

KNOW WHAT'S NEXT

Strategies for
Transforming Your
Business & Future

by **Daniel Burrus**
CEO of Burrus Research

- ▶ 25 Game-Changing Hard Trends That Will Create Both Disruption and Opportunity on a Global Level
- ▶ Today's CIO: The Chief Innovation Officer
- ▶ Make More Money by Giving Away Your Most Expensive Product
- ▶ Augmented Reality is Just Beginning to Change How We Interact with the Real World
- ▶ Four Ways to Transform the Consumerization of IT into Competitive Advantage
- ▶ Today's CTO: Chief Transformation Officer
- ▶ Do You Have a Mobile First Strategy? You Should!
- ▶ Competitive Advantage Is Increasingly Determined by Your Data
- ▶ 10 Strategies for Increasing Your Creativity
- ▶ Stop Competing—Start Winning by Innovating
- ▶ 12 Certainties That Will Transform Every Career and Create New Ones



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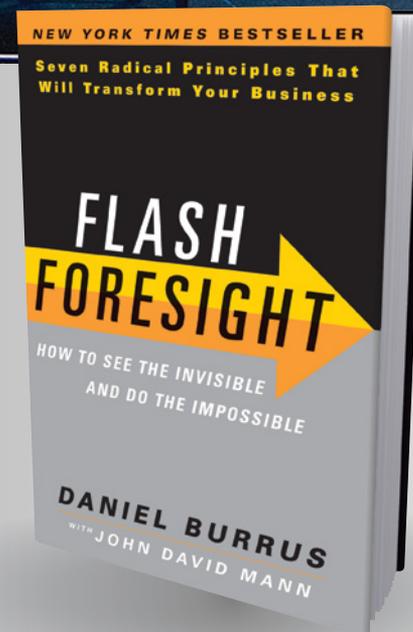
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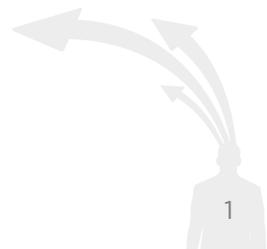
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25 GAME-CHANGING HARD TRENDS

THAT WILL CREATE BOTH DISRUPTION AND OPPORTUNITY ON A GLOBAL LEVEL

by Daniel Burrus

No matter what industry you're in, your company can't survive without technology. From smart phones and tablets to mobile apps and cloud-based technology, there's a plethora of technological advancements not only to keep track of, but also to profit from. To stay competitive, your organization needs to anticipate the most significant technology trends that are shaping your business and changing your customer, and then develop innovative ways to use them to your advantage, both inside and outside of your organization. Remember, if it can be done, it will be done. If you don't use these technologies to create a competitive advantage, someone else will.

Over the next five short years the following game-changing technologies will transform how we sell, market, communicate, collaborate, educate, train, innovate, and much more.

1 BIG DATA GETS BIGGER AND BECOMES A SERVICE. Big Data is a term that describes the technologies and techniques used to capture and utilize the exponentially increasing streams of data with the goal of bringing enterprise-wide visibility and insights to make rapid critical decisions. Companies are learning the hard way that Big Bad Data can get you into trouble fast, so there is a new push to focus on the quality of the data as it is being captured. **High Speed Analytics** using advanced cloud services will increasingly be used as a complement to existing information management systems and programs to tame the massive data explosion. This new level of data integration and analytics will require many new skills and cross-functional buy-in in order to break down the many data and organizational silos that still exist. The rapid

increase in data makes this a fast-growing hard trend that cannot be ignored. **Big Data as-a-Service** (BDaaS) will emerge this year as cloud providers offer midsize and smaller organizations access to much larger streams of relevant data they could not tap into otherwise.

- 2 CLOUD COMPUTING GETS PERSONAL AND ADVANCED CLOUD SERVICES** will be increasingly embraced by business of all sizes, as this represents a major shift in how organizations obtain and maintain software, hardware, and computing capacity. As consumers, we first experienced **public clouds** (think about when you use Google Docs or Apple's iCloud). Then we saw more **private clouds** giving companies the security and limited access they needed, as well as **hybrid clouds** that provided both, giving customers and consumers access to specific areas of a company's cloud. Companies of all sizes are using the cloud to cut costs in IT, human resources, and sales management functions. As individuals increasingly use **personal mobile clouds**, we will see a shift to services and less of a focus on the devices we use to access our services. This shift will also help us address the three limiting factors of mobility: battery life, memory, and processors.
- 3 ON DEMAND SERVICES** will increasingly be offered to companies needing to rapidly deploy new services. **Hardware-as-a-Service** (HaaS) is increasingly joining **Software-as-a-Service** (SaaS), creating what some have called "IT as a service." The rapid growth of **Collaboration-as-a-Service** (CaaS), **Security-as-a-Service** (SaaS), **Networking as-a-Service** (NaaS), and many more are all giving birth to **Everything as-a-Service** (XaaS). All will grow

rapidly for small as well as large companies, with many new players in a multitude of business process categories. These services will help companies cut costs as they provide access to powerful software programs and the latest technology without having the expense of a large IT staff and time-consuming, expensive upgrades. As a result, IT departments in all industries will be increasingly freed to focus on enabling business-process transformation, which will allow organizations to maximize the return on their technology investments.

4 VIRTUALIZATION OF STORAGE, DESKTOPS, APPLICATIONS, AND NETWORKING

will see continued acceptance and growth by both large and small businesses as virtualization security improves. In addition to storage, we will continue to see the virtualization of processing power, allowing mobile devices to access supercomputer capabilities and apply them to processes such as purchasing and logistics, to name a few.

5 CONSUMERIZATION OF IT increases as consumers become the driving source for innovation and technology, which is fueled by rapid advances in processing power, storage, and bandwidth. Smart companies have recognized that this is a hard trend that will continue and have stopped fighting consumerization. Instead, they are turning it into a competitive advantage by consumerizing their applications, such as recommending safe and secure third-party hardware and apps. Encouraging employees to share productivity-enhancing consumer technology will become a wise strategy.

