

# Enterprise Mobility Management: BYOD & BYOA

*Mobility is evolving, and with it the Enterprise...*



## The Employee Workspace is Fluid, not Static

"BYOD strategies are the most radical change to the economics and the culture of client computing in business in decades," said David Willis, vice president and distinguished analyst at Gartner. "The benefits of BYOD include creating new mobile workforce opportunities, increasing employee satisfaction, and reducing or avoiding costs."

Two important and related trends already having a significant impact on day-to-day operations at a rapidly growing number of businesses are BYOD (bring your own device) and BYOA (bring your own application).

In 2017:

- 81% of devices under management will be mobile
  - Business smartphone Inst. Base is 35% BYO
  - Mostly Android + iOS; some Windows Phone Ultramobile
  - IB 30% BYO
  - 44% of PCs are mobile
  - .6% BYO PC
- 
- Ultramobile category will grow exponentially, from fewer than 10 million in 2012 to more than 23 million this year, and 96 million by 2017.
  - Almost four in 10 organizations will rely exclusively on BYOD-- meaning they will no longer provide any devices to employees-- by 2016, and 85 percent of businesses will have some kind of BYOD program in place by 2020.

Source: Trends, Directions and Strategies in Enterprise Mobile Platforms, Gartner, 2014

# ***The power of positive thinking***

A positive attitude and mind anticipates favorable results



## **Time to go back to the basics!**

Positive thinking is a mental and emotional attitude that focuses on the bright side of life.

## **A positive mind anticipates happiness, joy, health, and favorable results...in your personal and work life.**

If you adopt this attitude, you teach your mind to expect success, growth and favorable outcomes.

**1. Positive thinking is a way of life** (and yes, it is sometimes hard to follow your own advice!)

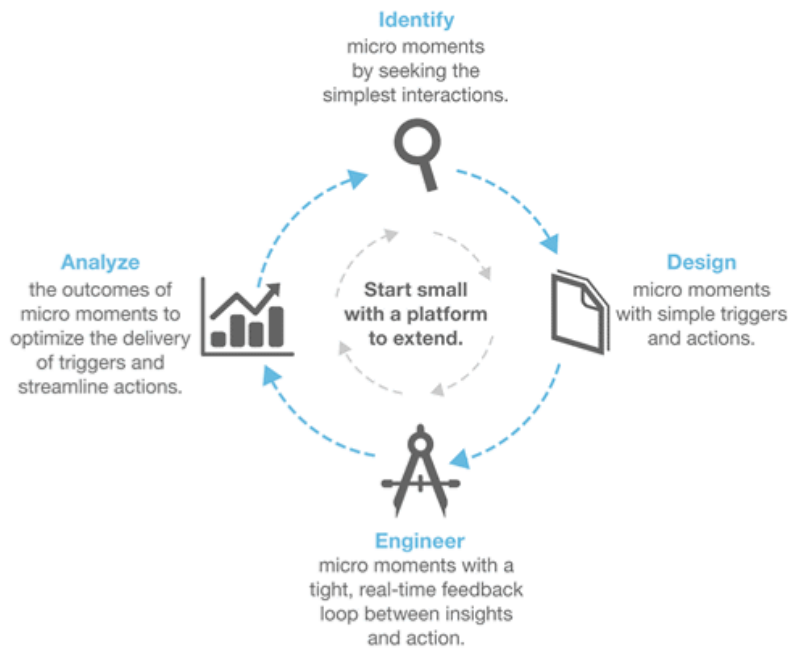
With a positive attitude, we experience pleasant and happy feelings. This brings brightness to the eyes, more energy, and happiness. Our whole being broadcasts good will, happiness and success. Even our health is affected in a beneficial way. We walk tall, our voice is more powerful, and our body language shows the way we feel.

**2. Positive and negative thinking are contagious.** At home, at work, in collaborative meetings, basic math tells us that a positive will always lessen a negative. Choose to be the positive influencer!

**3. Smile a little more... sometimes it's with the little thing that we can start the ripple effect of positive change.**

Source: [http://www.successconsciousness.com/index\\_000009.htm](http://www.successconsciousness.com/index_000009.htm)

# 2015 : Micro Moments Are The Next Frontier For Mobile



To build the quick interactions that make micro moments powerful, eBusiness and channel strategy professionals should use a tightly focused version of the IDEA cycle, concentrating on context that makes it easy for a customer to react in an instant.

Source: *Predictions 2015: Micro Moments Are The Next Frontier For Mobile*, Forrester September 8, 2014

The moments that characterize the mobile mind shift are getting shorter. Simple triggers — messages, sounds, even tactile sensations — spur consumers to take action, both on devices and in the real world.

## Mobile Moments Are Shrinking

Mobile moments are shrinking into micro moments -- triggers that require only a glance to identify and that deliver information that you can either consume or act on immediately. Customers respond with simple actions on the device or in the real world.

## Wearables Are A Catalyst, Not A Precondition, For Micro Moments

Wearable devices will force eBusiness professionals to fine-tune their ability to deliver immediate, simple, and relevant experiences on a smaller screen. If wearables like smartwatches take off, it will be because they enable people to react in micro moments.

## Build A Strategy For Micro Moments -- Not Wearables

eBusiness professionals must begin to create, design, build, and test micro moments regardless of whether wearables grow as a category. Consumers will expect timely triggers whether on a phone, watch, lens, or shoe insert. Use a more focused version of the IDEA cycle to succeed in micro moments.

# 2014 10 Technology Trends for Business



Source: PwC, 6<sup>th</sup> Annual Digital IQ Survey 2014

<http://www.pwc.com/us/en/advisory/digital-iq-survey/index.jhtml>

## 1. Business Analytics

Gathering data from sensors and devices is the “information advantage” that will speed the transition of data to insight.

## 2. Socially Enabled Business Processes

Harness and prioritize multiple collaboration platforms to increase productivity & connect with external stakeholders.

## 3. Mobile Customer Engagement

Mobile to stage-manage virtually every aspect of their lives

## 4. Cybersecurity

Monitor, identify and rapidly respond to breaches

## 5. On-demand businesses and technology services

Technology as a service is becoming the norm.

## 6. Sensors

By 2020, just about everything will be connected

## 7. Robotics

Make take a few years but will lead a new disruption wave

## 8. Battery & Power Technologies

Influencing product design, capacity and performance

## 9. 3D printing

In the brink of revolutionizing manufacturing industry

## 10. Wearable Computing

Fast-growing. Shipments will hit 22 million next year, and will continue to grow to 135 million in 2018.



# Top Strategic Technologies in the coming years

	Automotive	Business & Professional Services	Energy & Mining	Entertainment, Media, & Communications	Financial Services	Healthcare	Hospitality & Leisure	Industrial Products	Power & Utilities	Retail & Consumer	Technology
Data mining and analysis	●	●	●	●	●	●	●	●	●	●	●
Private cloud	●	●	●	●	●	●	●	●	●	●	●
Cybersecurity	●	●	●	●	●	●	●	●	●	●	●
Mobile apps for customer	●	●	●	●	●	●	●	●	●	●	●
Social media for external	●	●	●	●	●	●	●	●	●	●	●
Digital delivery of products and services	●	●	●	●	●	●	●	●	●	●	●
Public cloud applications	●	●	●	●	●	●	●	●	●	●	●
Robotics	●	●	●	●	●	●	●	●	●	●	●
Battery and power technologies	●	●	●	●	●	●	●	●	●	●	●
Public cloud infrastructure	●	●	●	●	●	●	●	●	●	●	●
Sensors	●	●	●	●	●	●	●	●	●	●	●

Q. Which of these technologies will be of the highest strategic importance to your organization over the next three to five years?

Bases: 375, 1,119  
Source: PwC, 6th Annual Digital IQ Survey, 2014

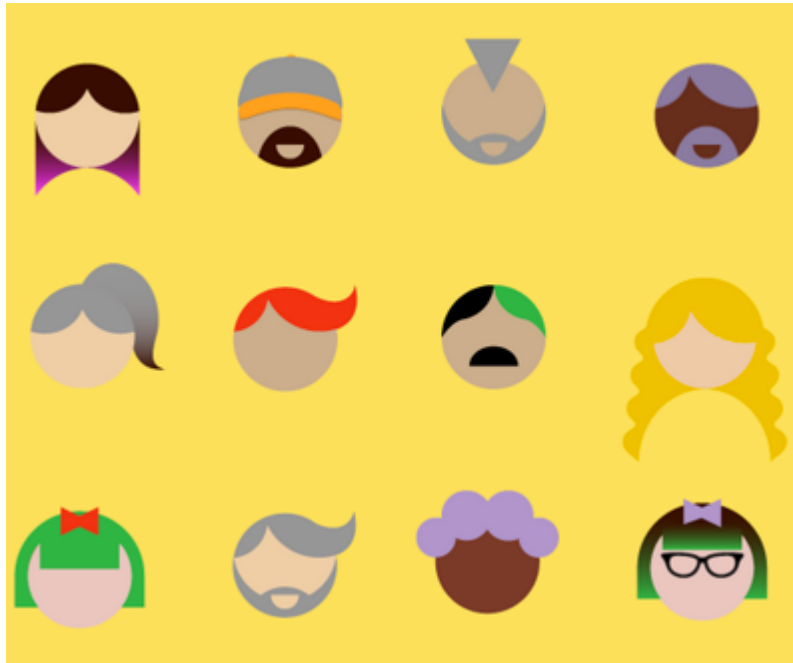
A company's IT capabilities and infrastructure face crushing pressure from every direction in the digital age. The IT function must institute change on multiple fronts. To address these demands, an integration approach is required—the New IT Platform. The New IT Platform addresses how IT's mandate, processes, architecture organization, and governance must change to keep up with the business.

Which emerging technologies are in play? When it comes to which technologies they are betting on, all companies in our study agreed that **mobile customer technology, private cloud, data mining and analysis, externally-focused social media, and cybersecurity** would be of the most strategic importance in three to five years.

Source: PwC, 6th Annual Digital IQ Survey 2014  
<http://www.pwc.com/us/en/advisory/digital-iq-survey/index.jhtml>

## Post-demographic consumerism

You're not the only one who's confused by consumer behavior. Consumers themselves aren't behaving as they 'should'.



*"If you look at the list of the 1,000 favourite artists for 60-year-olds and the 1,000 favourite artists for 13-year-olds, there is a 40% overlap."*

*George Ergatoudis (head of music, BBC radio 1), May 2014*

Definition: People – of all ages and in all markets – are constructing their own identities more freely than ever. As a result, consumption patterns are no longer defined by 'traditional' demographic segments such as age, gender, location, income, family status and more.

Demographics are dead...

Successful products, services and brands will transcend their initial demographics almost instantaneously. As a result, executives who continue to attempt to navigate using demographic maps, with borders defined by age, gender, location, income will be ill-prepared for the speed, scale and direction of change.

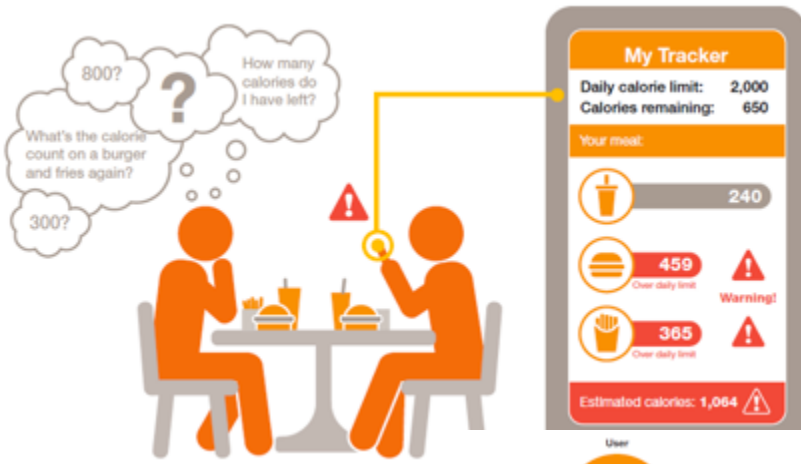
...Long live demographics!

Understanding consumers' needs and wants remains critical. However, it will be those that take a broad view and learn from innovations that are delighting consumers in seemingly dissimilar or even opposing demographics that will succeed, regardless of which 'traditional' demographic(s) they serve.

Source: Trendwatching, November 2014

# Contextual Intelligence

Predicting real-time behavior & needs via contextual intelligence



Source: PwC

*“The smartphone appears to be destined to become a true digital assistant, capable of self-learning based on the users behaviors, then personalizing both the active and passive ways the device can engage with the user, the environment and the network.”*

*Daniel Eckert, PwC Director,  
Mobile Computing*



Source: PwC

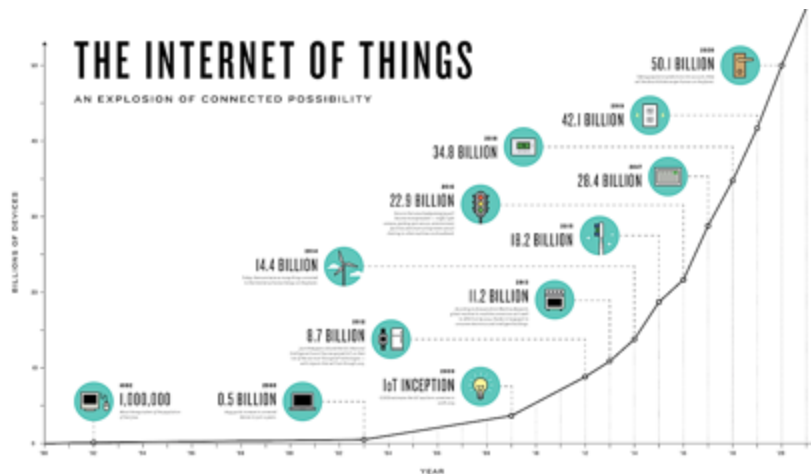
PwC forecasts that the next phase of mobile innovation will revolve around capturing and modeling the contextual situation of mobile users. Such knowledge will become the primary resource for predictive mobile applications and services that will address mobile users' needs and desires in near real-time, and often before the users themselves reveal what they want.

Predictive models draw information from three main sources: user, device and environment. Integrating physical, virtual and social information underpins the contextual revolution. Digital information is the currency of contextual experience. Our physical situation is the foundation of contextual intelligence. More than 'friends lists' and profiles, social applications and services help us make better decisions via the experience and advice of others.

Source: Mobile Innovations Forecast, PwC, July 2014

# Internet of Things

The 'Internet of Things' will be the world's most massive device market and save companies billions



*Hal Varian, Chief Economist at Google GOOGL -0.69%, believes Moore's Law has something to do with the newfound interest in the IoT: "The price of sensors, processors, and networking has come way down. Since WiFi is now widely deployed, it is relatively easy to add new networked devices to the home and office."*

The Internet of Things will be the largest device market in the world. By 2019 it will be more than double the size of the smartphone, PC, tablet, connected car, and the wearable market combined.

The IoT will result in \$1.7 trillion in value added to the global economy in 2019. This includes hardware, software, installation costs, management services, and economic value added from realized IoT efficiencies.

Device shipments will reach 6.7 billion in 2019 for a five-year CAGR of 61%. Revenue from hardware sales will be only \$50 billion or 8% of the total revenue from IoT-specific efforts, as software makers and infrastructure companies will earn the lion's share.

The enterprise sector will lead the IoT, accounting for 46% of device shipments this year, but that share will decline as the government and home sectors gain momentum. By 2019, government will be the leading sector for IoT device shipments.

The main benefit of growth in the IoT will be increased efficiency and lower costs. The IoT promises increased efficiency within the home, city, and workplace by giving control to the user. However, many are hesitant to use devices as security problems are still an issue.

The IoT lacks a common set of standards and technologies that would allow for compatibility and ease-of-use.

Source: Business Insider, October 2014

# Collaborative Consumption



But the real benefit of collaborative consumption turns out to be social. In an era when families are scattered and we may not know the people down the street, sharing things — even with strangers we've just met online — allows us to make meaningful connections. Peer-to-peer sharing "involves the re-emergence of community," says Rachel Botsman, co-author of *What's Mine Is Yours: The Rise of Collaborative Consumption*. "This works because people can trust each other."

Someday we'll look back on the 20th century and wonder why we owned so much stuff. Not that it wasn't great at first. After thousands of years during which most human beings lived hand to mouth, in the 20th century the industrial economies of the West and eventually much of the rest of the world began churning out consumer goods — refrigerators, cars, TVs, telephones, computers. George W. Bush won re-election as President in 2004 in part by proclaiming an "ownership society": "The more ownership there is in America, the more vitality there is in America."

A new economic model has arrived. Named by TIME as one of the "10 Ideas That Will Change the World", collaborative consumption describes the shift in consumer values from ownership to access. Together, entire communities and cities around the world are using network technologies to do more with less by renting, lending, swapping, bartering, gifting and sharing products on a scale never before possible. From Airbnb to Zipcar to Taskrabbit, collaborative consumption is transforming business, consumerism and the way we live for a more fulfilling and sustainable quality of life.

# Mychiatry

Consumer interest in 'Quantified Self' products and services will continue to grow, as smart watches and other powerful yet affordable wearable tech products enter the market...



1. *Melon: Smart headband tracks focus*
2. *Mico: Headphones detect user's mood and play music accordingly*
3. *Shadow: App allows users to record, share and analyze dreams*

Consumers will increasingly see their smartphones as devices for total lifestyle assistance. Improving techniques for self-treatment, developments in stress-detecting technologies and near-total smartphone penetration in many markets, means consumers will lap up innovations that help track and improve mental wellbeing too.

Two types of consumers are fueling this trend:

- Those for whom mental health is (like physical fitness, career progress, and academic achievements) a new benchmark.
- Those time-starved, overworked, stressed and anxiety-plagued consumers for whom mychiatry innovations offer much needed relief from the pressures of modern life.

The mychiatry trend should spur plenty of discussions around where the mega-trend of tech-driven consumer empowerment and self-service will head next.

