

PwC Advisory
Oracle practice
2012

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How to drive innovation and business growth

Leveraging emerging technology for sustainable growth

Heart of the matter

Top growth driver today is innovation

To be competitive in the global marketplace, organizations need to be driving more innovation in their products and services. They need to innovate rapidly and they need to do it cost-effectively. This has been a need that has grown over the last several years. Even during the recession, CEOs were already focused on growth, and they expected technology to be the main enabler of innovation. In fact, most CEOs were looking to use technology to gain both efficiencies and differentiation simultaneously. A survey conducted by PwC in 2011 found that 80 percent of CEOs believed innovation drives efficiencies and leads to competitive advantage.¹ For most of them, technology is one way of capturing both. Close to 70 percent of CEOs surveyed were investing in IT to reduce costs and to become more efficient, while 54 percent were also funneling funds toward growth initiatives that leverage emerging technologies such as mobile devices and social media.

How to drive innovation and growth

Even the best technology can't deliver success without focus on business strategy and goals. It is important to have a clear vision of where the company is going, as it will define and set the context for the role innovation will play in enabling profitable growth, help determine the type of innovation you want to drive and the way you need to organize to effect change.

Innovation can manifest itself in multiple ways, whether in a technology change that determines the products and services you deliver, or a business model change that defines the value you deliver. Companies must determine the types of innovation they need—incremental, breakthrough, or radical:

- **Incremental innovations** make small changes to a company's existing technologies and business models
- **Breakthrough innovations** make significant changes to either the technology or business model, producing significant growth
- **Radical innovations**, which take place more rarely, combine technology and business model innovation to create major new industries with exponential growth

Although breakthrough innovation is transformational, it's often the buildup of incremental but continuous innovation around existing technologies and business models that can transform the way a company does business. In 2012, 69 percent of CEOs reported that they would be changing the company's overall innovation portfolio in new products and services within existing business models.²

Companies need to set up their organizations around innovation and establish appropriate processes and metrics to integrate innovation into the fabric of corporate culture. So how do you organize yourself around innovation? Who drives it and is ultimately responsible in the organization for innovation, where does that person sit, and how do you define processes and mechanisms around innovation?

¹ PwC 14th Annual Global CEO Survey, PwC, 2011

² PwC 15th Annual Global CEO Survey, PwC, 2012, <http://www.pwc.com/gx/en/ceo-survey/>

The CIO's role in innovation

All business units require the support of technology to some degree; hence, the CIO is one of the few executives involved in all aspects of the business. Although CIOs were traditionally hired to focus on operations and cost reduction, the need for an organization to drive innovation has created a critical new role for CIOs: focused on strategy and growth. CIOs are uniquely positioned to develop and drive innovation, influence cultural change, and deliver the innovation strategy. They need to have the talent and skills to be forward-looking and visionary— they need to be collaborative individuals who understand the business. The role of the CIO must evolve from being the chief information officer to being the chief innovation officer.

In fact, top-performing companies surveyed by PwC were more likely than others polled to posit that CIOs need extensive leadership abilities—and that they are a critical part of the leadership team and must drive cultural change as well as bottom-line growth.³ All respondents concurred that the most important skill for the CIO was the ability to be an innovative thinker and to be able to apply IT to solve relevant industry and business issues.

Among firms that describe themselves as highly innovative, 70 percent say the CIO reports to the CEO, compared with 59 percent of respondents whose firms are not highly innovative. And 42 percent describe the CIO as a champion in relation to the company's growth agenda, compared with only 19 percent for less innovative companies.

Overcoming barriers to innovation

While it's clear that technology must be at the center of innovation, IT itself can be a barrier to innovation. IT complexity is among the biggest obstacles, as companies that have to maintain very complex IT infrastructure don't have the time or budget to focus on innovation. Another barrier is when an organization is not set up to be innovative—for example, if the CIO has too many operational tasks or if there is no “emerging technology/innovation” office focused on continuously seeking and evaluating new technologies to assess where they might add business value.

IT complexity gets in the way of business innovation

Many IT organizations find themselves caught up in the complexities of maintaining the status quo rather than making the business more competitive. For decades now, companies have been buying various components—such as servers, storage, and a plethora of software—from different vendors, assembling the pieces into custom systems, and hiring specialized IT staff to maintain them. IT then ends up dedicating most of its time to an endless cycle of integration, configuration, tuning, and testing.