6 WEAR YOUR OWN DEVICE (WYOD) will take off this year as wearable technology goes mainstream, with big players launching smart watches, smart glasses, and more, creating new problems as well as opportunities for organizations of all sizes. Over the past few years, **Bring Your Own Device (BYOD)** caught many IT departments by surprise; it's now time to get in front of this this predictable hard trend and turn it into an advantage.

7 GAMIFICATION OF TRAINING AND EDUCATION will accelerate a fast-moving hard trend of using advanced simulations and skill-based learning systems that are self-diagnostic, interactive, game-like, and competitive, all focused on giving the user an immersive experience thanks to a photo-realistic 3D interface. Some will develop software

using these gaming techniques to work on existing hardware systems such as both old and new versions of Xbox and PlayStation. A social component that includes sharing will drive success.

8 ONLINE LEARNING AND MASSIVE OPEN ONLINE COURSES (MOOC) have been embraced by highly recognized and traditional educational institutions, putting them in a position to challenge all educational systems by making *location* and *tuition* far less of a barrier to receiving the information, training, and knowledge people need to know in order to succeed in a rapidly changing world. This hard trend, combined with **Gamification** systems, will change the face of global education.

9 EBOOKS, ENEWSPAPERS, EMAGAZINES AND INTERACTIVE MULTIMEDIA ETEXTBOOKS are finally passing the tipping point due to the abundance of smart phones and tablets that provide a full-color experience and publishers providing apps that give a better-than-paper experience by including cut, copy, paste, print, and multimedia capabilities. Interactive eTextbooks will finally take off thanks to easy-to-use software such as Apple's iBook Author and other competing tools, freeing new publishers to create compelling and engaging content, and freeing students from a static, expensive, and literally heavy experience.

10 SOCIAL BUSINESS APPLICATIONS take on a new level of urgency as organizations shift from an Information Age "informing" model to a Communication Age "communicating and engaging" model. **Social Software** for business will reach a new level of adoption with applications to enhance relationships, collaboration, networking, social validation, and more. **Social Search** and **Social Analytics** will increasingly be used by marketers and researchers, not to mention Wall Street, to tap into millions of daily tweets and Facebook conversations, providing real-time analysis of many key consumer metrics.

11 SMART PHONES & TABLETS GET SMARTER with the rapid advances in processing power, storage, and bandwidth. Smart phones have already become our primary personal computer, and the **Mobile Web** has become a must-have capability. An **Enterprise Mobility Strategy Becomes Mandatory** for all size organizations as we see mobile data, mobile media, mobile sales, mobile marketing, mobile commerce,

mobile finance, mobile payments, mobile health, and many more explode. The vast majority of mobile phones sold globally will have a browser, making the smart phone our primary computer that is with us 24/7, and signaling a profound shift in global computing. This new level of mobility and connectivity by many millions around the world will allow any size business to transform how it markets, sells, communicates, collaborates, educates, trains, and innovates using mobility.

12 **MOBILE APPS FOR BUSINESS PROCESSES**

such as purchasing, supply chain, logistics, distribution, service, sales, maintenance, and more will grow rapidly. There will be an increasing focus on **Business App Stores** within companies giving users access to personalized information they need on their mobile devices anytime and anywhere.

13 **3D DISPLAYS FOR SMART PHONES AND TABLETS**

will be the breakthrough that will drive wide-scale consumer acceptance of 3D computing. This trend is just starting with hand-held gaming systems and, thanks to the need to visualize ever increasing amounts of rich data, we will see 3D data simulations for the enterprise grow rapidly, starting with the military and then moving into medicine, fashion, architecture, and entertainment, to name a few.

14 AUGMENTED REALITY (AR) APPS will become more common, adding just-in-time information to our physical world. Simply aim your smart phone camera at a crowded street to find the stores that have the exact products you are looking for. Or, when you are in a store, use your phone's camera and AR app to quickly locate the products you need. Put on a pair of Google Glasses and see the information you need about how to service your lawn mower or install a water filter. Every business and school could find a great use for this powerful tool.

15 INTELLIGENT ELECTRONIC AGENTS using natural language voice commands were launched with Apple's Siri, which was rapidly followed by Android, Microsoft, and others all offering what will become a mobile electronic concierge on your smart devices, including your phone, tablet, and television. Soon retailers will have a Siri-like sales assistant, and maintenance workers will have a Siri-like assistant. The possibilities are endless.

16 DIGITAL IDENTITY MANAGEMENT will become increasingly important to both organizations and

individuals as new software allows users to better manage their multiple identities across business and personal networks. **Next Generation Biometrics** integrated into your smart phone, as Apple has recently done, as well as tablets and other devices, will play a key role in both identity management and security. As this hard trend continues, expect to see multiple biometrics, including facial recognition and voice recognition, used based on the level of security you need.

17 MOBILE BANKING AND PAYMENTS using smart phones as an eWallet is already being used in an increasing number of countries and will finally take off on a larger scale thanks to an increasing number of phones with either secure **Mobile Banking Apps**, and/or **Near Field Communications (NFC)** chips. More important, banks and credit card companies are already starting to see non-bank competitors jump in to the mobile payment race, including Google Wallet and Apple's Passbook, to name a few.

18 VISUAL COMMUNICATIONS takes video conferencing to a new level with programs like Skype, FaceTime, and others giving us video communication on phones, tablets, and home televisions. Visual Communications will be integrated with current video conferencing systems, fueling this as a main relationship-building tool for businesses of all sizes. This is the year we will see sales organizations using this to enhance communication and collaboration, gaining new competitive advantages.

19 ENHANCED LOCATION AWARENESS will accelerate the number of business-to-consumer apps for smart phones and tablets that will take geo-social marketing and sales to a new level of creative application, driving rapid growth. In addition, **Geo-Spatial Visualization** combines geographic information systems (GIS) with location-aware data, RFID (radio frequency identification), and other location-aware sensors (including the current location of users from the use of their mobile devices) to create new insights and competitive advantage. Early enterprise applications include logistics and supply chain to name a few.