Source: Trendwatching.com: 7 Consumer Trends to run with in 2014



## ***No data***

Delivering brilliant service without excessive data collection will earn consumer trust...



*86% of US internet users have attempted to remove or mask their online activities, despite only 37% believing it is possible to be completely anonymous online.  
(Pew Research Center, September 2013)*

Emerging opportunities for no data brands: brands that simply offer brilliant service, while also loudly and proudly eschewing the collection of personal data.

The challenge for businesses will be finding a balance between the very real benefits of data collection and utilization (recommendations, cross-selling, personalization, enhanced ad revenue and more), and earning the trust of increasingly consumers.

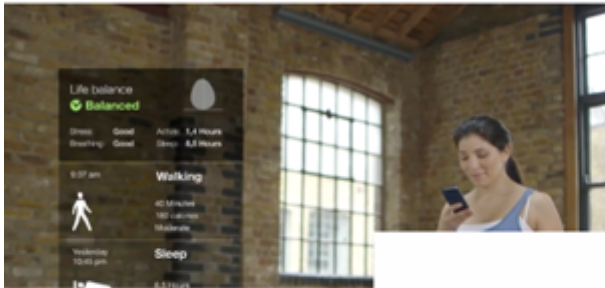
No data is so against the “big, bigger, biggest” data strategies sweeping through the business quite yet. Which major B2C brand will make no data a central promise, and simply offer, “Great service, for everyone, all of the time. No data required.”?

Source: Trendwatching.com: 7 Consumer Trends to run with in 2014

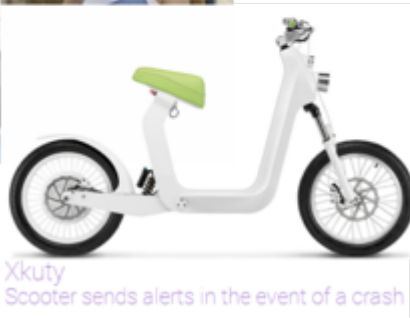
# The Internet of caring things

Connected objects will center around people...

OMsignal  
Sensor-integrated shirt monitors medical data



Riddell Insite  
Football helmet contains sensors that alert coaches in event of trauma



Xkuty  
Scooter sends alerts in the event of a crash

In the media (and in countless innovation labs around the world), the Internet will continue to be massive numbers and things.

But something else will happen, too: you will see innovations pop-up left and right, centered around the Internet of caring things.

Anything exceptional that 'connected objects' can do for consumers, whether that's monitoring or improving health, helping them save money or getting chores done, will be warmly welcomed.

This trend will bring additional micro-niche opportunities like:

- The internet of healthy things
- The internet of mindful things
- The internet of safety things
- The internet of security things
- The internet of family things
- The internet of \_\_\_\_\_ things

*The Internet of Things will add USD 1.9 trillion dollars of economic value to the global economy in 2020.*

*In 2009, there were 2.5 billion connected devices, most of these were personal devices such as cell phones and PCs. In 2020, there will be up to 30 billion connected devices, most of which will be products.*

*(Both: Gartner, October 2013)*

Source: Trendwatching.com: 7 Consumer Trends to run with in 2014

# Guilt-free status

Why in 2014, guilt free is the new status symbol...



*A recent global study identified 2.5 billion 'aspirational consumers' (representing one third of the global consumer class). These consumers are defined by their love of shopping (78%), desire for responsible consumption (92%) and their trust in brands to act in the best interest of society (58%).*

*(BBMG, GlobeScan and SustainAbility, October 2013)*

Growing numbers of consumers can no longer escape an awareness of the damage done by their consumption: to the planet, society, or themselves. But a mixture of indulgence, addiction and conditioning mean that most can't substantially change their consumption habits. The result? A never-ending guilt spiral.

Which creates exciting opportunities for brands that combine tackling this guilt spiral with consumers' endless status seeking. Indeed, guilt-free status will be the ultimate indulgence.

**Known by all.** Iconic, well known guilt-free products will act as instantly recognizable signals of great sustainability.

**Visibly guilt-free.** High status, chic or fashionable products that are visibly sustainable, ethical or healthy will deliver a guilt-free status hit.

**Storied.** If a product or service isn't known or visible, it will need a guilt-free story that the owner can tell others (and impress them with).

Source: Trendwatching.com: 7 Consumer Trends to run with in 2014

# Crowd shaped

The connected crowd comes of age, via crowdshaping...



*57% of consumers are willing to share additional personal information, such as their location, top five Facebook friends' names and information about family members, in return for financial rewards or better service.  
(Coleman Parkes, April 2013)*

More people are pooling their data, their profiles, their preferences, in groups (small and big) to shape new goods and services.

Via social media, histories, ecommerce, endless read/watch/play lists, smartphone GPS services and more, connected consumers are creating vast profiles and data trails that relate to everything from their music preferences to their daily movements.

Through crowdshaping new products and services are shaped by the aggregated preferences or behavior of (small and big) groups of consumers, as expressed via their data.

Two kinds of crowdshaping to watch (and run with):

- **Small crowdshaping:** Real-time shaping (and reshaping) of a service around the preferences of the people in an office, a restaurant, on a plane: any space right now.
- **Big crowdshaping:** Services intelligently reshaped by the aggregated data on the preferences or behavior of large numbers of consumers.

Source: Trendwatching.com: 7 Consumer Trends to run with in 2014



## *Made greener by/for China*

China is going to be where the eco-innovation action is...



*Tianjin Eco-City is a sustainable city initiative developed by the governments of Singapore and China. Located 150km from Beijing, and with a footprint of 30 sq. km, the city is designed to be socially harmonious and resource-efficient. Pedestrians, non-motorized vehicles and public transport take priority alongside green urban spaces. Due for completion in 2020, the Tianjin Eco-City will house around 350,000 residents*

Perceptions of China will take another significant turn, as consumers come to realize China is fast becoming the epicenter of truly innovative, superior green consumer innovations, too.

That shift will be driven by China's relentless, large-scale efforts to address massive environmental challenges such as energy, transport, construction and more.

The idea among many consumers worldwide that Chinese brands and businesses lag behind when it comes to green thinking might just be one of the last great competitive advantages that 'Western' brands enjoy.

When that preconception is overturned, one of the last barriers keeping Chinese brands and global consumers at a distance is lifted. Just another small, yet pivotal moment in the remapping of global consumerism.

Source: Trendwatching.com: 7 Consumer Trends to run with in 2014

## *Presumers and custowners*

Passionate consumers are embracing two innovative new 'consumption' models...



*The amount presumers spent on crowdfunding platforms has risen from just USD 530 million in 2009, to USD 1.3 billion in 2011, to USD 2.8 billion in 2012  
(Source: Massolution/The Economist, May 2012).*

- Presumers: love to get involved with, push, fund, and promote products and services before they are realized. Thanks to countless new crowdfunding platforms and new manufacturing technologies that are finally tipping into the mainstream (and a burgeoning, global cult of entrepreneurialism at large), will see them have more opportunities than ever to do so.
- Custowners: consumers who move from passively consuming a product towards funding/investing (if not owning a stake) in the brands they buy from. However, these increasingly business-savvy consumers are often looking for both a financial and an emotional return, and therefore only brands that are open, friendly, honest, trusted, transparent, and somewhat 'human' will prove able to attract enthusiastic custowners.

Source: Trendwatching.com: 10 Crucial Consumer Trends for 2013



## *New life inside*

It's time for products to give back...



1. *Sprout is a pencil that wants to be a plant when it grows up. Once the pencil becomes too short to use it can be planted: a seed capsule in the tip of the pencil will dissolve upon contact with water, allowing the seed inside to germinate and grow.*
2. *As part of beer brand Molson Canadian's Red Leaf Project in reforestation, the brand released coasters made of seed paper, which grow into a tree when planted.*

Recession or no recession, long term, one of brands' major quests is for more ecologically sustainable activities. So here's just one small, sign-of-the-times eco-mini-trend: the phenomenon of products and services that quite literally contain new life inside. Rather than being discarded or even recycled (by someone else), these products can be planted and grown, with all the eco-status and eco-stories that come with that.

Of course, new life inside products are not going to solve major sustainability challenges. But more than ever, there is great symbolic value in creating new, environmentally beneficial life out of a consumer product.

And symbolic, even playful statements of your values will resonate with consumers, too. Especially if they are seen as expressions of larger intent to take more meaningful action.

Source: Trendwatching.com: 10 Crucial Consumer Trends for 2013

# ***Demanding brands***

Brands' wishes will be consumers' command...



1. *To promote its charitable blood donation campaign, Brazilian soccer club Vitoria unveiled new player uniforms in July 2012. Although the team's shirts are usually red and black, the soccer uniform was released in white and black stripes, with fans all over Brazil encouraged to donate blood to restore the shirts to their regular colors.*
2. *Tata Docomo now runs 'The Bloodline Club', a blood donor social network to participants from around the world. Upon registering, users give their blood type.*

Expect to witness a daring change in the relationship between ambitious, responsible brands and their customers. Switched-on brands that are embarking on the much-needed journey towards a more sustainable and socially-responsible future will demand that their customers also contribute, and in doing so earn the respect of even the most hyper-demanding of consumers.

But consumers aren't going to put themselves out for brands unless they truly believe in the bigger vision. Organizations looking to position themselves as demanding brands will need to make sure they are 100% transparent and sincere.

It's one thing being temporarily demanding as a stunt to grab consumers' attention, but quite another to make meaningful demands on an ongoing basis.

Source: Trendwatching.com: 10 Crucial Consumer Trends for 2013

# Appscriptions

Digital technologies are the new medicine...



Doctors and physicians are turning to health apps and services to improve health outcomes.

Expect consumers to turn to the medical profession and medical institutions to certify and curate these products, with doctors also 'prescribing' them, much as they prescribe medicines, as part of a course of treatment.

For health providers, these digital 'medicines' promise to reduce costs by making consumers more aware of their health, improve compliance, and allow remote monitoring that can pick up warning signals earlier.

Even if you're not in the health industry, there is the bigger underlying trend – towards mobile driven service delivery – that could yield some profitable new insights.

Source: Trendwatching.com: 10 Crucial Consumer Trends for 2013

# *Tying Digital Content to the Physical World*

The potential for location-based content is huge, and it could take many forms...



iBeacon technology can pinpoint you—indoors or out—with an astonishing degree of accuracy. Multiple beacons can triangulate your position at distances anywhere from 100 feet down to just a few inches, heralding a new era of digital experiences based on “microlocation.”

That ability to triangulate means museums won’t need to stick beacons next to every painting, they’d just need to put a handful in every room. The Bar Kick pub in London is already taking a novel approach. Everyone sitting inside the bar will find the most recent digital editions of two popular magazines ready to read in their device’s Newsstand app, free of charge.

It’s easy to imagine other variations on the theme. Digital geocaches could let you drop animated GIFs at obscure hiding spots throughout your city. Intersections could become invisible tour stops augmented with local lore. Citi Field, home of the Mets, is already experimenting with embedded videos, dynamic hot dog coupons, and straight-to-your-seat navigation—the augmented ballpark of the future.

Source: Wired, 4 Reasons Why Apple’s iBeacon Is About to Disrupt Interaction Design

<http://www.wired.com/design/2013/12/4-use-cases-for-ibeacon-the-most-exciting-tech-you-havent-heard-of/>

## Retail 2.0

Supercharged retail will likely be the first exposure many have to the powers of iBeacon...



*Macy's is already installing iBeacons in their New York City and San Francisco stores with the help of an outfit called Shopkick. Walking into one of those locations will automatically surface the Shopkick app, which can make specialized offers to customers depending on where they are in the store.*

Most of the frenzied activity surrounding iBeacon has been in the world of retail, where there's potential for shops big and small. Big name retailers are eager to push retail into the future with highly tailored digital experiences.

Retailers are already talking about things like in-store navigation and dynamic pricing, all made possible by beacon-enhanced retail locations. For independent shops, iBeacon is a chance to jump into the smartphone era with one fell swoop. A \$100 beacon is all it takes for even the mustiest book store to track customers, make recommendations, and offer discounts to customers' pockets.

The other area of activity here is in payments. Paypal's already showing off its own "Beacon," a USB device that will interface with the Paypal app to let users make totally hands-free transactions. The problem of digital wallets is a tricky one, but the technology is finally starting to make sense.

Source: Wired, 4 Reasons Why Apple's iBeacon Is About to Disrupt Interaction Design



# *A New Level of Peer-to-Peer Smarts*

The promise of letting our devices talk to the world around us...



Apps have long had access to location data via GPS, but pinging satellites is a big drain on precious battery life. When you combine this with the fact that every recent iPhone—and many new Android devices—can function as iBeacons themselves, you can envision all sorts of exciting peer-to-peer interactions.

iBeacon gives applications a new way to orient themselves in the real world, continuously, without evaporating your charge (new geofencing APIs give apps other new, battery-friendly ways to track).

Think of games that let you challenge people waiting at your airport gate. Or spontaneous messaging based on your real-world location—an update of the old anonymous AOL chat rooms organized not by topic but by wherever you happen to be standing.

Source: Wired, 4 Reasons Why Apple's iBeacon Is About to Disrupt Interaction Design

<http://www.wired.com/design/2013/12/4-use-cases-for-ibeacon-the-most-exciting-tech-you-havent-heard-of/>



# The End of Money

## Will money be extinct in soon?



Whether it's a crowd-funded skyscraper in Bogota, Colombia, or a new galactic currency intended to be used in space, these ideas are just the tip of the iceberg when imagining what kind of impact new financial models might have on our society. As articulated in The Curve Report, *"Generation Xers and Ys, already accustomed to pooling resources and "Kickstarting" passion projects, are among the first generations that will buy life insurance along with their breakfast cereal, collectively bankroll everything from cars to college tuition, and borrow cash from "friends" on Facebook.*" Looking ahead, our financial services will continue to evolve along with future generation's expectations, and define new innovative ways to manage and interact with our money.

Source: PSFK

Alternative currencies, crowd sourcing, peer-to-peer lending, all point to the potential for money as we know it to transform and possibly go extinct.

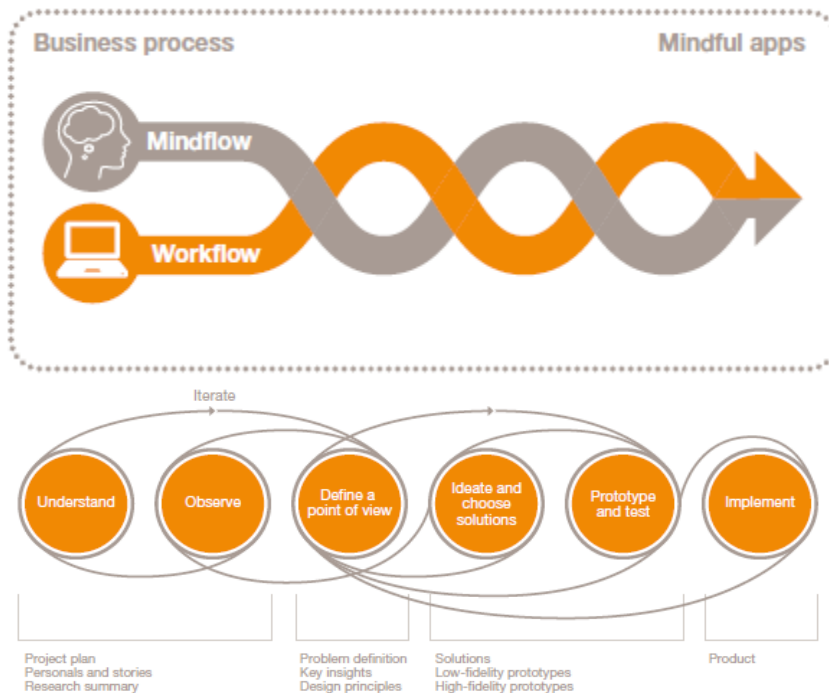
Since the financial crisis of 2008, people have questioned how much trust they should place in large banks and financial institutions. 65% of Gen Xers and Ys say they are "ready for something new" as opposed to sticking with the "tried and true" financial institutions and principles (35%).

Alternative financial models have already gained strong traction among Gen Xers and Ys. According to The Curve Report, nearly three-quarters (72%) of them are game for one or more fringe financial models, ranging from P2P loans to fractional ownership to financial mentorship, the latter of which topped Gen Xers' and Ys' lists of the alternative financial service they are most interested in. Not only does this cede power from large banks, but also presents the opportunity for a whole new range of peer-to-peer and community based financial alternatives to spring up and flourish.

One of the most radical examples of this shift is the growing viability of the digital currency bitcoin. The currency uses peer-to-peer technology to operate with no central authority or banks; transaction management and the issuing of bitcoins is carried out collectively by the network. Bitcoin is also entirely open-source, its design is public, nobody owns or controls bitcoin and everyone can take part in it.

# Moving Beyond Workflows to Mindflows

Empower the human factor by mindful apps...



Encouraged by the trend toward contextually aware mobile apps, enterprises are starting to request—and software developers are beginning to create—business applications that include the essential workflow automation but go well beyond it to incorporate support for the human cognitive processes as part. PwC calls this new type of application a mindful app because it incorporates the mindflows of cognitive processes, in contrast to the workflows of the business processes at the core of standard enterprise applications, and it focuses on the “now” by delivering intelligence in the moment. Mindflows are the patterns of thinking that knowledge workers use while doing their work.

Not everything can be standardized and turned into a software-dominated process workflow. Not everything should be. Businesses understand this concept implicitly, which is why they have knowledge workers to solve problems, integrate new information with old and make decisions, and rapidly respond to unanticipated events.