As the world becomes more digitally transformed and connected, companies need to reduce the percentage of budget spent on keeping the lights on and shift spending to the top business priorities. It's no longer sufficient to simply keep IT up and running. In order to remain relevant in this new environment, your organization must be able to implement the latest technologies quickly, and ensure that when you do, they are engineered to work with your entire technology stack. Enterprise technology companies such as Oracle bring together engineering hardware and software to simplify IT, so you can adopt new technologies quickly and efficiently without worrying about how they will integrate with the rest of your system. PwC adopts a business-led approach to implementing Oracle solutions to transform companies into more efficient and effective organizations that can address and sustain strategically directed change.

Organizing around innovation

However, reducing IT complexity to free up time and budget for innovation is only half the battle. Many IT organizations have been culturally attuned to say “no” to new ideas rather than to embrace innovation. True

³ *Raising your digital IQ*, PwC's 4th annual digital IQ survey, 2012, <http://www.pwc.com/us/digitalIQ>. The survey defined “top companies” as those that rate in the highest quartile for annual revenue, growth, profitability, and innovation, as well as those that have revenue growth of more than 5 percent in the last 12 months.

innovation requires the opposite mindset—one that embraces new technologies and is open-minded about how to leverage them, rather than being focused on protecting the organization from the risks they present.

In addition to transforming the CIO into a chief innovation officer, companies need to develop an IT organizational structure to support innovation. This includes instituting an emerging technology or innovation office that focuses on continuously seeking new technologies and evaluating how and where they might fit into the organizational needs or add business value. The most successful companies will build organizations that embrace pilot projects for testing and incubating potential technologies, and have appropriate metrics to foster a culture of innovation.

An in-depth discussion

Leveraging emerging technologies to enable innovation

Once the right strategy, processes, and organization is in place to embrace new ideas and initiatives, there is an opportunity for CIOs to leverage technology to enable innovation. In fact, 73 percent of highly innovative companies agree or strongly agree that their IT investments are made primarily to support growth initiatives and leverage emerging innovations such as mobile devices and social media.⁴

There are four key technologies that have converged to drive innovation: social networking, mobile computing, analytics, and cloud computing. These technologies enable new ways to develop products, interact with customers, partner with others, compete, and succeed. Top-performing companies show greater mastery in how they leverage these four digital technologies to plan, innovate, measure results, interact with customers, and create value.⁵

While each of the four technologies has its own unique impact, they are complementary in support of getting work done. Social media helps people find colleagues with whom to collaborate and co-create. Mobile devices give people access to each other, applications stored in the cloud, and other data sources. Analytics help them make actionable sense of all that data. The cloud increasingly contains more of the information and applications that people use.

Social networks – whom we work with

Social networks have taken the business process of innovation and entirely changed the dynamic and underlying rules of how work gets done. The Internet and mature computing technologies that allow for sophisticated collaboration between social networks have driven the cost of collaboration and communication between people to virtually zero. This has catalyzed social networks where customers can comment on products and services and fellow customers can then vote on those comments. Companies can also crowdsource creative ideas of millions of customers when considering how to improve products and services. This level of collaboration was inconceivable in a pre-social media world.

The result is that there are fundamental shifts that not only provide ways to create value, but also put a whole new set of pressure on businesses:

- **Customer expectations** have shifted because of their personal experiences with social networks. They are now expecting companies to be more open to suggestions, responsive, engaged, transparent, and willing to solve problems.
- **Employee expectations** (particularly newer generations) have also shifted because of personal expectations developed outside of work. They are now expecting more transparency, openness, engagement, ability to provide input and be a part of decision making in a flatter organization.
- **Capabilities to co-create solutions in markets** have shifted and you are now able to take problems and apply thinking from a much larger group of stakeholders in the process of innovating and inventing new products, services, and solutions. Examples include support networks powered by customers and new value ecosystems such as app stores for devices. Once you reduce the cost of sharing information (between not just employees and each other, or employees and customers, but also trading partners, ecosystems, etc.), you can redraw the boundaries for sharing and collaboration, and new forms of relationships between suppliers and distributors and other business partners begin to emerge.

⁴ *Raising your digital IQ*, PwC's 4th annual digital IQ survey, 2012

⁵ *Raising your digital IQ*, PwC's 4th annual digital IQ survey, 2012

PwC has an effort underway to make social media an ingredient in all of our service offerings. We're making a substantial investment that is cross-line-of-service (e.g., Advisory, Assurance, and Tax) to understand the implications of social networks in all those domains to help our customers harness the benefits—ranging from leveraging the social workforce in our People and Change group, to managing social networking risk in our Assurance practice.

With Oracle Cloud Social Services, we offer a broad portfolio of social enterprise capabilities that support both internal and external social strategies. Whether you're looking to optimize your social marketing and sales campaigns, derive insight into your customers' conversations on social media, or ensure secure enterprise collaboration, Oracle's enterprise social platform includes a variety of social relationship management, social intelligence, and social networking tools.