20 SMART TV USING APPS AND STREAMING ENTERTAINMENT will get a major boost in the marketplace, fueling a major shift in home viewing. Ever wonder how you could have over 500 cable or satellite channels and nothing to watch? You didn't

have apps on your TV allowing you to personalize the experience. In addition, tablets are increasingly becoming a viable replacement for the second and third TV in homes. This is the beginning of a major shift that will take place in living rooms globally.

21 PERSONALIZED MANUFACTURING of finished goods using **3D Printing (Additive Manufacturing)** will grow exponentially. 3D printers build things by depositing material, typically plastic or metal, layer by layer until the final product is finished. Originally designed to print prototypes, they are increasingly being used to print final products such as jewelry, iPhone cases, shoes, car dashboards, parts for jet engines, prosthetic limbs, human jaw bones, and much more. It allows companies to manufacture one-of-a-kind or small-run items quickly, locally, and with far fewer costs. We will begin to see **Manufacturing as-a-Service** (MaaS) begin as designers use CAD software to design a product, digitally send it to 3D Printing company who owns the industrial strength 3D printers, and then they will ship it to the customer.

22 SMART MACHINES, SMART HOMES, SMART CITIES, AND SMART CARS WILL INCREASINGLY BECOME AWARE OF SITUATIONAL CHANGES AND RESPOND as they get more connected and smarter thanks to embedded and networked sensors combined with other technologies such as GPS. **Machine-to-Machine Communications** using chips, micro sensors, and both wired and wireless networks will join networked sensors, creating a rapidly growing **“Internet of Things”** sharing real-time data, performing diagnostics, and making virtual repairs all without human intervention. By 2020, there will be well over a billion machines talking to each other, performing tasks, and making decisions based on predefined guidelines using artificial intelligence. For example, we may not want our cars to drive themselves anytime soon, but we do want them to keep us from having accidents, and they will. A Smart Bridge will communicate to our car that there is ice on the road ahead and slow the car down to a safer speed.

23 ADVANCED AUTOMATION AND ROBOTICS will take a giant leap forward after decades of promise but slow growth thanks to exponential advances in processing power, storage, and bandwidth. Also, thanks to better sensors, artificial intelligence, and Siri-like voice communications, robots will work with humans in new and productive ways.

24 DRONES FOR FIRE, POLICE, AND SEARCH AND RESCUE have already proven to be of high value, and this hard trend will rapidly grow. Agricultural applications for checking crops, fences, and cattle are also important, given the more remote nature of the industry. Expect the U.S. government to limit the use of drones for businesses such as delivery services due to privacy and environmental issues.

25 ENERGY STORAGE will start to become a reality as companies such as Tesla start to sell their smart battery systems to homes and businesses that generate some of their own power using solar, wind, or other systems. In addition, as first generation hybrid vehicles get too old for the marketplace, there will be millions of batteries that will still hold enough of a charge to be repurposed into inexpensive energy storage systems. Looking a little further out, as electric and hybrid cars increase in numbers, they will increasingly be plugged into the smart grid when not in use, providing the first national energy storage system.

SPOT YOUR OWN HARD TRENDS

Are these the only game-changing technology-driven trends to be aware of? Of course not. As we all know from past experience, technology is always evolving, resulting in new trends emerging and new products appearing every day. That's why smart organizations stay ahead of the trends by anticipating them, adapting them to their unique environment before the competition does, and ultimately enabling the organization to profit from them. The more you're able to do that, the sooner your organization will reach the next level of success.



TODAY'S CIO

NEEDS TO BECOME THE CHIEF *INNOVATION* OFFICER

by Daniel Burrus

Enterprise IT as we have known it is rapidly becoming obsolete, and the traditional role of the CIO is increasingly irrelevant. As game-changing technologies transform every business process they also give us the ability to create new products and services that were impossible just a few years ago. Therefore, the CIO's role must shift from protecting and defending the status quo to embracing and extending new innovative capabilities.

The old way was about technology centricity; the new way is about technology-empowered business strategies. The old way was information management; the new way is information intelligence. The old way was IT systems management; the new way is platforms that enable new value chains and integrated ecosystems. The old way was cost management; the new way is driving business transformation and accelerating growth.

Today's world of business is not just changing—it's transforming. What's the difference? Change is doing something in an incrementally different way. Transformation is doing something so drastically different that it becomes a qualitative shift, not just quantitative. The move from wax cylinders, to acetate discs, to LPs, to CDs—these were all change. CDs to MP3s? Suddenly I can carry my entire music library in my shirt pocket, and my digital music player (which also happens to be my smart phone containing GPS, videos, and so much more) has no moving parts, unless you count electrons. That's a transformation.

In the early 1990s, Barnes & Noble superstores *changed* how we shop for books. By the mid-1990s, Amazon was *transforming* how we shop for books, which then transformed how we shop for everything. As we all know, technology made this transformation possible.

Transformation Drivers

Today, technology-driven transformation is happening all around us. A few weeks ago, I was a keynote speaker at a large international technology conference and one of the demonstrations to illustrate game-changing technology involved using an iPad and a high-speed connection to fully control three of the most powerful workstations engineers have access to. All were located in different parts of the country, yet with only the iPad wirelessly streaming to a large screen, thousands of people could see what the engineers were seeing, and the user could control each workstation as if he were there. Doing all of this from an iPad was impossible just a few months ago.

I was in China two months ago consulting with CIOs who were not only using software as a service (SaaS), but several were also in the process of implementing hardware as a service, connectivity as a service, collaboration as a service, and security as a service. And the real excitement was around implementing everything as a service (XaaS). Clearly, IT is quickly becoming an integrated collection of intelligent services that are on demand, on the move, and on any device.

The visual, social, virtual, and mobile transformations that are already happening are creating a new golden era of technology-enabled innovation, and the CIO needs to be leading the charge.