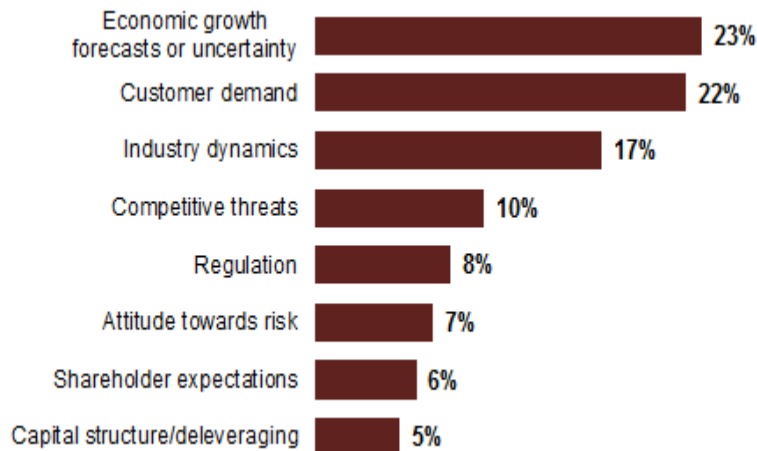
*“A mindful app is designed with a cognitively manageable scope. It breaks big tasks into smaller manageable experiences.”*

Source: The future of enterprise apps: Moving beyond workflows to mindflows, PwC, 2013

# New Strategies for Growth of Business Agenda

Economic uncertainty, regulations, and competitive dynamics are altering company strategies...

## Factors behind strategic change



## CEOs changing strategies

51% Changed in fundamental ways

33% Somewhat changed

16% No change

Base: All respondents (1,201)

More than 80% of CEOs said they're doing strategy makeovers driven, in large part, by the changing dynamics between the developed and emerging worlds.

Today, business leaders expect innovation to capture efficiencies and drive revenues. That's a tall order. To fill it, some companies are taking a soup-to-nuts approach to continuous innovation, developing processes supported by technology, through which they can more reliably discover and assess innovations — and more quickly turn them into profits. In an increasingly mobile, connected world, technology is a growth proposition.

When it comes to IT innovation, the health industries face a strategic challenge. With just a fraction of consumers able to access their health information electronically, companies are under pressure to design the IT structures that will support the rapid exchange of information, drive cost out of the system and enable new care delivery models.

Source: 10Minutes on the CEO Agenda, PwC, March 2011

## ***Increasing Role of Technology in Innovation***

Technology brings to the innovation process the same advantages that it brings to any enterprise process: consistency, efficiency, speed, deeper insight, & predictable execution...



***“The driver of innovation today is not technology, but insight. What do customers want? How can you make it easier for them to do business with you? And where can technology help reinforce those insights?”***

**70%**  
say the **CIO**  
reports to the **CEO**

**70%** say they  
have a strong **CIO-**  
**CMO** relationship

Source: PwC's 17th Annual Global CEO Survey and PwC's 6th Digital IQ Survey

Technology plays a part in innovation, but not in the way that many people think. To most people, technology has no value on its own. To make a difference, it has to be appropriately applied to solve specific problems or meet certain goals as defined by your business or your customer. To maximize the value of that difference, it's essential to apply only the smallest amount of technology to the areas that stand to benefit from it.

There are two primary uses for technology in business: to meet the status quo, and to create something new that moves the business forward (innovation). In either case, the use of technology should be driven by the needs of the business and the customer.

The most successful companies are those that use technology to support and enhance their market differentiators.

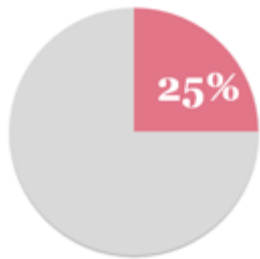
Source: Kelly Campbell, Interface Technologies, September 2011

# Bulk of IT Spend Tipping Away from CIOs

IT spend is moving outside of the IT organization



*“Business leaders focused on business outcomes and innovation are increasingly gaining control of enterprise IT spending”*



Less than **25%** of total enterprise IT spend is accounted for in the CIO's IT budget.

Responsibility for IT budgets is slipping away from chief information officers (CIOs) as business units increase their involvement in technology strategy and purchasing decisions.

CIOs no longer control all of a company's technology choices. The erosion of IT's power continues with the consumerization of IT, the rise of the cloud, and unrelenting business demands for technology. The business will bypass IT for technology that's better, faster or cheaper.

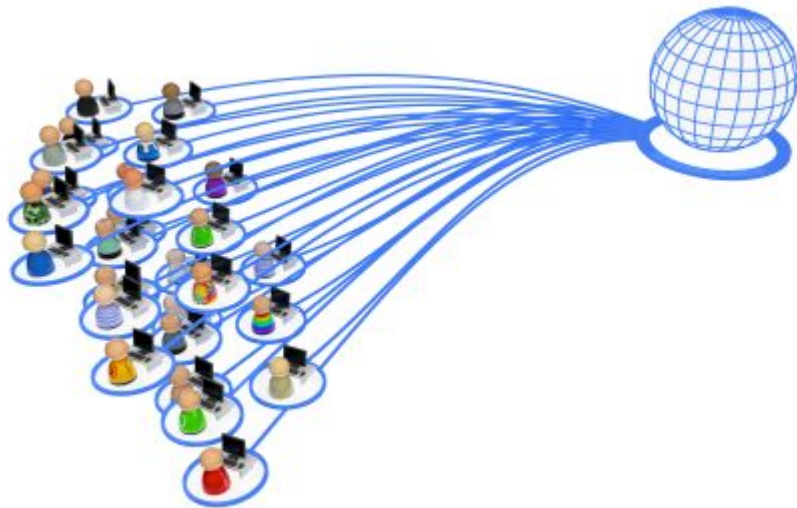
The top reason that business leaders are spending more on technology is because they believe that it's too important for the business not to be involved.

**Source:**

- PwC's 5th Annual Digital IQ Survey, PwC, 2013
- Bryon Connolly, CIO.Com, August 2013

# ***Emergence of the Borderless Workplace***

Usability and accessibility is expected to be seamless at work, home and when traveling...



***“IT organizations are being forced to deploy and support a diverse array of mobile devices, with varying degrees of management control / visibility and policy enforcement. This poses a challenge for IT to strike the balance between enabling mobility and security .”***

Business productivity solutions need to be secure and easy to use, available any time and operate from any place:

- Secure access to enterprise resources by enforcing a mobile policy on personal devices or by separating business and personal environments, but consider user experience as a fundamental security driver when selecting a solution.
- Maintain a baseline of allowed supported devices and configurations, and define support levels using a managed-diversity matrix, but recognize that the more devices you allow, the more time you will spend securing devices and handling exceptions caused by variances in device capabilities.
- Offer the choice of enterprise-owned devices to users and job roles that have the right to — and need for — a mobile device for their work purposes, but who do not wish to have private data manipulated by the organization. Obtain explicit consent to delete data on the device in case of compromise

Source: Gartner



## ***Service / Experience Driven Business Models***

Companies are evolving their product portfolio to include more service/experience-driven business models – Most of which leverage digital content and interactions



Technology plays a part in innovation, but not in the way that many people think. To most people, technology has no value on its own. To make a difference, it has to be appropriately applied to solve specific problems or meet certain goals as defined by your business or your customer. To maximize the value of that difference, it's essential to apply only the smallest amount of technology to the areas that stand to benefit from it.

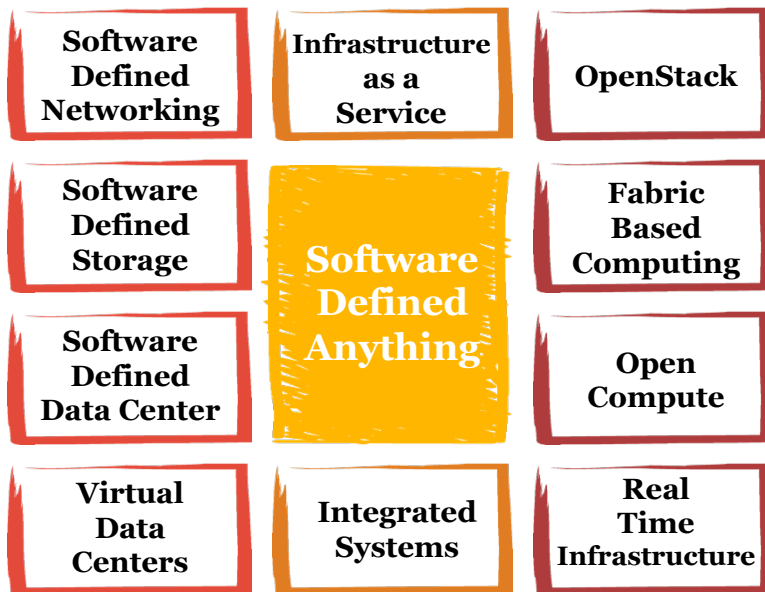
In the past, building a business based on the effectiveness and volume of the production line meant the emphasis was placed on production over human resources; but with the rise of the Internet, social media, and Cloud, we have officially entered the era of the service-driven business. Today's companies have shifted their focus to the customer experience and customer relationships. In many cases, companies organize around the mass-production model of business find they must make significant changes to win back customers lost due to unsatisfactory experiences.

Source: Kelly Campbell, Interface Technologies, September 2011

# Software Defined Anything and Everything (SDx)

SDx is a major disruptive technology that will dramatically alter the IT landscape...

## The Journey to Programmable Everything



*“By 2018, (SDx) market growth is projected to reach \$5.41 billion, driven in large part by the increasing demand for cloud computing”*

*-Chris Peters, Intel*

The term “software defined” originated with the concept of software defined networking (SDN) from research conducted at UC Berkeley and Stanford University in 2008 as a way to move control away from multiple devices to a central controller (or OS).

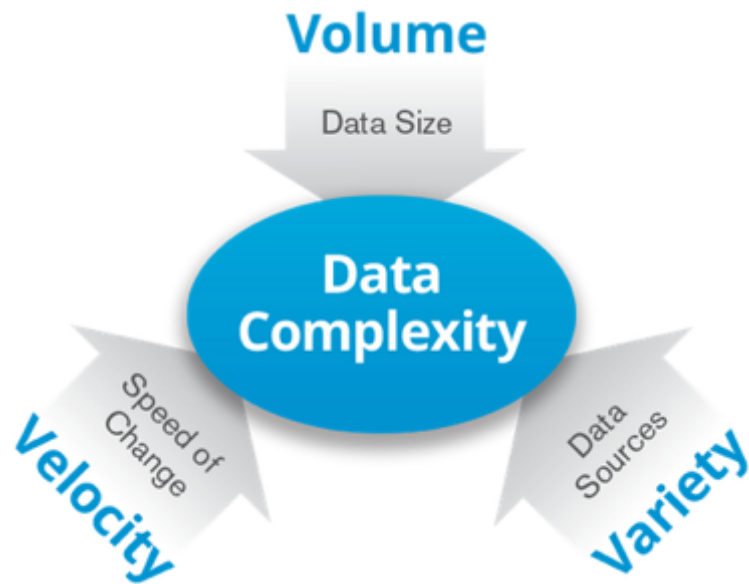
Early adopters, innovators, and entrepreneurs took the concept a step further with software defined storage (SDS), software defined security (SDS), and software defined data center (SDDC) also known as software defined infrastructure (SDI).

“Software defined” isn’t just an industry buzzword or a marketing term. It is the next stage in the evolution of networking, the cloud, and datacenters. It encapsulates anything and everything it touches in the full spectrum of information technology. It is fueled by social, mobile, cloud, and big data. These trends demand programmable infrastructure that automates and executes at hyperscale.

Source: Bob West, Communications Technology Professionals, 2014

# Big Data Transforms Business

Exponential growth and availability of data (both structured and unstructured)...



*“Big Data is the foundation for creating new levels of business value. With integrated storage, analytics, and applications, Big Data helps drive efficiency, quality, and personalized products and services, producing higher levels of customer satisfaction and experience.”*  
-EMC

The three components of Big Data are:

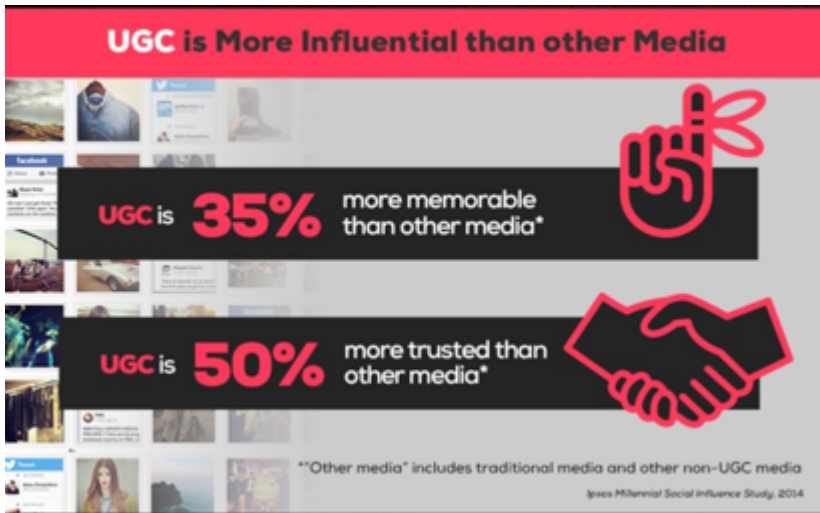
- 1. Volume.** Many factors contribute to the increase in data volume. Transaction-based data stored through the years. Unstructured data streaming in from social media. Increasing amounts of sensor and machine-to-machine data being collected. In the past, excessive data volume was a storage issue. But with increased data, other issues emerge, including how to determine relevance within large data volumes and how to use analytics to create value from relevant data.
- 2. Velocity.** Data is streaming in at unprecedented speed and must be dealt with in a timely manner. RFID tags, sensors and smart metering are driving the need to deal with torrents of data in near-real time. Reacting quickly enough to deal with data velocity is a challenge for most organizations.
- 3. Variety.** Data today comes in all types of formats. Structured, numeric data in traditional databases. Information created from line-of-business applications. Unstructured text documents, email, video, audio, stock ticker data and financial transactions. Managing, merging and governing different varieties of data is something many organizations still grapple with.

Source: Wikipedia,

[http://en.wikipedia.org/wiki/Big\\_data](http://en.wikipedia.org/wiki/Big_data)

# Millennials trust user generated content

Millennials will soon have the greatest combined purchasing power in history.



Millennials Trust User-Generated Content 50% More Than Other Media

According to new Ipsos MediaCT research, millennials are spending 30% of their media time (5 hours/day) engaged with user-generated content (UGC). They also trust and remember UGC more than they do traditional media.

It seems as if millennials have avoided traditional media ever since they learned how to read.

The results of new research by marketing startup Crowdtap and the global research company Ipsos shed new light on how the connected generation gets its news. When it comes to trust, it turns out, millennials almost always choose their peers over professionals.

User-generated content (UGC) is media created by your peers. It includes status updates, blog posts and restaurant reviews — any content from non-professionals without any real motivation besides adding an opinion to the sea of already existing opinions. In a more logical world, it isn't the type of content we'd trust over a professional's review.

Ipsos' study, however, reveals that millennials trust UGC just as much as professional reviews. UGC is also 20% more influential when it comes to purchasing and 35% more memorable than other types of media. You can chalk that up to the fact that millennials spend five hours per day with UGC.

Source: Mashable

## ***Shift in global economic power***

The next decade will see this long-term economic rebalancing reach a tipping point, as emerging markets expand their global reach and influence still further...



**59% of CEOs said the shift in global economic power was one of the top 3 global trends they believe will transform business the most over the next five years?"**



Base: All respondents (1,344)

Source: PwC 17<sup>th</sup> Annual Global CEO Survey

In the past few years, the global balance of economic power has been shifting from developed to developing countries. As this trend continues, it will have an increasing impact on where growth opportunities arise for companies – and on where they invest to capitalize on those opportunities.

This reshaping of the world economic order is unprecedented in its speed and scale. And it will trigger an equally dramatic realignment of global business activity and spending power, affecting not just GDP but also other measures such as population, water supplies and trade.

This realignment will see the world's growth economies make the transition from centers of labor and production to consumer-oriented societies. And as they become exporters of capital, talent and innovation, they'll also shift the prevailing direction of global trade and investment – with the long-standing north-south axis swinging to south-south.

Source: PwC's Global Annual Review 2013

<http://www.pwc.com/gx/en/annual-review/megatrends/index.html>



## ***Resource scarcity and climate change***

This 'pincer movement' of rising temperatures and rapid population growth puts mankind at a defining moment in its history...



Current estimates suggest that world carbon emissions from burning fossil fuels – coal, oil and gas – will rise by 16% between now and 2030. Over the same period, the average global temperature will increase by between 0.5°C and 1.5°C – that's on top of a 0.5°C rise already seen over the past 20 years.

The global population will also continue to expand, reaching an estimated 8.3 billion by 2030, boosting global demand for energy, water and food. In many parts of the world, the impacts of climate change – from increases in extreme weather to rising sea levels will make it more difficult to grow crops, raise animals, and catch fish in the same ways and same places as in the past – at a time when there are ever more mouths to feed.

Reconciling these conflicting pressures will demand tough decisions. For example, as fossil fuels become depleted, biofuels offer a way to produce more energy with less carbon impact. But there is only so much land and water available – and these are also urgently needed for food production. Such dilemmas have no easy answers.

Source: PwC's Global Annual Review 2013

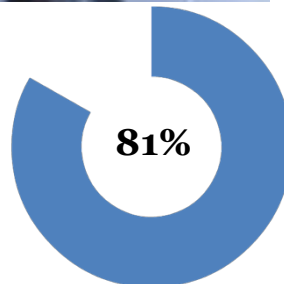
# Technological breakthroughs

Breakthroughs in frontiers of research and development ranging from nanotechnology to robotics are opening up new opportunities for businesses and individuals ...



**81% of CEOs said technological breakthroughs was one of the top 3 global trends they believe will transform business the most over the next five years?"**

Base: All respondents (1,344)  
Source: PwC 17<sup>th</sup> Annual Global CEO Survey



Across these areas and more, a perpetual flow of ideas and innovation is creating ever more powerful enabling technologies, whose potential uses are limited only by the human imagination.