Mobile computing – where we get to work

Mobile devices are changing the customer experience and forcing organizations to rethink how they engage with their customers and employees. By enabling consumers to carry the Internet in their pockets, mobile devices have made them more informed, more mobile, less private, and more social than ever before. Businesses have a unique opportunity to create competitive advantage by understanding that mobile devices are not only tools to drive innovation, but they create an ecosystem that can transform the customer and employee experience.

Today's mobile device isn't simply a phone anymore. It could be a tablet, a car, a biometric device on your arm or one of the myriad other mobile devices that have some ability to sense and respond. The evolution of the mobile device has taken it through the following stages:

- **Communication platform** – providing the ability to communicate without being tied to your desk
- **Application platform** – providing apps (like a contact manager and calendar), and eventually becoming a true platform to deliver applications via smart phones
- **Sensing platform** – providing context-aware data (using built-in GPS, digital camera, environmental sensing, etc.)
- **Digital representation of self** – an extension of the individual in a digital world

The mobile device has evolved from being merely a digital information manager to a full-fledged digital assistant. It has changed the way business gets done. Employees can work from anywhere and collaborate with anyone at any time and the tool that they're using to collaborate is not a barrier to innovation. Rather, enterprises can enable innovation by leveraging mobile technologies for their employees. By providing employees with a tool that conforms to the habits of individual users and how they want to engage in collaboration (be it email, phone, SMS, etc.) and that is adaptable to each employee's individual style of innovating, companies can enhance collaboration and enable the creativity of employees for innovation.

PwC has a full-lifecycle focus on mobility, with capabilities that range from setting up a mobile strategy through full implementation and delivery of mobility services. Our in-depth knowledge of the mobile marketplace allows us to craft innovative strategies, and we can deploy research innovation, strategy, delivery approaches and core development to ensure the most advanced market offering. Our plan for mobility will be to extend enterprise applications to smart phone and tablet platforms by leveraging Oracle Application Development Framework Mobile (ADF Mobile). Oracle's common mobile platform makes it possible to build applications once and deploy them to a range of devices. A flexible architecture enables developers to create user interfaces using HTML 5, native, or mobile web technologies. PwC is able to strategically leverage our business vertical expertise to deliver innovative solutions that provide a competitive advantage to our clients by creating secure light-weight apps

and services that provide real-time custom solutions, as well as integration to third-party providers of industry-leading commercial mobility solutions platforms.

Analytics – why we work

Enterprises are being inundated with vast amounts of data today—whether from existing business systems or from new information sources such as social media, mobile devices, and the cloud-based online marketplace. The challenge of big data comes from the exponential growth in data volumes and constantly emerging information sources. At the same time, the combination of more accessible data; faster, less-expensive computing; new software tools; and improved user interfaces is driving a new era in analytics use at large companies, enabling enterprises to make decisions with unprecedented precision. So much of what we do is digitized and available for analysis, and with the right analytics framework, companies can create value from this trove of digital data.

New analytics technologies such as in-memory processing (which reduces response time and expands the reach of business analytics by using RAM as opposed to slower disk storage) and tools to analyze both structured and unstructured data (such as social-media data), as well as more intuitive user interfaces make it possible for more people in the workforce to access data in a more targeted fashion, allowing business analysts in an enterprise to mine the new information sources to understand their customers and competitors better.

Analytics can directly engage the customer’s experience of a product or service by surfacing data about that experience. Once data has been collected, it can be used for multiple purposes by the customer, the vendor, or other interested parties. The ability to link this information to create an information network provides the potential to grow new value exponentially.

The challenge for IT is that new data types require different techniques and tools than traditional enterprise data. Large volumes and high velocity put more demands on system performance, especially when gigantic datasets must be analyzed quickly. Instead of putting together piecemeal solutions for acquiring, organizing, and analyzing various types of data, real value comes from bringing all your information together with an integrated approach. By doing so, you can improve efficiency and reduce the amount of time and effort involved in gathering business intelligence from an operational perspective, freeing up resources to focus on strategic drivers and innovation.

PwC’s business-driven analytics approach takes a holistic perspective of a company’s strategic drivers. We leverage Oracle’s comprehensive and integrated big data platform (including the Oracle Big Data Appliance for acquiring and organizing big data, Oracle Exadata for analyzing structured and unstructured data together, Oracle Exalytics for real-time, speed-of-thought visual analysis) together with Oracle Business Analytics (including Endeca for data discovery, Real-Time Decisions for predictive analytics models and Enterprise Performance Management for planning) and integrate them so organizations can make better decisions and act faster. Our Connected Analytics tool links various business intelligence solutions through executive dashboards and business scenarios to enable key business stakeholders to make business decisions based on relevant and timely information. By helping companies decide on appropriate metrics, capture them, and share them, we can help set the stage for ongoing improvement of the innovation lifecycle.