So what has enabled the business environment to go from merely changing to transforming? It's all thanks to three change accelerators: the exponential advances in processing power, bandwidth, and storage. I have been tracking their exponential trajectory for the past thirty years and they have now entered a predictable new phase due to their exponential growth—a phase that will

transform every business process. Think of it this way. Based on the technology-enabled hard trends that are already in place, over the next five short years we will transform how we sell, market, communicate, collaborate, innovate, train, and educate. And if you don't do it, someone else will. In fact, with all the business processes technology is transforming, nothing is transforming more than the role of the CIO.

The New Role

The CIO's traditional role, which is one of managing information, IT systems, and cost management, has itself transformed to creating new competitive advantage, new products, and new services. Traditionally, the CEO was the innovator, but many of today's CEOs, as well as the rest of the C-suite, are unaware of what is technologically possible now or in the future. However, the CIO does have interest, access, and the understanding of that type of information and knowledge, which is why the CIO position needs to transform into the Chief *Innovation Officer*.

Of course, not all CIOs will embrace their new role. As our environment transforms, human nature is to hunker down because we want to find comfort. Many will be far too busy doing what they have always done. Many will spend a lot

of time protecting and defending the status quo. Why? Quite simply, because we're familiar with it. We know how it works. We have an investment in it. It has made a lot of money for us. It got us to where we are today. Therefore, the mindset is that we have to protect and defend it any way we can.

An additional burden the CIO has is the nature of their work itself. They have to maintain the existing system to make sure it's working, that there are no breaches, that it's being upgraded, etc. After all, you have to keep the organization running smoothly during the transforming time. But if that's all you're doing—maintaining what's already there—then your role is tied to the past and your relevance is decreasing every day. So while you do have to maintain your current and past systems, your new most important role is to drive internal and external innovation. And because innovation is increasingly technology-driven, the CIO is in a perfect position to lead this evolutionary revolution.

The fact is that the ability to innovate has never been more possible and has never happened faster. In transformational game changing times such as what we're experiencing now, the key rule is this: If it can be done, it will be done...and if you don't do it, someone else will. Likewise, if you don't change the focus of your CIO role, someone else will.

“Daniel is one of the best speakers we have hired to date. He is energetic and keeps the audience engaged from start to finish. He has spoken to two different C-level audiences for us and both times has gotten rave reviews, which is not easy with this audience level. I would not hesitate to hire him in the future.”

—SANDY PIZZARUSSO, **DIRECTOR, OPEN SOLUTIONS**



MAKE MORE MONEY

BY GIVING AWAY YOUR MOST EXPENSIVE PRODUCT

by Daniel Burrus

Executives at Pratt & Whitney, one of the largest jet engine manufacturers in the world, were facing several major problems that were proving to be difficult to solve. The most expensive option when airlines are ordering a new fleet of jets is the engines. One of their problems was increasing their R&D budget so they could continue to innovate beyond their innovative competitors, including GE and Rolls Royce. But even with innovative features and functions, customers always want a better deal, and cutting that deal keeps margins down.

Another problem was keeping a major source of revenue flowing, and that's the long-term parts and service business. Global competitors have created knock-off parts that can be used in place of official Pratt & Whitney parts and they can be serviced by non-Pratt & Whitney technicians. And since the lifetime of a jet engine is a very long time, the parts and servicing aspect represents more income than the engines themselves.

In my latest book, *Flash Foresight*, one of the seven principles that make invisible opportunities and invisible solutions visible is to take your biggest problem and skip it. So that's what Pratt & Whitney decided to focus on. As a result, they came up with a great idea: Give customers the jet engine for free and have them pay a service fee based on the hours flown, with Pratt & Whitney taking care of all the service and maintenance.

This approach gives Pratt & Whitney a very profitable lifelong annuity. It makes sure that all of the parts are going to be Pratt & Whitney parts and that all the service comes from qualified technicians. This helps keep their quality, reliability, and safety high, and the potential problems low. It also gives them more business, because all the other jet engine manufacturers are still charging for their engines. So it provides a major selling advantage to a customer focused on price. It's an innovative way of solving that problem.

Can this approach of giving away the most expensive product to make more money be used in other industries? Of course. Let's say your company installs and maintains swimming pools. This is one industry that's been hit hard by the recession, as customers are deciding to wait on adding a pool.

However, the profits pool companies make from installing the pool is not nearly as high as the profitability of servicing the pool, especially when it comes to all the chemicals needed to keep the water fresh and swimmable. The problem is that today, people with pools are increasingly buying their chemicals from discount stores, not from the company that installed the pool. And they are doing the pool maintenance themselves, cutting out service income. So why not install the pool for free? That's the factor that is keeping people from adding a swimming pool to an existing home or building it when they buy the home. For many, buying a pool is just too expensive. But if the customer doesn't have to pay for it at all—if you install it for free and then charge people a monthly service fee for having the pool serviced and maintained—then you have a major competitive advantage and a long-term money maker.

If someone wants to cancel the contract, then they have to pay the balance on what the pool would have cost. If the house is sold, either the cost of the pool has to be paid in the closing costs, or the service contract gets transferred to the new owner.

By giving away for free the most expensive part of the sale, the biggest hurdle of installing a swimming pool has been eliminated. In other words, the problem has been skipped.

The biggest problem for Pratt & Whitney and the pool companies was not only skipped, but it was also flipped around, which is another principle in my book—and that is “opposites work better.” So instead of having your most expensive product stay your most expensive, why not do the opposite and make your most expensive product free? That way you can really make some money.

AUGMENTED REALITY IS JUST BEGINNING

TO CHANGE HOW WE INTERACT WITH THE REAL WORLD

by Daniel Burrus

Augmented reality (AR) provides a live view of a physical, real-world environment whose elements are augmented by computer-generated input such as information, sound, video, graphics, or GPS data. AR has been in existence for quite a while. In the 1990s, Boeing used it with head mounted displays to aid in aircraft wiring assembly. The person doing the complex wiring on an aircraft would have a screen in front of them, and overlaid onto that screen would be the data showing where to put the wires, what the right color wire was, what the wire did, etc.