This constant cycle of innovation is enabling entire new industries to rise almost overnight, bringing major implications for the size and shape of the world's manufacturing and high-tech sectors and companies. And capital is moving to follow the innovation, as private equity providers seek out new funding opportunities across the globe. In many cases, developments in different technologies will be mutually reinforcing

As technologies progress from research concepts to prototypes to applications in affordable consumer goods and industrial processes, they will generate step-change improvements in efficiency and productivity. These advances will in turn trigger a strong acceleration in economic growth towards the end of the coming decade.

# Using Spacecraft for Earth Bound Travel

Rocket ships may reduce the amount of time it takes to travel across the world?



Photo by MarsScientific.com and Clay Center Observatory

*"If we can get this first step right, take people into space and keep them safe in commercially viable aircraft," Attenborough said, Virgin might be able to "push long haul aviation."*

Source: The Verge

Virgin Galactic may be closing in on launching its first-ever commercial space flight, but the company is also thinking about how its technology can help improve travel on Earth, as well. Speaking at the Wired 2013 event in London, Virgin Galactic's commercial director Stephen Attenborough hinted that his company's spaceplans might be the basis for long haul aviation across the planet someday.

The bottom line could be flights between London and Australia in as little as 2.5 hours — and Attenborough said that such a flight would be better for the environment, since emissions would be released outside of the Earth's atmosphere rather than within it.

"Just when you are getting used to the noise, vibration, g-forces, the sheer — I was going to say terror — the sheer thrill of it all, then they cut the rocket motors out," said Attenborough. "So you suddenly weigh nothing at all. There's no point being in zero gravity if you are just going to be strapped to a chair." Passengers will only get a few minutes of floating in zero gravity, but it'll likely be one of the most memorable experiences of the flight. "Everything that dictates the way we live will be gone," said Attenborough.

<http://www.theverge.com/2013/10/18/4853250/virgin-galactic-hopes-its-spacecrafts-might-be-used-for-flights-across-earth>

# Shelves that Track Shoppers

Are 'SMART' shelves the future of retail?



Supermarket giant Mondelez International, whose portfolio includes iconic brands like Chips Ahoy, Ritz, and Nabisco, is now testing shelves with integrated Microsoft Kinect sensors that determine the age and gender of passing shoppers. Mondelez says they won't record individual data on passing supermarket shoppers, but will use the aggregate information to help tailor marketing campaigns.

Mark Dajani, Mondelez's chief information officer, told the Wall Street Journal's Clint Boulton the experimental shelves were part of a larger push by the global snack manufacturer to integrate sensor tech of the sort found in your smartphone into product research and marketing. Dajani said that other new technologies, such as embedded weight sensors that detect when customers pick up products, could help create precision marketing tools for the supermarket aisle to make sure consumers put chocolate chip cookies in their carts.

Microsoft has been aggressively touting the use of Kinect for retailers. While best known as a gaming tool, Kinect's sensor set allows retailers to inexpensively offer science fiction-like shopping experiences.

Source: Fast Company

<http://www.fastcompany.com/3020041/fast-feed/the-future-of-shopping-shelves-that-track-the-age-and-gender-of-passing-customers>



# Cybersecurity Approach

Cybersecurity is more than an IT challenge – it's a business imperative...



*“When the financial crisis of 2008 hit, many shocked critics asked why markets, regulators, and financial experts failed to see it coming. Today, one might ask the same question about the global economy’s vulnerability to cyber-attack. Indeed, the parallels between financial crises and the threat of cyber meltdowns are striking.”*

*- Kenneth Rogoff, Harvard University professor and former chief economist at the IMF*

New technologies, well-funded adversaries, and interconnected business ecosystems have combined to increase to cyberattacks targeting critical assets such as R&D information, credit card data or financial records, and strategic or customer information.

Many leaders do not know who is responsible for their organization's cybersecurity and underestimate the strategic, financial and regulatory risks.

Fundamental cybersecurity education, properly maintained IT infrastructure and effective monitoring can prevent 80% of the attacks. A solid asset identification and protection program can help another 15%. By evaluating which information assets are the “crown jewels” of the business, companies can determine which ones require enhanced protection.

Source: 10 Minutes on stark realities of cybersecurity, PwC, April 2013



# ***Consumerization of IT***

Use of technologies that can easily be provisioned by non-technologists is driving significant change for IT...



*"The consumerization of IT provides companies with an opportunity to transform the role of IT from a function focused on mitigating risk into a strategic enabler that leverages the breadth of today's powerful consumer technologies to drive business results."*

*- Tyson Hartman,  
Avanade's Global CTO*

Increasingly, cutting edge technologies are being developed for and embraced by consumers before they are introduced to the business world, often times utilizing co-creation efforts.

Consumers' heightened expectations of what technology can do for them is being brought to bear at the enterprise, and CIOs are taking notice. Enhanced expectations are forcing IT to :

- Support BYOD
- Enhance User Experience
- Enable self service, self help

Accepting the inevitability of the consumerization trend and CIOs need to prepare for it by rethinking how they run IT. CIOs need to consider forging new, collaborative relationships with users, giving them freedom to make IT decisions, and teaching them how to assume responsibility for those decisions.

Source: Various

# Enterprises Embrace Social Media

Social media moves beyond the marketing departments to other areas across the organization...



*First, social media transformed how we live. Now it's transforming the way organizations operate every day. Leading companies integrate mobile-enabled social media into their interactions with all stakeholders, particularly customers and employees. Just as powerfully, they integrate the collaborative power of social technologies into their business processes to become more agile and responsive at every level...*

In the year ahead, enterprises are expected to embrace social media tools--including internal networks, real-time chats and wikis--for uses that go way beyond the familiar applications for marketing and community building.

HR departments are already applying social media to streamline application processes, sales teams cultivating leads and monitoring the sales funnel via social channels, and operations and distributions teams tracking supply chains at a granular level.

Deeper still, internal networking tools are enabling companies to free up expertise trapped in departmental silos.

As the C-suite formalizes top-down social media strategy, social media management systems are expected to become as commonplace as office productivity suites and customer relations management software.

## ***Intrapreneurialism Grows in Marketing***

Organizations are revamping conventional marketing practices and allowing teams to compete for new initiatives...



*“It’s all about bringing the business closer to the point of purchase,”*

*—Bonin Bough, Vice  
President (Global Media & Consumer Engagement),  
Mondelēz International*

The most successful organizations recognize the need to be highly agile and flexible. The problem is that simply decreeing a need to be innovative or assigning employees to address the task doesn’t necessarily produce results.

Consequently, some organizations are revamping conventional marketing practices and allowing small and ad-hoc teams to compete for new projects or initiatives that are on the leading edge of conventional and digital marketing.

The company may assemble and disassemble these groups in a matter of weeks or months, and provide incentives and rewards for new and successful ideas that translate into marketing wins. The goal is to build a more organic way to incubate and implement ideas.

Mondelez is among the companies embracing this approach.



## ***US Economy Firming***

U.S. labor market, factory data show economy firming...



*"The trend in the data has been signaling some recent improvement in the labor market,"*

*- Daniel Silver, an economist*

*at JPMorgan*

The number of Americans filing new claims for jobless benefits in August 2013 held near a six-year low and U.S. manufacturing activity rose, suggesting the economy is starting to find firmer footing.

Initial claims for state unemployment benefits climbed 13,000 to 336,000, just above the level expected by economists in a Reuters poll, Labor Department data for August showed. Despite the increase, the four-week moving average for claims, which smooths out weekly volatility, fell to its lowest level since November 2007.

That backed the widely-held view that U.S. economic growth will accelerate in the second half of the year, and hinted at a stronger pace of hiring in August.

The generally upbeat data fueled small gains in U.S. stock prices. Yields on U.S. government debt were little changed.

An index of leading economic indicators published by the Conference Board rose 0.6 percent in July, supporting the expectations that growth would accelerate in the remainder of the year.



## ***Emerging Minority Majority Society***

According to the U.S. Census, in 2011, the majority of babies born in America were minorities ...



There's no question that the composition of the U.S. population is constantly shifting. Stepping back and looking at major national demographic trends – including age, race, marital status, gender, incomes, education and more – reveal opportunities for innovation and growth.

Demographics can help paint a picture of shifting social influences – changes in the attitudes, values, and lifestyles not only within growing customer segments, but of our society as a whole. As some populations grow, others shrink as a percentage of the marketplace and the growing segments gain more influence.

According to the U.S. Census, in 2011, for the first time, the majority of babies born in America were minorities (Hispanic, African American, Asian, or mixed race). Non-Hispanic Whites are the minority in four states and 22 of the 100 largest U.S. metro areas. Asian Americans are the fastest-growing ethnic population, projected to grow by 137% over the next 40 years. Increases are due in part to birthrates – while fewer Non-Hispanic Whites are having children, Hispanic and Asian Americans are, well above the replacement rate.

# *As a Service... will disrupt everything*

The emergence of the cloud and the concept of paying by use has the potential to disrupt every industry.



One of the impacts of shifting to an “As a Service...” business model is the shifting of the burden from the buyer back to the manufacturer or producer. This can be seen most evidently in the software industry but it holds true in other industries as well.

Source: Various

It started with Software as a Service which delivers software to users on-demand or as needed (typically using a pay for use business model). That development sparked numerous other As a Service... ideas to be conceived and introduced into the common lexicon. Things like Platform as a Service and Infrastructure as a Service. Those three together have the potential to completely disrupt and transform IT as we know it.

As a Service... has the potential to disrupt every industry as more and more companies experiment with business models based on pay for use or some form of metering. Some examples of businesses

- Data as a Service
- Operations as a Service
- Innovation as a Service
- On-Demand Marketing
- Security as a Service
- Driving as a Service (ZipCar, etc.)

## ***Context is Content's New Best Friend***

Marketers need to create a personalized experience.

To do marketing better marketers will need to go beyond simply creating content to creating a personalized experience for their target customer that's seamless across multiple interactions. These experiences will leverage context to make a company's marketing jive with the searcher's proclivities – the things you've learned about your leads over months and years of talking with them. The things they do, the things they say, the sites they like, the products they purchase, their happiness level with your company – all to have deeper and more meaningful relationships and better results.



Source: <http://cdn1.hubspot.com/hub/53/2013-Marketing-Trends-01.pdf>

## ***Content Crowdsourcing Grows***

Your audience helps build content for you.

Socially-generated content, where your audience help builds content for you (usually through a contest), has been done for years. But there is an even bigger opportunity for crowdsourcing platforms that contribute to new marketing ideas. As the social footprint grows, marketers will find more ways to leverage crowd creativity by build interesting and viral pieces of content with their network of fans and followers.



Source: <http://cdn1.hubspot.com/hub/53/2013-Marketing-Trends-01.pdf>



# Combining Physical and Digital – Augmented Reality

Adding layers of data on top of the physical world to aide decision making or as part of marketing.



## Marketing – An Innovative way to Maximize Advertising Space

**Toyota** used AR in a print ad that appeared in the **Indonesian** newspaper Kompas to promote its latest model Yaris. The reader had to open a web link provided in the ad and hold the print ad in front of a web cam to view a 3-D rendering of the car superimposed on the print ad.



## “Advertgaming” – Transforming the way in which consumers engage with the product

**Pringles**, in **China** launched an augmented reality based online football game which involves using the Pringles packaging as the means to control the movement of the player on the screen. This format is an innovative way to engage consumers with the product





## *Listening Platforms*

The rise of social networking is forcing companies to ‘listen in on the conversation.’



The image above is Gatorade’s “listening lab” set up to monitor the conversations on social networks that mention Gatorade. It’s staffed 24 hours a day, 7 days per week – and employees respond where appropriate.

Listening platforms are emerging for organizations and individuals to ‘listen’ to the social network (all the social networks) for specific information relevant to them.

What should you listen for?

- **Listening Data:** reactions to products and campaigns as measured by interactions and messages
- **Benchmarking Data:** observing and collecting data on the social stream about competitors and comparing that to one’s own organization
- **Strategic Forecasting Data:** Identifying insights and trends that are relevant to your customers
- **Real-time Tracking Data:** Observing how campaigns are performing by observing data in real time
- **Reflection and Insight:** By maintaining robust listening and data tracking services you don’t find yourself guessing about what’s working and/or what caused it to work

**Source:** Kate Neiderhoffer, The Dachis Group

# The App-ification of (Just About) Everything

The app revolution is here.



*Apps are disrupting many of the entrenched modes of content consumption now prevalent. For example, as much as I love reading the paper or a magazine, I already love it better just bringing these up on my iPad on Monday and have it there waiting for me any time I have a few spare minutes. Older generations may have a hard time adjusting to this shift but young people will find appization so commonplace and familiar that there will be no disconnected between the pre-app, media landscape and the coming deluge of micro-payment driven sources.*

Source: <http://www.crunchgear.com/2011/05/09/how-to-survive-the-coming-appization-of-just-about-everything/>

The several large forces are converging to create a revolution in how consumers access media and how we buy and sell just about everything. These forces are the smart phone, the tablet, the cloud (cloud based services), and apps (applications, small widgets, pieces of content, or streams that eschew physical media entirely). The apps are coming to just about everything including desktops (Mac App Store, the Windows App Store, and Google's Chrome App store), publishing (Conde Nast et al), and now TVs. Books are being appized. Magazines are being appized. Cable TV is being appized. Movies are being appized. Even operating systems are being appized. We may even begin to see apps showing up on appliances allowing manufacturers the ability to extend the functionality of their products beyond what they are originally designed for.

Source: TechCrunch

# Agility

Enterprises need the ability to respond to an always changing business environment.

Agility consists of three major capabilities.

## Visibility

There are two aspects of being able to see. One is external – enterprises need to have the ability to sense the trends and changes on the horizon and prepare appropriate responses. Disruption comes from anywhere – so that's where we need to look. The other is internal – enterprises need transparency and the ability to gauge the 'health of the enterprise' across a number of attributes and know the core as well as edge capabilities, strengths and weaknesses to discover new opportunities to create value.

## Velocity

Enterprises need to be fast – at everything. Shrinking cycle times to realize value requires a different approach to work. Rapidly simulating prototyping, learning and improvements are core skills.

## Flexibility

The ability to adapt by creatively combining and recombining capabilities. As things change so should the interaction and combinations of existing and new capabilities. What if strategy was an ongoing process of evolving to the market? What if operations were the ongoing process of recombining capabilities to create new products and services? What if the organizational structure enabled the enterprise to thrive in an ever-changing environment?

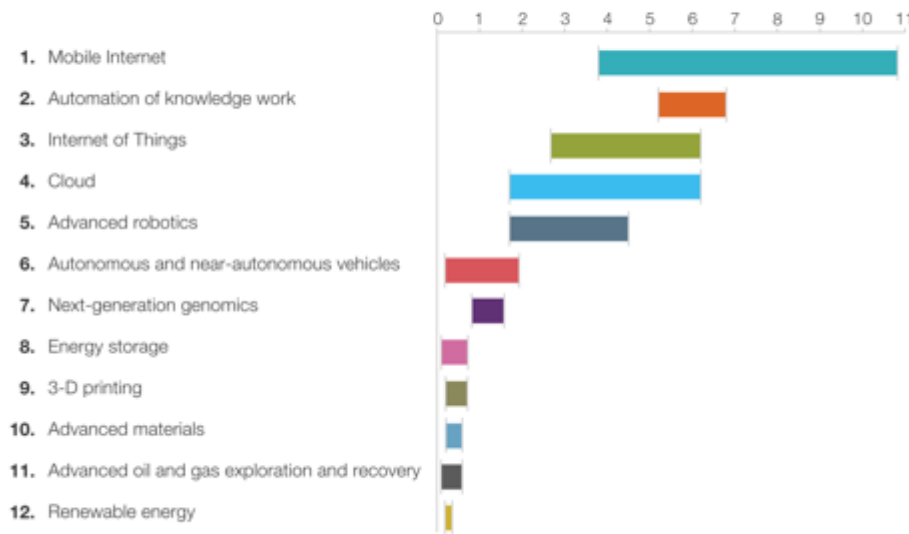
Each of these capabilities are valuable on their own – and enterprises should have initiatives to develop excellence in all these areas however the real benefits and agility will come from the interaction and synergies between these three capabilities.

# 12 Disruptive Technologies

Advances that will transform life, business, and the global economy.

## A gallery of disruptive technologies

Estimated potential economic impact of technologies across sized applications in 2025, \$ trillion, annual



SOURCE: McKinsey Global Institute

Leaders need to plan for a range of scenarios, abandoning assumptions about where competition and risk could come from, and not be afraid to look beyond long-established models. Organizations will also need to keep their employees' skills up-to-date and balance the potential benefits of emerging technologies with the risks they sometimes pose.

According to a recent McKinsey Global Institute report entitled, *Disruptive technologies: Advances that will transform life, business, and the global economy*, there are 12 technologies that will have disruptive impacts all aspects of life. Applications of the 12 technologies discussed in the report could have a potential economic impact between \$14 trillion and \$33 trillion a year in 2025. This estimate is neither predictive nor comprehensive. It is based on an in-depth analysis of key potential applications and the value they could create in a number of ways, including the consumer surplus that arises from better products, lower prices, a cleaner environment, and better health.

Business leaders should keep their organizational strategies updated in the face of continually evolving technologies, ensure that their organizations continue to look ahead, and use technologies to improve internal performance. Disruptive technologies can change the game for businesses, creating entirely new products and services, as well as shifting pools of value between producers or from producers to consumers. Organizations will often need to use business-model innovations to capture some of that value.

Source: McKinsey Global Institute

# Mobile Internet

Increasingly inexpensive and capable mobile computing devices and Internet connectivity



## #1 Mobile Internet

Increasingly inexpensive and capable mobile computing devices and Internet connectivity

Potential economic impact in 2025 across sized applications of  
**\$3.7 trillion–\$10.8 trillion**

**10–20% potential cost reduction in treatment** of chronic diseases through remote health monitoring

### Component technologies

- Wireless technologies
- Small, low-cost computing and storage devices
- Advanced display technology, natural user interfaces
- Advanced, low-cost batteries

### Key applications

- Service delivery
- Worker productivity
- Additional consumer surplus from use of mobile-Internet services

The mobile Internet could affect how five billion people go about their lives, giving them tools to become potential innovators or entrepreneurs— making the mobile Internet one of our most impactful technologies.