Cloud computing – how we do the work

The cloud increasingly contains more of the information and applications that people use. Mobile devices give us access to the cloud, social networks help us collaborate and communicate with each other in the cloud, and analytics help us make sense of the data we’ve gathered via the cloud.

In order to innovate, companies need to get closer to their customers and find new ways to engage them. Because customers are now demanding a higher level of intimacy and engagement, businesses need to innovate by creating new products and services—or launching new business models in their current suite of products and services—to meet those demands. Fundamentally, cloud computing enables this innovation by helping companies to optimize, innovate and proliferate new value across four business value lenses:

- **Transforming IT** – By simplifying IT, cloud computing frees up time and resources to focus on innovation. Companies can reduce infrastructure cost and complexity dramatically by leveraging on-demand resources (such as Infrastructure-as-a-Service or IaaS) that allow them to scale capacity up or down based on demand, as well as orchestrate different capabilities. Using cloud-based infrastructure resources also helps mitigate the risk of system failure and downtime.
- **Transforming business processes** – Business process sourcing in the cloud not only helps to streamline and accelerate internal operations. For example, by using cloud-based applications (Software-as-a-Service, or SaaS) also improves productivity and collaboration.
- **Innovating new products and services** – With a solid cloud business platform, companies are better positioned to innovate and offer new products and services to generate additional sources of revenue. For example, by using Platform-as-a-Service (PaaS) offerings to orchestrate new service experiences within their product portfolio or with partners, companies can also accelerate experimentation and testing cycles. They don't have to divert time and budget to building dedicated technology to make innovation happen.
- **Energizing channels and communities** – The cloud also delivers the ability to more easily co-create and collaborate with channels and customers by bringing together the catalytic forces of social, mobility and analytics. It helps evolve the experience throughout the business process engagement lifecycle: from discovery to delivery and on-going service relationship.

Unfortunately, many first-generation cloud solutions fall short of the promise to liberate IT from the day-to-day drudgery of integrating and tuning systems while reducing operating costs. Because today's clouds offer limited functionality, IT ends up integrating these point solutions together or integrating them with enterprise data and business processes, eroding the promise of cost savings and innovative growth. Managing security across cloud silos is difficult since each one has its own identity and access management. Also, first-generation clouds built with a multi-tenant architecture co-mingle data from different enterprises. Proprietary technologies can make it harder for customers to get access to their own data, and increase concerns over vendor lock-in.

However, moving to the cloud doesn't mean you need to give up enterprise-grade IT services.

PwC brings the value of understanding the holistic view of what your business needs, both what it needs to run its existing businesses and what it needs to innovate. We've partnered with Oracle to deliver cloud-based solutions so you don't have to worry about integration and you can be more agile. By choosing a comprehensive cloud portfolio from a trusted vendor such as Oracle, with a wide range of business applications, platform services, and social capabilities, you won't end up with the data and business process fragmentation that comes with siloed public clouds. We give you control over when you upgrade and which deployment model to adopt, so you're not locked into Oracle Cloud forever. If you are like most organizations, you are taking a hybrid approach to cloud computing and need the flexibility to seamlessly integrate data between your cloud and on-premise applications, ensuring a smooth transition from on-premise to the cloud. Finally, you don't have to worry about data privacy because Oracle Cloud ensures complete data isolation, never co-mingling data from different organizations.

What this means for your business

How to get started on your innovation journey

First and foremost, companies need to understand how to organize themselves around innovation and how to get the best results from innovation. Companies must first consider their strategic imperatives, and how they can make a holistic transformation through people, process and structure.

The next step is to identify the technologies that are best-suited to their unique circumstances. Companies should work to improve enterprise productivity by reducing complexity and then drive a more agile IT environment that is an enabler for business growth, through the use of emerging technologies such as the four we've mentioned here.

- Use social networks to communicate and collaborate with employees as well as customers and business partners to co-create and generate ideas for new products and service.
- Enable a mobile workforce that can collaborate anytime from anywhere.
- Leverage analytics to derive value from connected data and get a 360-degree view of your information.
- Utilize cloud technologies to optimize your IT, transform your business processes, accelerate the creation of innovative products and services, and co-create with your community

Finally, companies need to consider how they would be able to measure the overall business value and impact – and how they would create and sustain appropriate executive commitment and organizational incentives to execute the innovation program successfully.

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