Today, AR isn't just for complex technical tasks. It's something within reach to the masses thanks to various smart phone apps. For example, I got my first AR app for my smart phone in 2010. With it, I can use the app and my phone's camera, aim it at a distant mountain range, and the AR app gives me the names of the mountains overlaid on the image. I touch a button and can get more information about the mountains, including the elevation, natural fauna, etc. How is this possible? The app uses the phone's GPS, digital compass, and motion sensors to detect where I'm pointing.

Now let's take the application of AR a step further—to what we'll be seeing in the near future as more sensors are used in smart phones. Suppose you're walking down a busy shopping district searching for a shoe store that sells high-end Italian men's and women's shoes. You may even have a particular brand in mind. You could point your

phone's camera to get an image of the street ahead of you, and the AR app will overlay the names of each store that sells shoes and provide a list of which brands each store carries. You could then click on an information button to get store hours.

And if the AR app can do this outside the store, it can do it inside as well. Suppose you're in a large warehouse store searching for laundry detergent. Instead of wandering the aisles, you could tell your phone what you're looking for and then pan around the store with the camera and AR app activated. As you move over various sections of the store, you'd see a little arrow appear showing you exactly where the laundry detergent is.

Adding a social element to AR is another interesting development. For example, AR is being used by a start-up company in San Francisco called CrowdOptic that can recognize which direction a crowd of people have their phones pointing. They can then invite others using that app to see what all those phones are seeing. For example, at a NASCAR race, fans who can't see the entire track could point their phones at a distant turn and get photos and videos gathered by others who are closer to the action.

AR is a game changer for business, for sports, and for social media, just to name a few. Of course, all this is just the beginning. Over the next few years, AR will change not only the way you use your phone, but also the way you see and interact with the world.



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FOUR WAYS TO TRANSFORM

THE CONSUMERIZATION OF IT INTO COMPETITIVE ADVANTAGE

by Daniel Burrus

It used to be that any change in an organization would flow from the top down—from the executives to the front line workers. But today, especially when it comes to the consumerization of IT, the change process is quite different. What we have been seeing in the past few years is a “bottom-up” approach, where the end user (the employee) is pressuring the C-suite leaders to change. This new paradigm is extremely disruptive for the leaders. Not only is the change coming in the opposite direction from what the executives are used to, but it’s also coming so fast that many leaders are unsure what to do.

What’s really behind this consumerization of IT trend? In a word...mobility. Because of advances in bandwidth, storage, and processing power, the tools an average consumer can purchase are extremely powerful. Even as recent as five years ago, technology tools for the consumer weren’t that impressive and didn’t have much business application. As such, leaders simply had to make mandates like “no video games on your work computer” or “don’t bring your personal computer or outside CD-ROMs to work,” and the problem was solved (or so they thought).

But that was then, and this is now. Today the average person can purchase, understand, and easily implement an array of new technologies designed to make work and life easier. Consider this. A recent survey found that...

- 45 percent of employees felt that their personal consumer devices and software are more useful than the tools and applications provided by their IT departments.
- 43 percent of employees felt comfortable and capable in making their own purchasing decisions to apply technology tools for work.
- 27 percent were willing to pay for their own devices and applications to use at work.

Now here’s what’s really eye-opening: Only 27 percent of executives have begun to address the consumerization issue in a structured way. Now it’s easier to see why the consumerization of IT trend is so disruptive.

Realize that this trend is not just in the United States; it’s global. In fact, the leaders in the consumerization trend are China and India, followed by Brazil and Mexico. In other words, it’s spreading and growing rapidly. So if you’re one of the 73 percent of executives who has not addressed this trend yet, you need to do so now.

The Big Boost

What really gave the consumerization of IT a big push was Apple with their game-changing iPhone and iPad. Apple took the concept of a smartphone and raised it to a new level. Additionally, it launched the mobile apps trend, which also started as a consumer oriented offering rather than a business one. Now, with an iPhone or iPad, consumers could have a true multimedia computer in their hand. Of course, competitors quickly came and launched even more consumer oriented powerful tools, making the trend grow quickly.

Armed with these new tools and the widespread deployment of 3G and 4G wireless, improvements in WiFi, and access to the cloud, employees quickly realized, “My personal technology is better than what my employer gives me to use. By using the device I want to use, I can be more productive. And I can use amazingly powerful software tools in the form of apps that are inexpensive or free. They’re easy to install, powerful, and focused. If I don’t like one, I can easily uninstall it with the push of a button.” From the employee’s perspective, they know their job and what they need to do better than anyone in IT, so why

shouldn't they decide what tools they use and how they use them? From an IT perspective, it's important to keep in mind that *perception is reality* to employees.

The "bring your own device" (BYOD) trend is continuing to grow fast! In a Unisys-sponsored research study of 2,660 information workers, researchers found that employees are bringing personal devices into the enterprise at an increasing rate. In fact, 40 percent of the devices they use to access business applications are personally owned—that's a 10 percentage point increase from the previous survey year.

Additionally, the survey concurred with my statement that the increasing penetration of consumer technology in the enterprise is being driven by a desire for mobility. According to the findings, 65 percent of employees surveyed said that mobile devices such as laptops, smart phones, and tablets were their most critical devices for doing work in 2012, and even more so in 2013.

Despite this growing awareness, however, the research found that IT departments are falling further behind in the consumerization race. For example, employees report using their mobile devices for business purposes at twice the rate that IT executives believe to be the case (69 percent usage reported by employees versus 34 percent usage reported by IT executives). In addition, 44 percent of employees report using social media for customer communication, while only 28 percent of employers believe that to be the case.

