better collaboration between business and IT leadership:
  > Progression vs. succession plans: Move from perfunctory organization succession plans that replace like with like, to talent progression programs that identify, acquire, develop and retain the talent needed going forward, both in the business and IT.
  > Learn to work backwards: Start with the desired outcome rather than what the shiny new thing can do. Determine what it will take for the business and IT to achieve the outcome. Early on, imagine or test the future-state operating environment being designed or considered to see if it will deliver the outcome. Rather than adding on bells and whistles, try to focus on practicality from the operations, conversion and integration perspectives. As an example, I keep hearing of “spectacular” insights emerging from big data. When I ask what difference it has made in the business, the typical response is that the analysis didn’t change anything. The analyzers don’t have direct connection to the potential “happenators.” No one had responsibility for the change, and the incentives and processes precluded business changes.

Move from perfunctory organization succession plans that replace like with like, to talent progression programs that identify, acquire, develop and retain the talent needed going forward, both in the business and IT.

  > Establish the progress corridors and platforms: Break down the hardened silos that have developed in IT and the business. Deal with the issues of personal or departmental hoarding. Restructure attitudes and expectations, as well as organizational and horizontal awareness and process flows around the services and outcomes to be delivered.

● For IT leadership working with their teams:
  > Refresh 20-year-old IT principles: For many organizations I visit, it has been many years and IT galaxies since the IT principles and maxims were articulated. Adapt the IT and enterprise architecture principles and IT governance to properly support and communicate how IT is to operate (the IT Big Rules) for this new environment.
  > Update the IT what, how, who and when: Adapt the IT management model and organization to identify, articulate, source and deploy, assure and secure, refresh, steward and orchestrate the opportunities afforded by available services and SMAC, globally.
  > Upgrade technical infrastructure architecture to a modern, full enterprise architecture: Produce and implement a foundational enterprise architecture that is not just about solution brokerage and deployment but that starts and ends with what it takes to ensure, refresh, operate and orchestrate the exceedingly complex IT environment of the future. This includes mobility, BYOD (or don’t BYOD), apps (public
and private), public cloud, private cloud, hybrids, legacy, infrastructure as a service (IaaS), BPaas, social media, unified and not-unified communications, software-defined networks, extreme virtualization, multimedia, video, big data, the Internet of things and security threats we can only begin to imagine.

> **Find the funding:** Establish the vehicles to test and pay for all that the evolving environment will require. Users want the free puppies, but IT organizations are finding they come with a 15% to 30% annual carrying or support cost. A mechanism to fund this needed support must be developed.

> **Focus IT on core contribution:** Begin the transformation from a deliverer and operator of IT systems into a facilitator of IT merchandising, service brand management and service assurance.

This checklist is just a start. Please add your advice to my blog on Cognizant Connections. I’ll be adding to these and exploring them in more depth as we all learn more about taking SMAC to the bottom line.

**Footnote**

1 A “happenator” is the person absolutely responsible and accountable for ensuring that the change happens and does so with passion. For more detail, see *Cognizanti Journal*, Volume 5, Issue 1.

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