In just a few years, Internet-enabled portable devices have gone from a luxury for a few to a way of life for more than one billion people who own smartphones and tablets. In the United States, an estimated 30 percent of Web browsing and 40 percent of social media use are done on mobile devices; by 2015, wireless Web use is expected to exceed wired use. Ubiquitous connectivity and an explosive proliferation of apps are enabling users to go about their daily routines with new ways of knowing, perceiving, and even interacting with the physical world. The technology of the mobile Internet is evolving rapidly, with intuitive interfaces and new formats, including wearable devices. The mobile Internet also has applications across businesses and the public sector, enabling more efficient delivery of many services and creating opportunities to increase workforce productivity. In developing economies, the mobile Internet could bring billions of people into the connected world.

**\$1.7 trillion** – GDP related to the Internet  
**\$25 trillion** – Interaction and transaction worker employment costs, 70% of global employment costs

Source: McKinsey Global Institute



# Automation of Knowledge Work

Intelligent software systems that can perform knowledge work tasks involving unstructured commands and subtle judgments.



## #2 Automation of knowledge work

Intelligent software systems that can perform knowledge-work tasks

Potential economic impact in 2025 across sized applications of **\$5.2 trillion–\$6.7 trillion**

Additional labor productivity could equal the output of **110 million–140 million** full-time workers

### Component technologies

- Artificial intelligence, machine learning
- Natural user interfaces
- Big-data technologies

### Key applications

- Smart learning in education
- Diagnostics and drug discovery in health care
- Discovery, contracts/patents in legal sector
- Investments and accounting in finance sector

The mobile Internet might never live up to its enormous potential without important advances in cloud computing to enable applications—including tools for automating knowledge work—on mobile devices. Automation of knowledge work or advanced robotics, could create disproportionate opportunities for some highly skilled workers and owners of capital while replacing the labor of some less skilled workers with machines.

Advances in artificial intelligence, machine learning, and natural user interfaces (e.g., voice recognition) are making it possible to automate many knowledge worker tasks that have long been regarded as impossible or impractical for machines to perform. For instance, some computers can answer “unstructured” questions (i.e., those posed in ordinary language, rather than precisely written as software queries), so employees or customers without specialized training can get information on their own. This opens up possibilities for sweeping change in how knowledge work is organized and performed. Sophisticated analytics tools can be used to augment the talents of highly skilled employees, and as more knowledge worker tasks can be done by machine, it is also possible that some types of jobs could become fully automated.

**230+ million** – Knowledge workers, 9% of global workforce

**1.1 billion** – Smartphone users, with potential to use automated digital assistance apps

**\$9+ trillion** – Knowledge worker employment costs, 27% of global employment costs

# Internet of Things

Networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization



## #3 Internet of Things

Networks of low-cost sensors and actuators for data collection, monitoring, decision making, and process optimization

Potential economic impact in 2025 across sized applications of **\$2.7 trillion–\$6.2 trillion**

Offers potential to drive **productivity across \$36 trillion** in operating costs of key affected industries: manufacturing, health care, and mining

### Component technologies

- Advanced, low-cost sensors
- Wireless and near-field communication devices—eg, RFID (radio frequency identification tags)

### Key applications

- Process optimization, especially in manufacturing and logistics
- Efficient use of natural resources—eg, smart-meter and smart-grid control of water and electricity
- Remote health-care delivery, sensor-enhanced business models

The mobile Internet, the Internet of Things, and cloud technology are themselves information and communications technologies. Information technologies tend to advance very rapidly, often following exponential trajectories of improvement in cost/performance.

The Internet of Things—embedding sensors and actuators in machines and other physical objects to bring them into the connected world—is spreading rapidly. From monitoring the flow of products through a factory to measuring the moisture in a field of crops to tracking the flow of water through utility pipes, the Internet of Things allows businesses and public-sector organizations to manage assets, optimize performance, and create new business models. With remote monitoring, the Internet of Things also has great potential to improve the health of patients with chronic illnesses and attack a major cause of rising health-care costs.


**\$36 trillion** – Operating costs of key affected industries (manufacturing, health care, and mining)

**1 trillion** – Things that could be connected to the Internet across industries such as manufacturing, health care, and mining

**100 million** – Global machine to machine (M2M) device connections across sectors like transportation, security, health care, and utilities

# Cloud Technology

Use of computer hardware and software resources delivered over a network or the Internet, often as a service.



**#4 Cloud**  
Use of computer hardware and software resources to deliver services over the Internet or a network

Potential economic impact in 2025 across sized applications of  
**\$1.7 trillion–\$6.2 trillion**

**15–20% potential productivity gains** across IT infrastructure, application development, and packaged software

#### Component technologies

- Cloud-management software—eg, virtualization, metering
- Data-center hardware
- High-speed networks
- Software/platform as a service (SaaS/PaaS)

#### Key applications

- Cloud-based delivery of Internet services and applications
- Enterprise IT productivity

Some technologies such as cloud computing, underpin IT-enabled business trends. The mobile Internet might never live up to its enormous potential without important advances in cloud computing to enable applications—including tools for automating knowledge work—on mobile devices. Cloud technology has the potential to improve productivity across \$3 trillion in global enterprise IT spending, as well as enabling the creation of new online products and services for billions of consumers and millions of businesses alike.

With cloud technology, any computer application or service can be delivered over a network or the Internet, with minimal or no local software or processing power required. In order to do this, IT resources (such as computation and storage) are made available on an as-needed basis—when extra capacity is needed it is seamlessly added, without requiring up-front investment in new hardware or programming. The cloud is enabling the explosive growth of Internet-based services, from search to streaming media to offline storage of personal data (photos, books, music), as well as the background processing capabilities that enable mobile Internet devices to do things like respond to spoken commands to ask for directions. The cloud can also improve the economics of IT for companies and governments, as well as provide greater flexibility and responsiveness. Finally, the cloud can enable entirely new business models, including all kinds of pay-as-you-go service models.

**\$1.7 trillion** – GDP related to the Internet

**\$3 trillion** – Enterprise IT spend

**2 billion** – Global users of cloud-based email services like Gmail, Yahoo, and Hotmail

**80%** – North American institutions hosting or planning to host critical applications on the cloud

# Autonomous or near-autonomous vehicles

Vehicles that can navigate and operate with reduced or no human intervention.



## #6 Autonomous or near-autonomous vehicles

Vehicles that can navigate and operate autonomously or semiautonomously in many situations

Potential economic impact in 2025 across sized applications of **\$0.2 trillion–\$1.9 trillion**

Could save **30,000–150,000 lives** from potentially fatal traffic accidents

### Component technologies

- Artificial intelligence, computer vision
- Advanced sensors—eg, radar, Lidar,<sup>1</sup> GPS
- Machine-to-machine communication

### Key applications

- Self-driving cars and trucks

Continuing progress in artificial intelligence and machine learning are essential to the development of advanced robots, autonomous vehicles, and in knowledge work automation tools. Autonomous vehicles are coming, in fact, some autonomous features, such as self-parking systems, are already available in production vehicles. While the economic impact driven by this technology could be quite large, it may take many years to fully materialize.

It is now possible to create cars, trucks, aircraft, and boats that are completely or partly autonomous. From drone aircraft on the battlefield to Google's self-driving car, the technologies of machine vision, artificial intelligence, sensors, and actuators that make these machines possible is rapidly improving. Over the coming decade, low-cost, commercially available drones and submersibles could be used for a range of applications. Autonomous cars and trucks could enable a revolution in ground transportation—regulations and public acceptance permitting. Short of that, there is also substantial value in systems that assist drivers in steering, braking, and collision avoidance. The potential benefits of autonomous cars and trucks include increased safety, reduced CO<sub>2</sub> emissions, more leisure or work time for motorists (with hands-off driving), and increased productivity in the trucking industry.

**\$4 trillion** – Automobile industry revenue

**\$155 billion** – Revenue from sales of civilian, military, and general aviation aircraft

**1 billion** – Cars and trucks globally

**450,000** – Civilian, military, and general aviation aircraft in the world

# Next-Generation Genomics

Fast, low-cost gene sequencing, advanced big data analytics, and synthetic biology (“writing” DNA) .



## #7 Next-generation genomics

Fast, low-cost gene sequencing, advanced analytics, and synthetic biology (ie, “writing” DNA)

Potential economic impact in 2025 across sized applications of **\$0.7 trillion–\$1.6 trillion**

**Extending and enhancing lives** accounts for 75% of potential impact—eg, through faster disease detection, new drugs

### Component technologies

- Advanced DNA-sequencing technologies
- DNA-synthesis technologies
- Big data and advanced analytics

### Key applications

- Disease treatment
- Agriculture
- Production of high-value substances

Next-generation genomics has the potential to transform how doctors diagnose and treat cancer and other diseases, potentially extending lives. The combination of next-generation genomics with advances in nanotechnology has the potential to bring about new forms of targeted cancer drugs. It is possible that the first commercially available nano-electromechanical machines (NEMS), molecule-sized machines, could be used to create very advanced sensors for wearable mobile Internet devices or Internet of Things applications.

Next-generation genomics marries advances in the science of sequencing and modifying genetic material with the latest big data analytics capabilities. Today, a human genome can be sequenced in a few hours and for a few thousand dollars, a task that took 13 years and \$2.7 billion to accomplish during the Human Genome Project. With rapid sequencing and advanced computing power, scientists can systematically test how genetic variations can bring about specific traits and diseases, rather than using trial and error. Relatively low-cost desktop sequencing machines could be used in routine diagnostics, potentially significantly improving treatments by matching treatments to patients. The next step is synthetic biology—the ability to precisely customize organisms by “writing” DNA. These advances in the power and availability of genetic science could have profound impact on medicine, agriculture, and even the production of high-value substances such as biofuels—as well as speed up the process of drug discovery.

**\$6.5 trillion** – Global health-care costs

**\$1.1 trillion** – Global value of wheat, rice, maize, soy, and barley

**26 million** – Annual deaths from cancer, cardiovascular disease, or type 2 diabetes

Source: McKinsey Global Institute



# Energy Storage

Devices or systems that store energy for later use, including batteries.



## #8 Energy storage

Devices or physical systems that store energy for later use

Potential economic impact in 2025 across sized applications of  
**~\$0.1 trillion–\$0.6 trillion**

**40–100% of new vehicles** sold in 2025 could be electric or hybrid

### Component technologies

- Battery technologies—eg, lithium-ion and fuel cells
- Mechanical technologies—eg, pumped hydro and pressurized gas
- Advanced materials, nanomaterials

### Key applications

- Electric and hybrid vehicles
- Distributed energy (including off-grid)
- Utility-scale grid storage

Energy storage technology could change how, where, and when we use energy. Symbiotic development exists between advances in energy storage and renewable energy sources; the ability to store electricity created by solar or wind helps to integrate renewables into the power grid. The advances in energy storage that make this possible could benefit, in turn, from advances in nanomaterials for batteries.

Energy storage technology includes batteries and other systems that store energy for later use. Lithium-ion batteries and fuel cells are already powering electric and hybrid vehicles, along with billions of portable consumer electronics devices. Li-ion batteries in particular have seen consistent increases in performance and reductions in price, with cost per unit of storage capacity declining dramatically over the past decade. Over the next decade, advances in energy storage technology could make electric vehicles (hybrids, plug-in hybrids, and all-electrics) cost competitive with vehicles based on internal-combustion engines. On the power grid, advanced battery storage systems can help with the integration of solar and wind power, improve quality by controlling frequency variations, handle peak loads, and reduce costs by enabling utilities to postpone infrastructure expansion. In developing economies, battery/solar systems have the potential to bring reliable power to places it has never reached.

**\$2.5 trillion** – Revenue from global consumption of gasoline and diesel

**\$100 billion** – Estimated value of electricity for households currently without access

**1 billion** – Cars and trucks globally

**1.2 billion** – People without access to electricity

# 3-D Printing

Additive manufacturing techniques to create objects by printing layers of material based on digital models.

**#9 3-D printing**  
Additive-manufacturing techniques that create objects by printing successive layers of material using digital models



Potential economic impact in 2025 across sized applications of **\$0.2 trillion–\$0.6 trillion**

Consumers' use of 3-D printing could save them **35–60% in costs** per printed product, while enabling a high level of customization

#### Component technologies

- Selective laser sintering (SLS)
- Fused deposition modeling (FDM)
- Stereolithography (SLA)
- Direct metal laser sintering (DMLS)

#### Key applications

- Consumer use of 3-D printers
- Direct product manufacturing
- Tool and mold manufacturing
- Bioprinting of tissue and organs

3D printing uses computer generated models and benefits from an online design sharing ecosystem. 3D printing could help “democratize” the design, production, and distribution of products and services. 3D printing, the mobile Internet, cloud technology, and even next-generation genomics could provide the opportunities and the tools to allow small enterprises to compete on a meaningful scale and advance into new markets rapidly.

Until now, 3D printing has largely been used by product designers and hobbyists and for a few select manufacturing applications. However, the performance of additive manufacturing machinery is improving, the range of materials is expanding, and prices (for both printers and materials) are declining rapidly— bringing 3D printing to a point where it could see rapid adoption by consumers and even for more manufacturing uses. With 3D printing, an idea can go directly from a 3D design file to a finished part or product, potentially skipping many traditional manufacturing steps. Importantly, 3D printing enables on-demand production, which has interesting implications for supply chains and for stocking spare parts—a major cost for manufacturers. 3D printing can also reduce the amount of material wasted in manufacturing and create objects that are difficult or impossible to produce with traditional techniques. Scientists have even “bioprinted” organs, using an inkjet printing technique to layer human stem cells along with supporting scaffolding.

**\$11 trillion** – Global manufacturing GDP

**\$85 billion** – Revenue from global toy sales

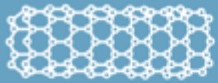
**320 million** – Manufacturing workers, 12% of global workforce

**8 billion** – Annual number of toys manufactured globally

Source: McKinsey Global Institute

# Advanced Materials

Materials designed to have superior characteristics (e.g., strength, weight, conductivity) or functionality.



## #10 Advanced materials

Materials that have superior characteristics such as better strength and conductivity or enhanced functionality such as memory or self-healing capabilities

Potential economic impact in 2025 across sized applications of **\$0.2 trillion–\$0.5 trillion**

Nanomedicine could be used to **deliver targeted drugs** to 20 million new cancer cases worldwide in 2025

### Component technologies

- Graphene
- Carbon nanotubes
- Nanoparticles—eg, nanoscale gold and silver
- Other advanced and smart materials—eg, piezoelectric materials, memory metals, self-healing materials

### Key applications

- Nanoelectronics, displays
- Nanomedicine, sensors, catalysts, advanced composites
- Energy storage, solar cells
- Enhanced chemicals and catalysts

Advanced materials technology is experiencing significant breakthroughs, from the first artificial production of graphene (a nanomaterial with extraordinary properties including strength and conductivity) in 2004, to IBM's creation of the first graphene-based integrated circuit in 2011.

Over the past few decades, scientists have discovered ways to produce materials with incredible attributes—smart materials that are self-healing or self-cleaning; memory metals that can revert to their original shapes; piezoelectric ceramics and crystals that turn pressure into energy; and nanomaterials. Nanomaterials in particular stand out in terms of their high rate of improvement, broad potential applicability, and long-term potential to drive massive economic impact. At nanoscale (less than 100 nanometers), ordinary substances take on new properties—greater reactivity, unusual electrical properties, enormous strength per unit of weight—that can enable new types of medicine, super-slick coatings, stronger composites, and other improvements. Advanced nanomaterials such as graphene and carbon nanotubes could drive particularly significant impact. For example, graphene and carbon nanotubes could help create new types of displays and super-efficient batteries and solar cells. Finally, pharmaceutical companies are already progressing in research to use nanoparticles for targeted drug treatments for diseases such as cancer.

**\$1.2 trillion** – Revenue from global semiconductor sales

**\$4 billion** – Revenue from global carbon fiber sales

**7.6 million tons** – Annual global silicon consumption

**45,000 metric tons** – Annual global carbon fiber consumption

Source: McKinsey Global Institute

# Advanced Oil and Gas Exploration and Discovery

Exploration and recovery techniques that make extraction of unconventional oil and gas economical.



## #11 Advanced oil and gas exploration and recovery

Advancements in exploration and recovery techniques that make extraction of additional oil and gas economical

Potential economic impact in 2025 across sized applications of **\$0.1 trillion–\$0.5 trillion**

Offers potential to supply an **additional 3.6 billion–6.2 billion oil-equivalent barrels** of oil and gas annually by 2025

### Component technologies

- Horizontal drilling
- Hydraulic fracturing ("fracking")
- Microseismic monitoring

### Key applications

- Energy from fuel extraction; includes shale gas, light tight oil, and coal-based methane
- Coalbed methane and methane clathrate

Advanced oil and gas exploration and recovery could fuel economic growth and shift value across energy markets and regions. Globally, accessing these unconventional oil and gas resources could deliver significant economic impact by 2025.

The ability to extract so-called unconventional oil and gas reserves from shale rock formations is a technology revolution that has been gathering force for nearly four decades. The combination of horizontal drilling and hydraulic fracturing makes it possible to reach oil and gas deposits that were known to exist in the United States and other places but that were not economically accessible by conventional drilling methods. The potential impact of this technology has received enormous attention. With continued improvements, this technology could significantly increase the availability of fossil fuels for decades and produce an immediate boon for energy-intensive industries such as petrochemicals manufacturing. Eventually, improving technology for oil and gas exploration and recovery could even unlock new types of reserves, including coalbed methane, tight sandstones, and methane clathrates (also known as methane hydrates), potentially ushering in another energy "revolution."

**\$800 billion** – Revenue from global sales of natural gas

**\$3.4 trillion** – Revenue from global sales of crude oil

**22 billion** – Barrels of oil equivalent in natural gas produced globally

**30 billion** – Barrels of crude oil produced globally

# Renewable Electricity – solar and wind

Generation of electricity from renewable sources with reduced harmful climate impact.