Stop Reacting and Start Anticipating

Unfortunately, most IT departments tend to be reactionary. They didn't anticipate the consumerization of IT trend even though it was relatively easy to see. And when it hit in full force, they became crisis managers rather than opportunity managers. They viewed the consumerization of IT as a threat and tried to protect and defend the company and the network, never realizing that the consumerization of IT is a Hard Trend. It's not here today and gone tomorrow;

it's here today and accelerating tomorrow. Why? Because the trifecta of bandwidth, storage, and processing power is continuing to march on, giving us even more powerful tools in the consumer market in an inexpensive way...and very quickly.

If you're ready to stop reacting and start seeing the opportunity staring at you right now, here are some steps you can take to turn the consumerization of IT trend into your company's competitive advantage.

- 1 START A DIALOGUE.** The benefits of the consumerization of IT are clear: It provides greater business agility, faster problem solving and innovation, increased collaboration, increased communication, higher productivity, and overall improved employee satisfaction because people are using the devices they want to use. Additionally, your Gen-Y and Gen-X employees are very techno-savvy and need to use what they consider to be the newest devices so they can feel empowered. All employees like to feel empowered, and the consumerization of IT is empowering the worker. Therefore, survey the people in your own company and find out what's working and what's not working for them technologically. Learn what technologies they are using and trying, and then ask them such things as, "How are you using the device or technology when you travel?" "What do you wish you had that we don't currently provide?" and "What tools do you think are best?" In other words, start the dialogue. Engage your employees so they see IT as a strategic resource rather than a deterrent to technological innovation.
- 2 SPUR INNOVATION WITH BYOD.** You and I both know that no matter what policies you enact to keep outside technologies away from the enterprise, the employees are going to buy them and bring them into work anyway. So instead of defaulting to "no" when something new comes out, encourage your people to bring their new device to IT to look at it, track it, and provide suggestions for how the company can use it. After all, the next new device may have a huge business use. And if your people are using it, you want



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to know how they're using it so you can replicate their successes with the technology company-wide. So rather than have employees hide their technology tools from you (which makes IT out to be the "bad guys"), strive to co-create the future with the staff.

- 3 Create a list of recommendations to help employees make an informed decision.** After your IT staff analyzes the potential tools, create a list of the ones you recommend employees use, even though the company does not supply that particular item. In other words, if someone wants to get a tablet, an ultra-light laptop, a smart phone, or even an app, they can go to IT and see which ones IT recommends and why. This approach puts you in collaboration with the employees and elevates IT to the status of a trusted advisor.
- 4 Help your employees stay safe.** Implement tools to help secure consumer technology, and create secure doorways of entry for your staff. Again, your employees are going to find their own ways around

any security features you enact on the network. So why not create a path, a "doorway," to help them get in and work in a secure and productive way. A few years ago, you had to build your own, today there are a number of great options for any size organization.

Opportunity Awaits

The consumerization of IT and BYOD strategies brings change into the organization from a different direction. But it doesn't have to be that way. You can become more innovative and opportunity focused when you lead the change by embracing the trend rather than fighting it. It's time to stop enforcing the status quo as so many are still doing, and instead look at the new consumer-focused devices and tools from a business perspective. When you anticipate what your employees want and need to do their jobs better and then devise smart and flexible policies for managing and securing those technologies, you'll find that the consumerization of IT can unlock new opportunities and revenue streams for your organization.

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Daniel Burrus

Best Selling Author, Innovation Expert, Entrepreneur, Strategic Advisor & Keynote Speaker

Are you the Disruptor or the Disrupted?

Thanks to advances in processing power, storage, and bandwidth, our devices are getting exponentially smarter each year. For example, a data processing task that would have taken two days to complete in 2010 now takes just 10 minutes. That's powerful! As a result, our smart phones and tablets are getting smarter fast.

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TODAY'S CTO

NEEDS TO BECOME THE CHIEF TRANSFORMATION OFFICER

by Daniel Burrus

We all know that if you put a frog in water and slowly heat it to the boiling point, the frog will stay put and die. But if you throw the frog into already boiling water, it will quickly jump out. Today's IT leaders have known about the exponential growth of processing power, storage, and bandwidth, but like the frog, they didn't notice the boiling point approaching because the change has happened over so many decades. These three change accelerators are what lie behind today's avalanche of business transformation, and they are directly affecting the roles of CIO and CTO.

In a recent article, I suggested that the role of the CIO needs to shift from Chief Information Officer to a Chief Innovation Officer, due to the massive, rapid, and multiple technology-driven transformations that are occurring today. And, just as the CIO's role needs to change, so too does the CTO's—from Chief Technology Officer to Chief Transformation Officer. This fundamental shift is necessary to elevate the position's contribution and relevance within the organization.

While the CIO has historically been focused on the technology needed to run the company, the CTO has been responsible for the technology integral to products being sold to customers or clients. However, over the next five years every business process is going to undergo a major transformation. For example, IBM executives recently shared with me that over 40 percent of their profits are now coming from products and services that were impossible just a few short years ago. That reflects the transformative nature of business today as well as the speed of the transformation. And this is just the beginning and someone has to lead that transformation.

CTOs must embrace the role of Chief Transformation Officer. No longer will this position's relevance be tied to how well he or she can oversee the development of technology. In the near future, the CTO will need to oversee the transformation of every business process, including how you sell, market, communicate, collaborate and innovate. That means the CTO's role will shift from aligning technology to applying technology to accelerate business strategy, from communicating technology plans to the executive team to integrating a transformation imperative and applying the process to all executive-level planning. That's a huge shift.

This also means that the CTO and CIO need to collaborate more closely. Because so much of the CIO's traditional responsibilities are now virtualized with nearly everything as a service (XaaS), the CIO is free to focus on innovation. Game-changing product and service innovations can be more easily identified when transformation is a business imperative. With the CTO focused on identifying how to use technology to transform processes, products, and services, the CIO can then use these insights to implement innovation.

For example, the CTO of Amazon, with a role focused on identifying transformational tools, would see that 3D printing (additive manufacturing) has recently reached a turning point and is now being used to manufacture a wide range of products, from for jet engine parts to human jaw bones. This turning point has already opened the door to a rapid revolution in customized and personalized manufacturing for companies of any size. The CTO would make sure the CIO sees that a transformative turning point has been reached, and working together, with the CIO's new focus on innovation, they could craft a major opportunity by offering on-demand 3D printing services for any individual or company.

Manufacturers of customized and personalized products would no longer have to own any manufacturing equipment thanks to Amazon. Instead, they would focus on designing a product and sending the CAD design to Amazon, who would manufacture it with one of their industrial strength 3D printers best suited for the design and then ship it directly to the customer.

The Amazon strategy I described above has not happened yet. But we all know that Amazon's cloud services have

proven to be both profitable and disruptive. It's not hard to see how this new cloud based manufacturing service would take Amazon to a whole new level.

It's up to the Chief Transformation Officer to ensure that your company is the one that not only survives the inevitable transformation, but also thrives after it. Only then can you experience transformation not as a disruption, but as an ongoing opportunity that leads to lasting success.



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DO YOU HAVE A MOBILE FIRST STRATEGY?

YOU SHOULD!

by Daniel Burrus

We are currently in the midst of one of the biggest software and hardware revolutions we've ever witnessed. With processing power, storage, and bandwidth increasing exponentially, smart phones and smart tablets are becoming our main computers. As a result, customers, employees, and other stakeholders are bringing and using their smart phones and tablets everywhere, and that definitely impacts how they see your company online and how they interact with you on a daily basis.

Unfortunately, many leaders continue to view smart phones, tablets, and the consumerization of IT as a threat. In reality, they are major, game-changing opportunities. Never before have companies been able to interact with customers anywhere at any time and start a meaningful dialog with them. Rather than throw a bunch of advertising messages out and hope your customers not only see them but also act on them, you now have the opportunity, via the mobile devices, to engage your customers directly with the precise information they need to make a buying decision. That alone is a big reason to develop a comprehensive mobile strategy right away. So let's look at a few components that would help all organizations embrace a broader view of what a mobility strategy really looks like.

1 MAKE YOUR WEBSITE ADAPTIVE. You probably have a mobile website and a main website for your organization. But chances are they don't look good on all the various size smart phone and tablet screens because they aren't adaptive. Therefore, make your site adaptive so it automatically adjusts to the size screen the user has. For an example, see <http://calebogden.com/>, <http://owltastic.com/>, <http://thinkvitamin.com/>, or www.burrus.com and give them a try. View them on your laptop first. Shrink the

browser window and notice how the site changes to fit any size screen. Then try them on your tablet or smart phone. Regardless of screen size, they will all look and work great.

- 2 DESIGN YOUR WEBSITE FOR MOBILE FIRST.** People are making decisions using their phones and tablets more so than on their laptops. We are now at a point where more tablets and smart phones are being sold than PCs. And last year, the majority of phones sold globally were smart phones. This trend will only continue to grow, so think mobile first when you redo your website, not desktop or laptop.
- 3 RETHINK HOW PEOPLE PAY.** Credit cards are easy, but e-wallets are easier. Currently, Google has a mobile wallet that works with Citi MasterCard, and in the future it will work with other credit cards. It is secure and enables you to make payments with your smart phone. In the near future, as every financial service firm gets into mobile payments, we will move very quickly from a leather wallet to a smart phone wallet. One example of an enabling technology is NFC, near-field communications chips, which are being built into smart phones as you read this article. They allow for secure and easy payment, so be ready for it. Not ready for e-wallets? How about payments using smart phones and tablets by adding a Square or similar system. Starbucks and others are using this already with great success.
- 4 LOOK WHERE TECHNOLOGY IS GOING,** not where it's been. Apple recently introduced Siri, which is a natural language technology that allows you to ask a question in plain language and Siri answers in a human-like voice. The power of Siri is in the cloud, and other mobile platforms have already come up

with their own versions of this early-stage ultra intelligent-agent. The time for an organization-specific or retail-specific version of Siri is ripe. Think of it like a mobile concierge for your company. Yes, the technology is there. It just hasn't been applied in this manner yet.

5 MAKE IT EASY TO SHOP WITH YOU. Many stores are so large these days that it's difficult for shoppers to find things. And to keep costs under control, stores keep staff lean. But when customers can't find what they're looking for and can't find a salesperson to help them, they leave the store frustrated. Imagine how many more sales you'd make if you offered consumers an app that enabled them to find exactly what they wanted. Rather than work off of GPS, the location feature would work off of wireless local-navigation in the store so consumers can see the store layout and where the salespeople are in real time. Then they simply type in or ask, "Where are the digital cameras (or ladies jogging clothes or gluten-free potato chips or anything)?" and the app or Siri-like assistant tells the consumer exactly where to go in the store. But this isn't just for retail. Service provider firms could also have a custom app that makes their clients' lives easier. For example, if you are a financial planning firm, you could give each client an app that lets them manage their portfolio and get daily updates and alerts from you, to name just a few.

6 MAKE IT EASY TO WORK FOR YOU TOO: Apps aren't just for consumers; they can make your staff more productive too. Rather than have customer service reps tied to a computer at a counter, you can give them a tablet with key apps that enable them to help customers on the floor in real time. With these apps they can see if products are in stock or in the

warehouse, give product arrival dates, process simple exchanges, and do almost everything that's usually done at the customer service counter without the long lines.

7 LET YOUR APPS SELL FOR YOU: All stores stock what they think is the best in class for their customers and market. But what if what you carry isn't the brand the customer wants? With your app, the customer can type in a specific product's brand name, and the app will show not only the equivalents that you carry, but also why the brands you stock are better than what the customer requested. Maybe there's an additive in the other product or it's been proven not to last as long. Now you're helping customers make better and more informed buying decisions.