## #12 Renewable electricity— solar and wind

Generation of electricity from renewable sources with reduced harmful climate impact

Potential economic impact in 2025 across sized applications of  
**\$0.2 trillion–\$0.3 trillion**

Potential to avoid emissions of **1,000 million–1,200 million tons**  
of CO<sub>2</sub> annually by 2025

### Component technologies

- Photovoltaic cells
- Wind turbines
- Concentrated solar power
- Hydroelectric and ocean-wave power
- Geothermal energy

### Key applications

- Electricity generation
- Reduction in CO<sub>2</sub> emissions
- Distributed generation

Symbiotic development exists between advances in energy storage and renewable energy sources; the ability to store electricity created by solar or wind helps to integrate renewables into the power grid. The advances in energy storage that make this possible could benefit, in turn, from advances in nanomaterials for batteries.

Renewable energy sources such as solar, wind, hydroelectric, and ocean wave hold the promise of an endless source of power without stripping resources, contributing to climate change, or worrying about competition for fossil fuels. Solar cell technology is progressing particularly rapidly. In the past two decades, the cost of power produced by solar cells has dropped from nearly \$8 per watt of capacity to one-tenth of that amount. Meanwhile, wind power constitutes a rapidly growing proportion of renewable electricity generation. Renewable energy sources such as solar and wind are increasingly being adopted at scale in advanced economies like the United States and the European Union. Even more importantly, China, India, and other emerging economies have aggressive plans for solar and wind adoption that could enable further rapid economic growth while mitigating growing concerns about pollution.

**\$3.5 trillion** – Value of global electricity consumption

**\$80 billion** – Value of global carbon market transactions

**21,000 TWh** – Annual global electricity consumption

**13 billion tons** – Annual CO<sub>2</sub> emissions from electricity generation, more than from all cars, trucks, and planes



## G7 to E7 Shift

Emerging economies are set to grow much faster than the G7 over the next four decades...

E-7	G-7
 China	 USA
 India	 Japan
 Indonesia	 Germany
 Brazil	 France
 Pakistan	 UK
 Russia	 Italy
 Mexico	 Canada

The projected long-term growth trends pose many opportunities and challenges for businesses in the UK and other Western economies. China, India, Brazil and the other emerging markets highlighted in PwC's study "World in 2050 - The BRICs and beyond: prospects, challenges and opportunities" will become not just low cost production locations but also increasingly large consumer markets. At a time when trend annual growth is projected to be no more than around 2% in the advanced economies, companies seeking growth will need to look increasingly to these emerging markets.

At the same time, such markets can be challenging places to do business. It will be important to understand and adapt to local rules, regulations and customs. The right entry strategy and, where appropriate, the right joint venture partner(s) will be crucial, as will good relations with local government and regulatory bodies.

*"The global financial crisis has hit the G7 much harder than the E7 in the short term. And it has also caused downward revisions in the estimates of longer term trend growth in the G7 – particularly those economies in Europe and the US that had previously relied on excessive public and private borrowing to drive growth"*

- John Hawksworth,

PwC

Source: World in 2050 - The BRICs and beyond: prospects, challenges and opportunities

Chief Economist

# Driving Simplification

Applying 'do more with less' across the business...

Companies are constantly focused on driving lower costs. At the same time, customers are increasingly demanding more features and functionality at lower price points.

In today's environment, economic uncertainty still weighs on both consumers and businesses.

One approach to balancing the cost vs. expectations equation:

*"Drive simplification into everything"*

From product development to supply chain design,

from go-to-market strategies to customer interaction – tech companies are doing more with less and creating the following compelling value for customers:

- Sustainable cost reduction
- Reimagining the business
- Intuitive user experience
- Increased / realized synergies
- Supply chain efficiencies

1

Sleek, intuitive product design is popular with consumers, offering a fast learning curve.

2

The simplified supply chain allows for scale to meet demand, without excess inventory

3

Seamless interactions within an ecosystem keeps customers coming back.

4

Simplified go-to-market strategies offer a unique experience to clients and partners.

Source: PwC's "R&A Analyst Briefing Technology Sector Trends Reference Deck \_ Feb 2013"

# *Shrinking Workforce*

Demographic shifts transform the global workforce...



Despite a growing global population, the availability of skilled workers is actually shrinking, and no longer just in advanced, aging countries such as Japan and Italy. Now, some emerging markets, such as China and Russia, are also feeling a demographic pinch.

The data suggests that this is only the beginning. A “demographic divide” will soon arise between countries with younger skilled workers and those that face an aging, shrinking workforce. The war for talent will become increasingly acute in certain sectors, especially areas requiring high skill levels and more education. Specifically,

- Labor force demographics will shift profoundly
- There is a growing mismatch between the skills employers need and the talent available
- “Generation U” and women to fill the skills gaps
- The talent market is increasingly global and mobile
- Employees gain more bargaining power

## ***Digital Workplace is More Fragmented Today***

It is very busy place with new capabilities and much experimentation...



The digital workplace has different dimensions, not all equally mature. They include managed information and processes, structured collaboration, social collaboration and a mobile dimension.

It is transformative and an integral part of working towards greater collaboration, open innovation and mobile and real time reactivity. Senior Managers in the early adopters understand this. They participate and act as role models and are often the driving force behind digital workplace initiatives.

Coordination and governance are however lacking, which is not surprising, as policies and guidelines have not yet been put into place.

This may be compensated for over the next few years because information organization (information architecture. Taxonomies and tagging) is the second highest priority for investment in the next few years.

# Are You About to be Disrupted?

There are six major factors driving industry disruption



*That \$36 trillion is the total market valuation of public companies in the ten industries that will be most vulnerable to change over the next few years: financials, consumer staples, information technology, energy, consumer goods, health care, industrials, materials, telecom, and utilities. Incumbent companies will either do the reimagining and lay claim to the markets of the future or they'll be reimagined out of existence.*

Chunka Mui and Paul B. Carroll in their new book *The New Killer Apps*

The six major factors driving disruption are: mobile devices, social media, sensors, cameras, cloud computing and emergent knowledge.

Chunka Mui and Paul B. Carroll in their new book *The New Killer Apps* say the answer to disruption is to become big and agile. Their suggestion is to do three things:

1. **Thing big.** If you are in one of the industries facing disruption, it's not enough to think about making changes at the margin. Instead, you have to be thinking about reimagining – you need to look for that 10X performance improvement.
2. **Start small.** Instead of making big bets, they recommend starting small, then iterating. This means prototyping, and it means experimenting.
3. **Learn fast.** Mui and Carroll say: “little tests can be cycled through faster than full-scale implementations, and cycle time is crucial when it comes to innovating. If you give us two moves in a chess match for every one you take, we'll beat you every time, no matter who you are.”

They lay out a compelling case for taking a scientific-method style approach to innovation. If change is inevitable, it's always better to be the driver of change, rather than waiting for it to come, and then reacting. If you're big, you have the resources available to do this. But you also have an existing core business that can keep you from acting. If you're faced with this conflict, the best step is to start experimenting.

Tim Kastelle



## ***Business Travel in 2020***

Business Travelers in 2020 will creatively take advantage of their company's managed travel programs



Tech-savvy travelers will use mobile apps they cobble together themselves, or will take advantage of a mobile strategy delivered via their company's managed travel program. Travelers will want to be connected -- starting with booking their travel and throughout the trip. Staying on top of mobile apps is the industry's big challenge -- keeping up with the ever evolving traveler will be the eternal technology race.

One-day trips will be replaced largely by virtual collaboration, supported by progressively sophisticated virtual collaboration technology. Not only will virtual collaboration be environmentally responsible, but it also will advance the globalization of business.

Environment and sustainability are two issues that will play an increasingly important role in travel programs and supplier selections. The environment is extremely important to next generation travelers. They will expect, if not demand, travel programs that include reducing carbon emissions through fewer flights and car services, and doing business with suppliers who incorporate sustainability into their business operations.

Emerging on the hotel sourcing scene is what we're calling dynamic pricing. Hotels will price their rooms much the same way airlines now price their flights, with dynamic (market-driven) pricing becoming the norm rather than the exception.

Source: PwC

# ***The Future of Enterprise Collaboration is Social***

Social networking has breathed new life into efforts to improve internal collaboration...



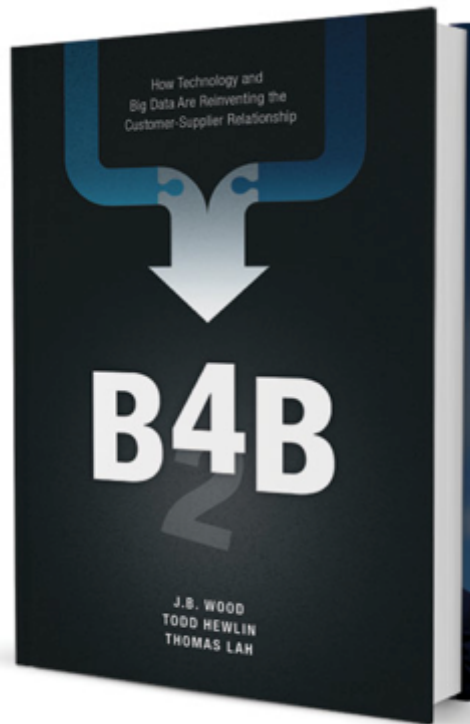
Enterprises are always looking for ways to help employees communicate with each other more effectively. The reasoning is simple: better communication leads to faster and higher-quality work, which, in turn, drives increased productivity.

The rise in social networking has breathed new life into efforts to improve internal collaboration. Social technology has changed the way consumers interact, and enterprises naturally want to harness that proclivity toward better communication and collaboration within the enterprise.

However, many enterprises are viewing social collaboration trends through the wrong lens. Consumers widely use Twitter, but deploying Twitter to employees won't solve the communication challenges a company faces. Facebook's e-mail and document-sharing features are not enough to make the wildly popular social network appropriate for the corporate world. At work, people are motivated to get their job done as quickly and effectively as possible. Using social tools as designed today, to follow coworkers en masse, often becomes more of a time sink than a time saver.

## ***From B2B to B4B***

How the supplier customer model is shifting from selling to customers to providing value and outcomes for customers.



*“The consumption gap is no longer a theoretical problem shouldered by customers. The consumption gap is now a direct threat to the supplier’s revenue and profit.”*

— *B4B*

Software is eating the world\* and the traditional Business to Business (B2B) model is coming to the end of its useful life. Forces such as XaaS (everything as a service), Big Data, and Cloud (to name a few) are creating an alignment of the risk/reward equation and shifting the burden of responsibility for value creation back to the suppliers balance sheet and off of the customers.

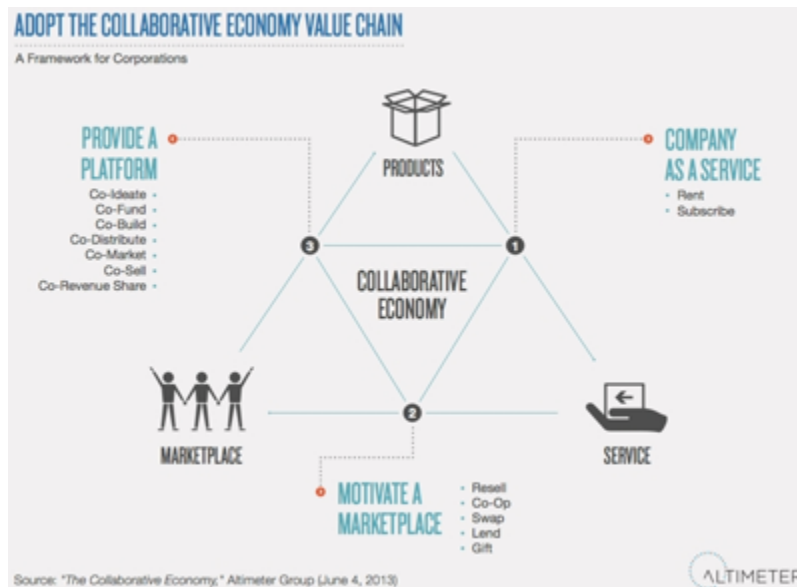
The position R&D, sales, services and marketing organizations play in decision making within large firms is being flipped on its head. What was once a *one and done* sales approach is now a long term relationship based on value and outcomes creation.

\*from an article published in the Wall Street Journal, written in 2011 by Silicon Valley legend Marc Andreessen

Source: B4B by JB Woods, Todd Hewlin and Thomas Lah

# Collaborative Economy Marketplaces

Online marketplaces have the potential to disrupt many businesses and industries...



"The Collaborative Economy is an economic model where ownership and access are shared between people, startups, and corporations."

Like Craigslist or eBay, these new marketplaces emerge with a more concentrated focus on every business. They offer features that enable sellers to offer their wares, and buyers to offer bids, exchange of information, goods, and currency in both directions. Every stock exchange is set up in this manner, allowing for efficient trade, despite location and time differences.

- The crowd can get what they want from each other, bypassing corporations
- It's not new. It's native to the internet. Which means it's unstoppable.
- These marketplaces are showing up in every niche, vertical, and segment in the market

There are examples in transportation, hospitality, food service, staffing and talent, office rentals, design, banking, consumer packaged goods, public relations and VCs are funding more of them.

Corporations will need to develop strategies that integrate into these marketplaces or face significant disruptions.

# *The Digital Revolution Kills Jobs*

Powerful technology trends will reduce the need for workers, and, as a consequence, bring social unrest



“Ultimately, every society lives from the backbone from a strong middle class. If you get just a top level, a small amount of very rich people and a very large piece of very poor people, it leads to social unrest.”

— Tom Seitzberg, director of international IT operations for Genomic Health in San Francisco

In the industrial revolution — and revolutions since — there was an invigoration of jobs. For instance, assembly lines for cars led to a vast infrastructure that could support mass production giving rise to everything from car dealers to road building and utility expansion into new suburban areas.

But the digital revolution is not following the same path, said Daryl Plummer, a Gartner analyst at the research firm's Symposium ITxpo. "What we're seeing is a decline in the overall number of people required to do a job," he said.

In the "Digital Industrial Revolution," Gartner predicts the rise of new technologies will allow machines to take the place of middle-class workers. As a result, Gartner says U.S. unemployment rates will rise. Gartner sees smart machines replacing humans in industries such as transportation, construction and health care. The company warns of social unrest by 2020 as people lose jobs to machines, and it urges companies to structure teams now to address the issue.



## ***Innovation at the Intersection***

*The distinction between physical and digital is becoming a thing of the past, as digital-physical innovation becomes the key to enterprise success.*



Ultimate proof is that outperforming organizations are 26 percent more likely, according to the IBM study, than their underperforming counterparts to have fully developed digital-physical strategies. Indeed, they have discovered that operating at the intersection of the digital and the physical is a good way to find themselves on the road to success.

What is digital-physical innovation? In short, it's the increasingly seamless merging of traditional offerings with new information technology capabilities to enhance the customer experience.

Virtual grocery stores - shelves and all - are projected on the walls of subway stations. To purchase items, shoppers simply go to a Tesco app on a smartphone and scan the projected items' QR code. When purchases are completed, the order is delivered to shoppers' homes shortly after they get home from work.

While social media collaboration is still gaining a foothold with business leaders, the move toward co-creation online resulting in new digital/physical innovations is catching on.

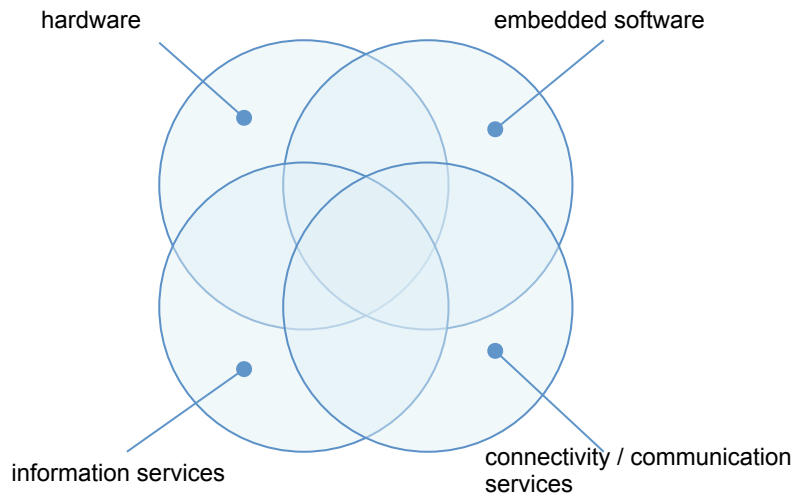
Levi's are tapping into customer's desires for a say in the products and brands they're consuming, letting customers collaborate to build their own jeans from scratch alongside a master tailor. Similarly, in Converse's Made by Facebook campaign, the company is empowering Facebook fans to design and sell Converse shoes via the social media platform.

Physical-digital innovation is not exclusively for the front-office or for consumer audiences. Across all business functions, the need to transform operations and bridge the gap between digital and physical is becoming more and more urgent.

Source: <http://gigaom.com/2013/12/07/when-trying-to-find-innovation-look-for-the-intersection-of-the-physical-and-digital-worlds/>

# The Internet of Things

*By 2020, the Internet of Things will create \$1.9 trillion of economic value add*



\*The Internet of Things encompasses hardware (the 'things' themselves), embedded software (software running on, and enabling the connected capabilities of the things), connectivity/communications services, and information services associated with the things (including services based on analysis of usage patterns and sensor data). The companies that provide this hardware and these services will be referred to as Internet of Things Suppliers.

Source: Gartner

“While in 2015 the combined IT and telecom market will hit nearly \$4 trillion, the incremental revenue generated by the Internet of Things’ suppliers\* is estimated to reach \$309 billion per year by 2020. Half of this activity will be new start-ups and 80 percent will be in services rather than in products. The Internet of Things is a strategically important market. It will accelerate fast and will drive both revenue and cost efficiencies.”

In 2009, there were 2.5 billion connected devices; most of these were mobile phones, PCs and tablets. In 2020, there will be over 30 billion devices connected, of far greater variety

“Now that digital is embedded in everything we do, every business needs its own flavor of digital strategy. Vanilla is off the menu,” said Dave Aron, research vice president and Gartner Fellow. “Digital is not an option, not an add-on, and not an afterthought; it is the new reality that requires a comprehensive digital leadership.”

Business needs digital leadership that can recognize the huge opportunities in shifting business models; leadership that can create the freedom and agility to capture business moments, and leadership that extends itself beyond company boundaries to guide and shape the ecosystem. “Just like with the strategy, the flavor of digital leadership is not vanilla,” said Mr. Aron. “CIOs must explore, adapt and embrace the new digital realities. They must be fearless digital leaders.”

# Driverless Cars by 2020

*The road to automated vehicles and self driving cars is paved and inevitable*



*"One moment, the idea of a self-driving automobile was pure fantasy, something out of a science fiction film," says Andrew Chatham, senior staff engineer and off-board software lead for Google's self-driving car program. "The next, it was a reality, and people immediately wanted to know more about it and when they could buy one."*

*"I believe that self-driving vehicles have much to offer society," says Chris Urmson, the director of Google's driverless car program. "It's a matter of getting the technology reliable and then delivering a compelling product that makes people's lives better. If we can do the latter, then mass acceptance will follow; until then, the outcome is open to debate."*

Our cars will tuck themselves into a driveway or garage with precision, leading to the convenience of being able to begin the ritual exit of the vehicle--gathering belongings, checking smartphones, looking for sunglasses--early. Self-driving cars are on the horizon in 2014, with practical elements like self-parking paving the way.

In the fall of 2010, Google sprung a surprise on the commuting world: It had developed a fleet of seven "self-piloting" Toyota Prius Hybrids and they had already logged more than 140,000 miles (combined) in the real world, mostly on Highway 1 between San Francisco and Los Angeles. Each vehicle was powered by unproven artificial intelligence software and outfitted with a sophisticated yet awkward-looking GPS array, detailed mapping software, and optical radar and laser sensors. The car could stay on track, know where it was going, and "see" what was happening around it.

One-by-one, driverless car test vehicles are already hitting the road, and soon, they'll start to appear by the dozen. The university town of Ann Arbor, Michigan, plans to up the ante further by putting the nation's first networked, fleet of driverless cars--a full 2,000 vehicles--on the road within the next eight years.

Experts say that some \$2 trillion a year in car-related revenue and even more market cap would be up for grabs in the U.S. alone for those who dabble in vehicle automation systems. The technology business behind autonomy could dwarf Google's current \$30 billion-plus a year search-based business.

# ***What Jobs Will Robots Take?***

*Robots and artificial intelligence are growing in popularity and functionality*



We might be on the edge of a breakthrough moment in robotics and artificial intelligence. Although the past 30 years have hollowed out the middle, high- and low-skill jobs have actually increased, as if protected from the invading armies of robots by their own moats. Higher-skill workers have been protected by a kind of social-intelligence moat. Computers are historically good at executing routines, but they're bad at finding patterns, communicating with people, and making decisions, which is what managers are paid to do. This is why some people think managers are, for the moment, one of the largest categories immune to the rushing wave of AI.

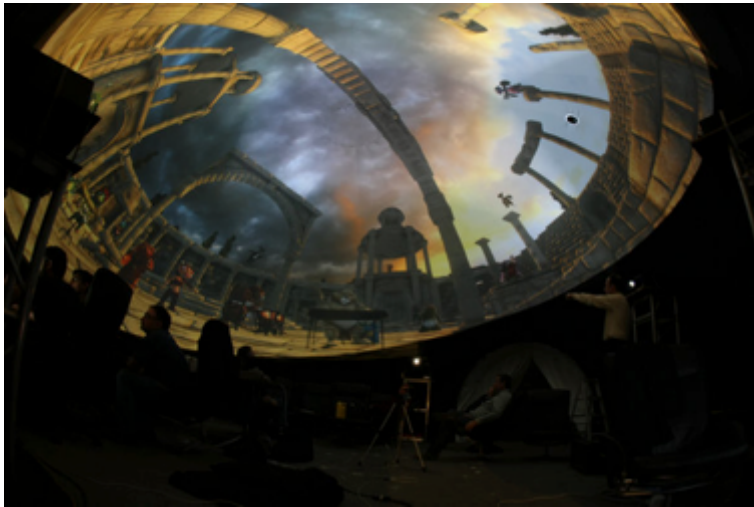
It is an invisible force that goes by many names. Computerization. Automation. Artificial intelligence. Technology. Innovation. And, everyone's favorite, ROBOTS. Whatever name you prefer, some form of it has been stoking progress and killing jobs—from seamstresses to paralegals—for centuries. But this time is different: Nearly half of American jobs today could be automated in “a decade or two,” according to a new paper by Carl Benedikt Frey and Michael A. Osborne, discussed recently in *The Economist*. The question is: Which half?

But robots are already creeping into diagnostics and surgeries. Schools are already experimenting with software that replaces teaching hours. The fact that some industries have been safe from automation for the last three decades doesn't guarantee that they'll be safe for the next one.

While computerization has been historically confined to routine tasks involving explicit rule-based activities, algorithms for big data are now rapidly entering domains reliant upon pattern recognition and can readily substitute for labour in a wide range of non-routine cognitive tasks. In addition, advanced robots are gaining enhanced senses and dexterity, allowing them to perform a broader scope of manual tasks. This is likely to change the nature of work across industries and occupations.

# The Holodeck Begins to Take Shape

Facial recognition software used to identify your customers (and thieves)



*“The holodeck is something we’ve been fixated on here for a number of years as a future target experience that would be truly immersive,”* said Phil Rogers, a corporate fellow at Advanced Micro Devices, the computer chip maker. *“Ten years ago, it seemed like a dream. Now, it feels within reach.”*

While the Star Trek is set in the future, some scientists and researchers say we could have something like holodecks by 2024. If you have enough money, you could even buy one today, though it would be crude compared to the holodecks on Star Trek.

“Eventually, wallpaper will become intelligent and we will paper over our entire living room with intelligent paper, surrounding and immersing ourselves with 3-D images,” said Michio Kaku, a theoretical physicist. “Much of this technology already exists, but in crude form.”

As a byproduct, the holodeck could render traditional TV makers obsolete, cutting the already dwindling TV market, where an estimated 226 million televisions shipped in 2013, according to IHS, a research company.

Business travel, which is projected to rake in \$288 billion from United States travelers this year, according to the Global Business Travel Association, could fall as holodecks become less expensive and more productive than hopping on a plane, booking a hotel and suffering unproductive jet lag, all for a 30-minute meeting.

Andy Wilson, principal researcher at Microsoft Research, said his lab created a product called the IllumiRoom, which creates illusions of the area surrounding a television, making real-life furniture look like it’s moving or warping using a projection display. “We can do things like make the furniture in the room disappear,” he said.



# #1 Business trends of 2014: Business Agility

*If you are going to fail then fail fast...and if you fail, learn from it and move on.*



*“Business Agility is about moving forward ... so get your running shoes on!”*

90% of businesses risk becoming irrelevant because they are not adapting to their customers fast enough.

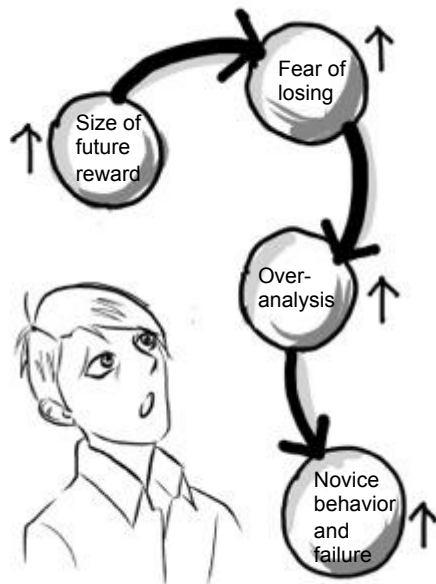
The fail fast approach is one methodology that many start-ups in particular are adopting. Start-ups are collaborating in team with high productivity, adapting products in the same amount of time that it takes most companies to print off blue prints.

The main road blocks to overcome are: slow decision cycles, lack of workforce and leadership engagement, operational silos along with the simple fact of being afraid of change.

Collaboration & a rapid cycles of iteration are the emerging solutions to allow companies to innovate and become active players in today’s ever changing business landscape. Create, innovate, share and repeat!

# “Choking” is the total loss of agility

Pressure to perform, combined with high stakes can actually make us fail to solve problems



The size of the implied future reward influences an increase in fear of failure, which increases a tendency to over-analyze, which results in “choking,” or actual failure.

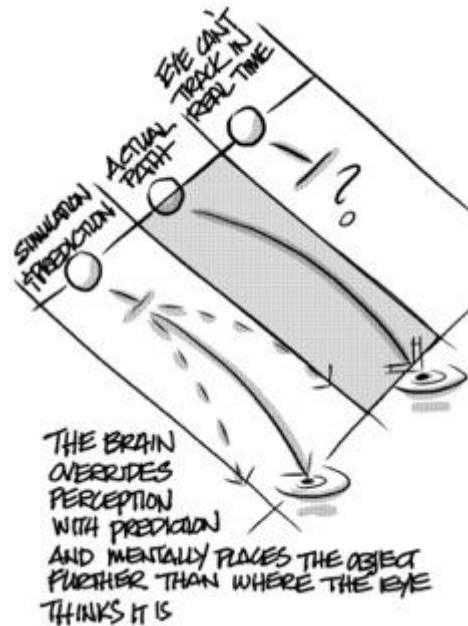
In his article *the Art of Failure*, Malcolm Gladwell describes what happens when someone chokes under pressure, in this case, a baseball player: “Under the stress of playing in front of forty thousand fans at Yankee Stadium, Knoblauch finds himself reverting to explicit mode, throwing like a Little Leaguer again... Describes the difference between this and panic... Panic... is the opposite of choking. Choking is about thinking too much. Panic is about thinking too little. They may look the same, but they are worlds apart.”

Jonah Lehrer describes what goes on in the brain when the pressure is on and how this blocks many of us from innovation. In summary, a fear of failure actually makes some people more likely to fail. They begin to overanalyze and they treat scenarios of future potential rewards as if they were already in the bag, therefore, subject to being lost. People with an incentive to think and act faster often take longer to get to the answer. “Scientists demonstrated that the most loss-averse individuals showed the biggest drop-off in performance when the stakes were raised.”

Source: The New Yorker: The Art of Failure and the Neuroscience of Choking

# Agility in sports is based on prediction, not reaction

“Current information that elite athletes take in is already out of date by the time it reaches the brain



Agility is based on the ability of the brain to simulate the position of the ball and to allow the simulation to override information from the eye which can't see the position of the ball in real time.

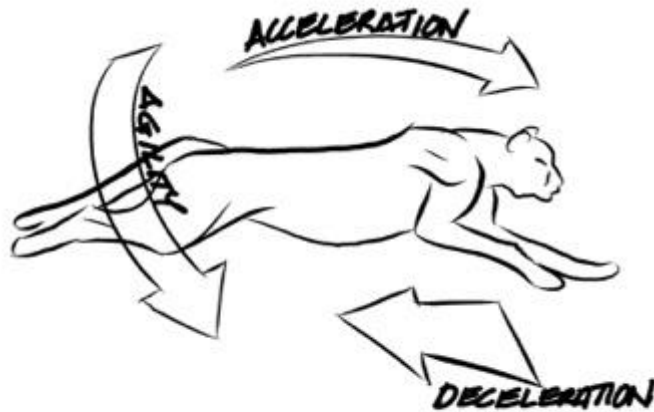
Source: Cognitive Neuroscience Unit

It's impossible to return a professional serve in tennis by tracking the ball with the eye. The same is true in baseball. The eye-brain team can't follow the ball. You can keep your eye on the ball but that's not going to ultimately help you hit it. It does help you bring focus to what you're doing and also helps you let go of analyzing your actions, but actually hitting the ball relies upon an area of the brain that performs *anticipatory perception* of where the ball is traveling.

For the athlete, this means that the gym is where basic core strength is developed but not where true agility and expertise comes from. “The real learning and expertise occurs in the training of the sport,” on the field. As a result, training in organizations should use focused, real interactions or on using simulations that are so real they develop the latent agility skills in the individual or the team.

# *Acceleration, agility and deceleration win the hunt*

For cheetahs, top speed is not a factor in successful hunting, rather, deceleration and agility are key



*A successful hunt doesn't depend upon speed, but upon a combination of acceleration, deceleration and agility, or turning ability.*

**Source:** arstechnica

“Researchers have found that cheetahs succeed not because they are the fastest animal on land but because of their incredible acceleration and unmatched turning speeds.”

“The top speed of most cheetah hunts is on average half the “record speed.”

“Cheetahs can decelerate faster than they can accelerate. The rates of acceleration and deceleration beat those of any other land-dwelling animal. The top speed of a cheetah hunt had no correlation to the successful outcome of the hunt. Success depended more on how fast the cheetah could slow down rather than on how fast it could speed up. It's this last phase of a hunt—when the cheetah slows down—that was critical for success. Finally, cheetahs are not built to be able to turn at their highest speed. Instead, they use their ability to slow down and their ridged footpads and claws to grip the ground well enough to turn quickly.”

# Gamification Transforming Business Operations

By 2015, 40 percent of Global 1000 organizations will use gamification as the primary mechanism to transform business operations.

## Enterprise Gamification: Targeting work activities to reward desired behavior



Seventy percent of business transformation efforts fail due to lack of engagement. Gamification addresses engagement, transparency of work, and connecting employees' actions to business outcomes. Companies apply feedback, measurement and incentives — the same techniques that game designers use, to keep players interested — to achieve the needed engagement for the transformation of business operations. Diverse industry segments are already finding gamification effective, and, according to M2 Research, the worldwide market will grow from \$242 million in 2012 to \$2.8 billion in 2016, with enterprise gamification eclipsing consumer gamification in 2013.

*On its face the case for gamification, which is defined here as adding game-like activities to improve non-game contexts, is a strong one and easy to state. Namely, if properly situated in business processes, the incorporation of game features in work activities can reward desired behavior, create more intensively participative processes, track group progress, establish feedback loops that reinforce and accelerate sought after business outcomes, and more. Why does gamification do this? The belief is that it taps directly into the cognitive and psychological predispositions of humans to engage in game-like behavior that they find interesting, engaging, and rewarding. And fun.*

Source: Gartner 10/24/12



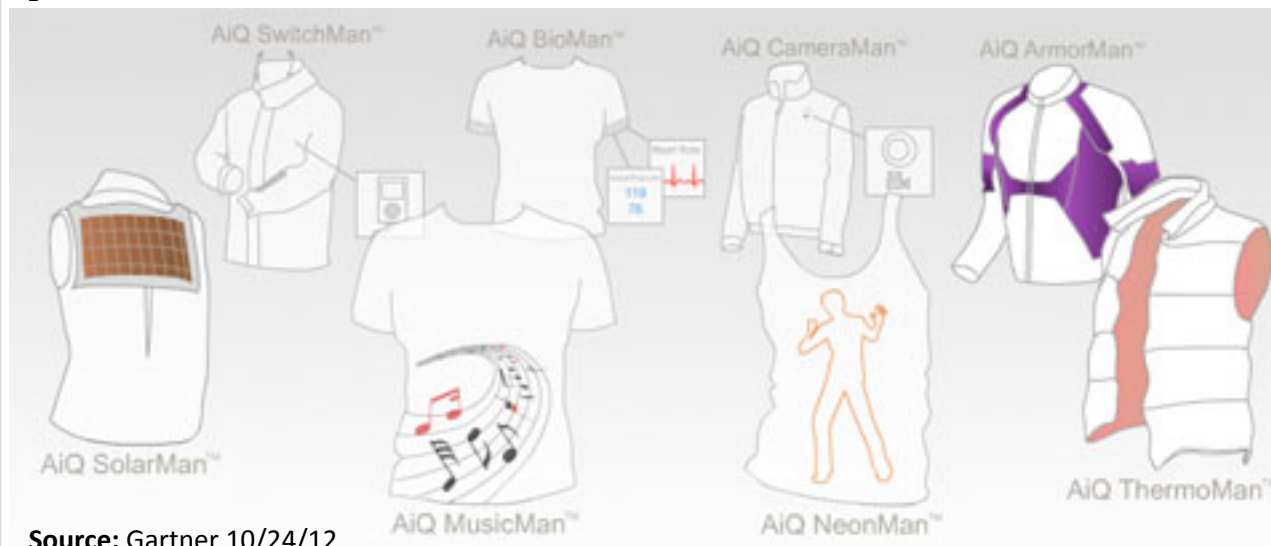
## ***Wearable Smart Devices***

By 2016, wearable smart electronics in shoes, tattoos and accessories will emerge as a \$10 billion industry.

The majority of revenue from wearable smart electronics over the next four years will come from athletic shoes and fitness tracking, communications devices for the ear, and automatic insulin delivery for diabetics. Wearable smart electronics, such as fitness trackers, often come with data analysis applications or services that create useful insights for the wearer. Applications and services will create new value for consumers, especially when combined with personal preferences, location, biosensing and social information. CIOs must evaluate how the data from wearable electronics can be used to improve worker productivity, asset tracking and workflow. Wearable electronics will also provide more-detailed information to retailers for targeting advertisements and promotions.

*New wearable electronics could become smart surgical gloves that allow surgeons to feel and do everything using their fingertips. Such electronics could even include electronic "socks" wrapped snugly around a patient's heart to monitor cardiac health.*

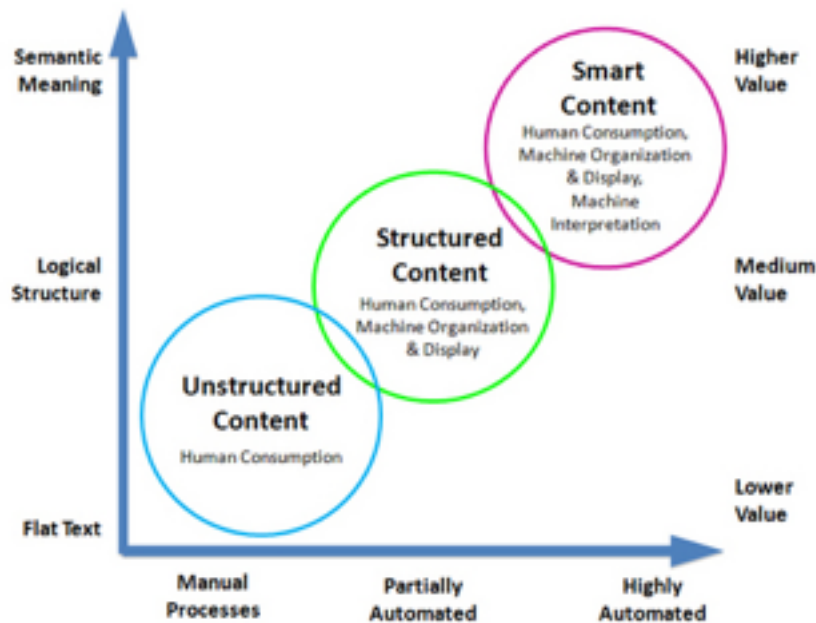
*The idea of stretchy smart materials fitting the hands of surgeons or human hearts comes from researchers who have discovered how to transform hard semiconductors into soft, flexible electronics. A U.S.-China team has published its blueprint for designing and making smart devices that can wrap around 3D objects like the human fingertip.*



Source: Gartner 10/24/12

# Smart Content

Content enrichment services will transform raw data into smart content.



Eighty percent of information growth in coming years will be in unstructured content.

CMS are now focused solely on managing content lifecycles and delivering compelling user experiences. They completely fail to leverage the vast information universe available within their own content stores.

Content enrichment services, text mining utilities, and content intelligence features will start transforming this raw data into smart content.

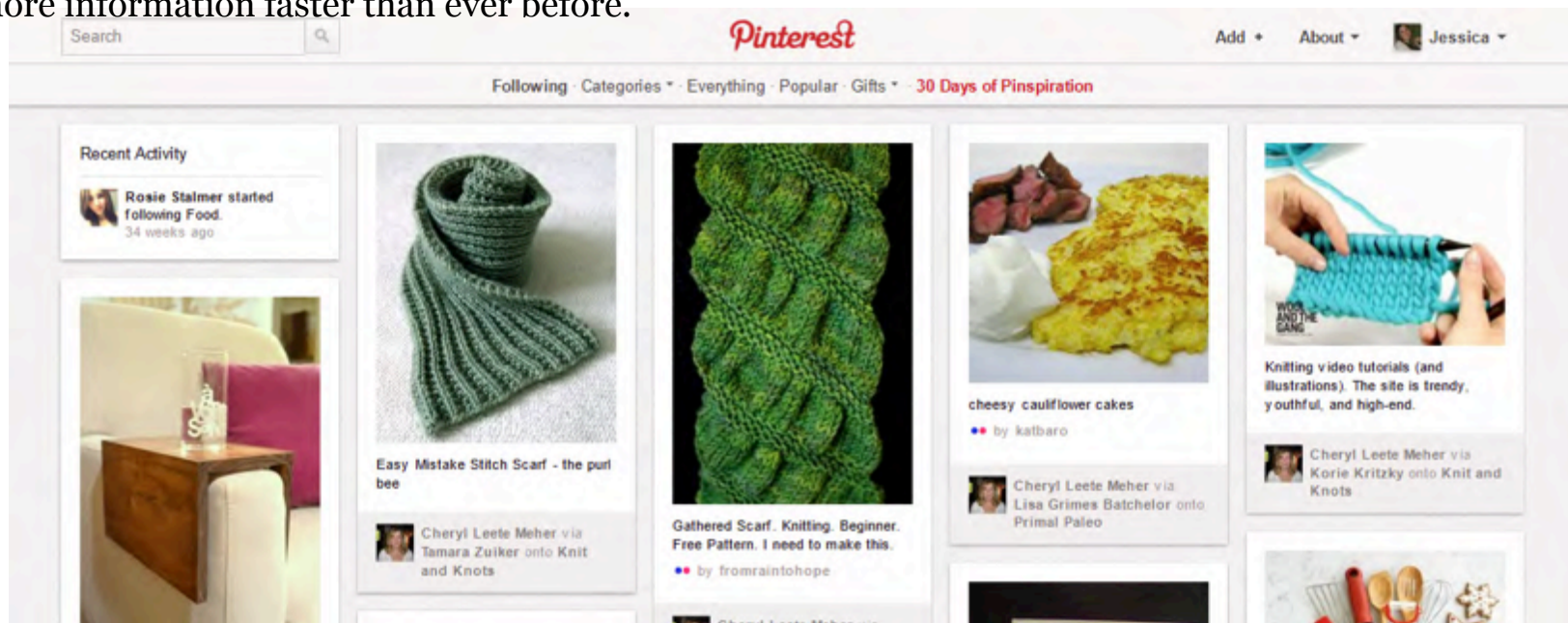
Source: Digital Asset Management

Source: <http://stephanecroisier.jahia.com/top-10-trends-for-the-content-industry-in-201>

# *A Picture is Worth 1000 Words*

Written content is not the only form that works.

With all the attention toward content as the holy grail of marketing, it doesn't mean that written content is the only form that works. Sites like Pinterest and Instagram prove that visual content is really worth 1000 words (or in Instagram's case, \$1 billion). Infographics, photos, picture boards, video, and other forms of rich media will increase over the coming years as humans look to digest more information faster than ever before.



Source: <http://cdn1.hubspot.com/hub/53/2013-Marketing-Trends-01.pdf>

# *Internet of Shared Things*

The sharing economy and internet of things collide to allow a whole new world of asset sharing.



One signal: currently only 4% of consumers own an in-home IOT device, but nearly two-thirds plan to buy one in the next five years (Acquity Group / Accenture, August 2014).

Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)

The internet of Things and the sharing economy collide to allow a whole new world of asset sharing: spontaneous, useful, fun, profitable and more. New connections. New behaviors. New opportunities.

Last year innovators put basic human needs at the center of their connected object initiatives. And there have been some exciting INTERNET OF CARING THINGS innovations, such as Chinese tech giant Baidu's set of smart chopsticks, which can detect the freshness of cooking oil. Now, where next for the Internet of Things?

**Enter the INTERNET OF SHARING THINGS.** As more objects become connected, new ways of deriving value from them will become possible for consumers, shared access being one.

## *Instant Skills*

2015's status-hungry consumers will LOVE services that allow professional-quality output – minus the learning or time barriers.



**"Remember that for every trend there are counter-trends. Alongside INSTANT SKILLS, there will be other (smaller but often more intensely devoted) tribes who will prioritize the journey, rather than the destination."**

In 2015 – fueled by everything from mass affluence to digital narcissism – hundreds of millions of ‘post-status’ consumers will care less about what they have or buy and more about what they can do or create.

Nothing new there. But, with cravings for lifestyle maximisation still as intense as ever, reducing if not eliminating the barriers to the creation of high quality output will be the key to delighting aspirational consumers everywhere in 2015.

Mindful of how Instagram created an army of instant art- photographers, try kicking off a brainstorm by asking how your products and services give **consumers** the INSTANT SKILLS (and corresponding status fix) they will demand in 2015.

Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)



## ***Fast Lining***

Expect perennially time-starved customers to expect accelerated physical service options, especially from brands they extend their loyalty towards.



After a year where mobile-powered, on-demand startups found favor with consumers from London to Lagos, demands around customer service are high.

In 2015, more consumers – accustomed to total control – will expect those brands that they give a lot of money to, and therefore often spend a lot of time with, to provide an optional FAST LANE through on-site wait times.

Of course, multi-tiered service provision is not suitable for all situations and **can upset paying customers** (if handled crassly paid FAST LANES will just draw attention to sub-standard normal service). But winning brands will design FAST-LANING solutions that benefit all customers, even if that's in part by removing the most time-sensitive customers from the 'slow' lanes.

Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)

## ***Corporate – Powered Civic Change***

Progressive brands will initiate, undertake or support meaningful civic transformation in 2015.

Across the globe, consumers know that public authorities are struggling to address many pressing social and economic issues in the face of constrained funding and/or ineffective legacy systems.

In fact, 73% of Millennials don't believe governments can solve today's issues alone, and 83% want businesses to get more involved (MSLGROUP, September 2014).

That's why in 2015, forward-thinking brands will step up to the challenge of real, meaningful change in the civic arena. And not just with 'standard' CSR initiatives, but by identifying governmental shortcomings and – either through partnerships or by working directly with the community – effecting real and lasting positive change.



Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)

## *Currencies of Change*

2015's consumers will embrace device-fueled rewards that incentivize improving behaviors.

The impulse towards self-improvement is deep-rooted, but too often there's a chasm between aspiration and reality. Set that chasm against the fact that 66% of consumers feel that the value exchange between consumers and brands is one-sided. Meanwhile, 70% feel that brands are motivated by a self-centered desire to increase profits rather than by a sincere commitment to their customers (Edelman, October 2014).

In 2015, smart brands will look to flip that picture. Here's one approach, build your inevitable 'what to do with wearables in 2015' discussion around how wearable devices (and smartphones) can enable your customers to earn **CURRENCIES OF CHANGE**: personalised rewards\*, incentives and discounts that help them overcome the inconvenience, cost or just the oh-so-human inertia that so often prevents self-improvement.



Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)

## *Sympathetic Pricing*

Imaginative discounts that relieve lifestyle pain points or offer a helping hand in difficult times.

The sympathetic pricing trend highlights how and why consumers embrace helpful, compassionate discounts and deals that support a shared cause or alleviate personal pain points.

Why? Because when only 30% of global consumers think brands make a sincere commitment towards their customers (Edelman, October 2014), addressing an eternal consumer concern (price) and linking this to a personal or meaningful cause, is a super-powerful way for brands to show they care.



Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)

## ***The Rise of the Robot***

Many consumers are going to have their first face-to-face encounters with Robots in 2015.

Jeff Bezos recently told shareholders that Amazon would have 10,000 Kiva robots by the end of 2014 (from just 1,400 in 2013), and that this could cut fulfillment costs for an average order by 20-40% (BCG, August 2014).

And while lower costs will be central to the robot narrative told in boardrooms during 2015, smart business will be planning not just how robots might decrease their costs, but how they can also increase customer satisfaction, too.

Draw inspiration from the examples below around how to use robots to initiate better customer service: more reliable, faster, richer, more personal, more convenient ... the list goes on.

Remember, this isn't about Man vs. Machine. ROBOLOVE will free your (human) employees from the most repetitive parts of their roles, and free them to focus on the more engaging, valuable tasks (that will further increase their satisfaction, and so ultimately that of your customers too).



Source: [www.trendwatching.com/trends/10-trends-for-2015](http://www.trendwatching.com/trends/10-trends-for-2015)



## ***Starwood CEO runs hotel chain via Ipad and Iphone***

Starwood Hotels & Resorts Worldwide Inc. HOT, +0.74% relocated to a new headquarters in Stamford, Conn., a few years ago. That gave Chief Executive Frits van Paasschen a chance to get rid of some clutter.

The first thing to go? His desktop computer. Van Paasschen, 53 years old, is among a growing number of professionals to enter the post-PC world, ditching the desktop and turning to smartphones and tablets as primary work tools. The former Coors Brewing Co. SAB, -0.64% chief relies on his Apple Inc. AAPL, +0.02% iPhone and iPad for work at home and the office.

As mobile devices get faster and add new capabilities, the chained-to-your-desk personal computer may begin to fade. Research firm Gartner Inc. projected in July that the traditional PC market, both desktops and laptops, was on pace to shrink 6.7% this year, and 5.3% in 2015, based on the number of units shipped. Tablets and smartphones, on the other hand, are expected to grow.



***"I do all of my work via mobile so essentially my office is wherever I go, and I can be much more productive,"  
Starwood CEO Frits van Paasschen.***

Source: <http://www.marketwatch.com/story/starwood-ceo-cuts-ties-to-desk-and-desktop-runs-hotel-chain-via-ipad-and-iphone-2014-11-28s=h>

## ***Stripe\* exec John Collison predicts social networks will become a vehicle for e-commerce***

*\*Stripe is a developer-friendly way to accept payments online and in mobile apps. They process billions of dollars a year for thousands of companies of all sizes.*

Social networks are poised to become even more personal as they become a vehicle for e-commerce.

**"People browsing Twitter or Facebook who see something they like today must click through to a website and plod through five or six steps to make a transaction...More people will do this if you make it easier. Given that people are spending so much time on [social network] platforms, it's natural to make it easy for merchants to sell."**

E-commerce would be a significant expansion of the scope of social-networking businesses. Typically they are funded today by advertising that can lead only indirectly to sales, though Twitter has experimented with a "buy now" button. E-commerce on social networks also could help drive revenue on mobile devices -- an area in which it's been harder to make money from ads.



Source: <http://www.marketwatch.com/story/starwood-ceo-cuts-ties-to-desk-and-desktop-runs-hotel-chain-via-ipad-and-iphone-2014-11-28s=h>

# The Wearable Future

Today's wearable products primarily fill two distinct roles: There are those that feed us information and those that collect information. Your smart watch funnels information

to you; your fitness band gathers information from you. But to succeed, the next generation of wearables needs to emerge as a purveyor of both functions—gathering our personal data, analyzing it in comparison with other data sets, and then providing us with custom recommendations that take into account our personal context and situational data. And all of this needs to happen in real time in order to be considered relevant.

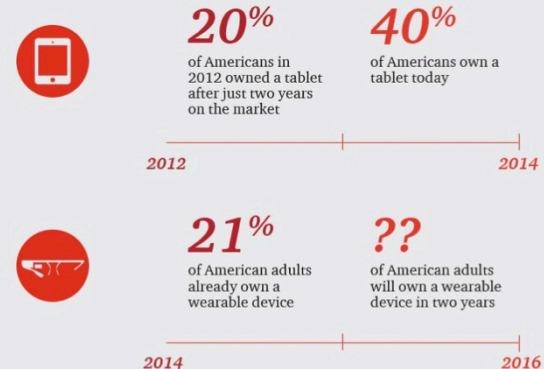
***"With wearable tech, we'll have more efficient everything: less congestion, no waiting... Problems can be avoided."***

Ted Selker, Carnegie Mellon University, Silicon Valley

There is indeed a wearable future ahead, one that can dramatically alter the landscape of society and business as we know it.

## Adoption rate of wearables parallels that of tablets.

The percentage of tablet users jumped from 20% in 2012 to 40% in 2014. Will the wearable market grow at the same pace?



Source: <http://www.pwc.com/us/en/technology/publications/wearable-technology.jhtml>

# The New Supercompetitors

Since the mid-1990s, the source of competitive advantage has been shifting. Leading companies used to be diverse conglomerates that based their competitive strategy on assets, positions, and economies of scale. Today's market leaders, by contrast, are more focused enterprises. They do not follow the traditional portfolio strategies of seeking short-term profitability or growth wherever they can find it. Rather, they recognize that value is created by their distinctive capabilities: what they can do consistently well. Their strategic approach, which is based on a single powerful value proposition backed up by a few mutually reinforcing capabilities, gives them a continuing advantage over their rivals. As they consolidate their efforts around this approach, they fundamentally reshape their industries.

**"A supercompetitor is a company that, by competing successfully with its distinctive capabilities, changes the dynamics of its business environment. A capability, in this context, is the ability to consistently deliver a specified outcome relevant to the business. This takes place through the right combination of processes, tools, knowledge, skills, and organization, generally developed across functional boundaries."**

**Exhibit 1: Supercompetitors and Distinctive Capabilities**

Company	Value Proposition (way to play in the market)	Distinctive Capabilities (how the value proposition is delivered)
Apple	Apple combines the roles of innovator, integrator, and experience provider. Its computers, tablets, and smartphones form the hub of a multimedia digital lifestyle.	<ul style="list-style-type: none"> <li>• <b>Consumer insight</b>, embodying a deep understanding of how people live, work, and play, applied to the innovation and marketing of leading-edge products and services.</li> <li>• <b>Intuitively accessible design</b> of products, software, the retail store experience (including the Genius Bar), and online environments.</li> <li>• <b>Technological integration</b> that ensures that its offerings (and those of third-party developers) work as a seamless whole.</li> </ul>
Danaher	As a "company that builds companies," this science and technology conglomerate adds value through M&A and operational excellence. That enables its member companies to be B2B category leaders, consistently offering high-quality, reliable products and solutions in what otherwise would be a diverse group of professional, medical, industrial, and commercial enterprises.	<ul style="list-style-type: none"> <li>• <b>Acquisition and integration</b> of underperforming companies that will thrive with its business system.</li> <li>• <b>Leadership development</b> that engages people in learning sophisticated quantified management practices.</li> <li>• <b>Intensive continuous improvement</b> (the Danaher Business System) applied across product and company boundaries, driving operational improvement of quality, service, reliability, and cost.</li> </ul>
IKEA	IKEA provides functional and stylish home furnishings at very low prices with a high level of customer engagement. It is both a value player (competing on price) and an experience provider (building emotional attachment).	<ul style="list-style-type: none"> <li>• <b>Deep understanding of how customers live at home</b>, applied to a variety of design, production, and retail practices.</li> <li>• <b>Functional and stylish product design</b> within preset cost and logistics parameters.</li> <li>• <b>Efficient, scalable, and sustainable operations</b> in the supply chain, manufacturing, and retail processes.</li> <li>• <b>Customer-focused retail design</b> that provides inspiration and a distinctive "day out" shopping experience.</li> </ul>

Notes: For the authors' ongoing work on capabilities-driven strategy, see [strategyand.pwc.com/cs](http://strategyand.pwc.com/cs). For a list of "puretone" archetypes, used to identify supercompetitors, see [strategyand.pwc.com/cs/way-to-play](http://strategyand.pwc.com/cs/way-to-play).  
Source: Strategy&PwC's Capable Company Research Project

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