THE FUTURE OF MOBILITY

Make no mistake: It's a hard trend (a certainty) that tablets and smart phones are becoming people's main computer. Therefore, you want to create a mobile strategy that uses the power of these devices to your benefit. Are all these suggestions for a mobile strategy possible? Most definitely! Remember, if it can be, it will be. The question is, *who will be first?*

DANIEL
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COMPETITIVE ADVANTAGE

IS INCREASINGLY DETERMINED BY YOUR DATA

by Daniel Burrus

We're starting to see that any company's competitive advantage is increasingly determined by the quality of the data they have and how they're using that data to make real-time decisions. This applies to not only humans making the decisions, but also to how they're allowing the machines they have in their enterprise to make decisions. In other words, they're deciding what decisions they want the machines to make versus what decisions they want humans to make, and they're increasingly making those decisions based on actionable, high-quality, real-time big data.

Interestingly, what we call big data today is going to look puny two to three years from now, because the amount of data being created is growing exponentially. For example, governments, organizations, corporations, educational institutions, and the military are in the process of installing connected sensors to just about everything, from the concrete in streets, bridges, highways, and buildings, to cars, boats, and everyday products, just to name a few. In addition, we are connecting machines to machines on a massive, global scale, allowing them to carry out functions and make repairs all without human intervention. All of this is creating what could be called the Internet of Things. And, all of this means much, much more data!

Going forward, the type, quality, and relevance of the data will become far more important than the quantity of data, so being very good at managing these will create new ways to differentiate as well as find innovative approaches to creating and maintaining competitive advantage.

So with all of this data coming in, it's clear that a competitive advantage is going to be created by your use of data and by your ability to make sure you're getting good data. After all, bad data yields bad decisions. You want to be able to draw the right conclusions from your data, as that's what provides new opportunities, better solutions to problems, and new competitive advantage.

At this point you need to ask yourself a few questions, namely:

- ▶ **What kind of data do I need to get that will give me insights into the causes of problems and new opportunities?**
- ▶ **What sensors could we install right now, wireless or wired, that would give us more real-time information so that we could, as humans, translate that data into actionable knowledge and wisdom in order to gain a competitive advantage?**
- ▶ **What machines might I want to connect, wirelessly or wired, so they can talk to each other and operate at a more intelligent level?**
- ▶ **What decisions do I want my machines to make instantaneously in order for everything to run more efficiently and effectively—so the machines can solve problems before they happen and even before a human would notice it?**

If you want to solve seemingly impossible problems and find new competitive advantages, you have to look at the type and quality of the data you're generating and how you're using it. When your data can empower your people and your machines to make better decisions faster, you'll have an increased competitive advantage.



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10

STRATEGIES

FOR INCREASING YOUR CREATIVITY

by Daniel Burrus

Are you a creative person? Most people like to think they are. But the fact is that we can all benefit from a boost to our creative juices.

Those who are truly creative don't copy what others do; instead, they might use innovative ideas from others as a springboard to come up with a unique application, product, or service for themselves. They tend to distance themselves from the competition rather than compete with them. If they see another company or person copying what they do, they create something new and better. In other words, they are able to leverage their creativity and their innovative capabilities to attain long-term success.

So would you like to be more creative than you are right now? Here are 10 strategies for increasing your level of creativity.

- 1 Truly creative people have developed their ability to observe and to use all of their senses, which can get dull over time. Take time to “sharpen the blade” and take everything in.
- 2 Innovation is based on knowledge. Therefore, you need to continually expand your knowledge base. Read things you don't normally read.
- 3 Your perceptions may limit your reasoning. Be careful about how you're perceiving things. In other words, defer judgment.
- 4 Practice guided imagery so you can “see” a concept come to life.
- 5 Let your ideas “incubate” by taking a break from them. For example, when I'm working on a big business project, one of the best things I can do to take a break

from it is play my guitar or the flute for a few minutes, or take a ride on my motorcycle. It shifts my brain into another place and helps me be more innovative and creative.

- 6 Experience as much as you can. Exposure puts more ideas into your subconscious. Actively seek out new experiences to broaden your experience portfolio.
- 7 Treat patterns as part of the problem. Recognizing a new pattern is very useful, but be careful not to become part of it.
- 8 Redefine the problem completely. One of the lines I've been sharing for the past few decades is: “Your problem is not the problem; there is another problem. When you define the real problem, you can solve it and move on.” After all, if you had correctly defined the real problem, you would have solved it long ago because all problems have solutions.
- 9 Look where others aren't looking to see what others aren't seeing.
- 10 Come up with ideas at the beginning of the innovation process ... and then stop. Many times we come up with several ideas and start innovating, and then we come up with more ideas and never get any single idea done. At some point you have to turn off the idea generation part of the process and really work on the innovation and execution parts in order to bring a project to life.

No matter what your expertise or what industry you're in, you can become a lot more creative in what you do. In fact, when you apply creativity to every aspect of your business, you are able to stay ahead of a changing marketplace and the competition, and attain long-term success.



Follow Daniel on Twitter at www.twitter.com/DanielBurrus, where Daniel shares guiding principles and strategic insight on a daily basis.

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“Thank you for an awesome presentation at SingTel i.illuminate, our inaugural Business Innovation Forum in Hong Kong. Your opening keynote presentation was timely and able to help more than 800 business leaders gear up for the future. I have heard many positive remarks on your incredible knowledge and your ability to motivate and inspire. It’s amazing to learn how you can use Hard Trends to make invisible solutions visible!”

—NICHOLAS LIM, **SINGTEL**

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BUSINESS

STOP COMPETING START WINNING BY INNOVATING

by Daniel Burrus

Contrary to popular belief, competing with other individuals or companies is counterproductive. From a business perspective, focusing on your competition instead of focusing on continuous innovation by creating new, must-have products and services will over time result in you looking and acting more like your competitors, not to mention fighting an escalating battle over shrinking margins. Even when you're in the lead, eventually someone else will copy what you are doing, which will make you compete with them even more. Unfortunately, the majority of companies are so focused on competing that they're locked in a losing battle – a vicious cycle of one-upmanship.

A better idea is to seek advantage. That means using Hard Trends (trends that will happen) to redefine and reinvent your company, your products, or your services so you can jump ahead and stay ahead. It's about moving beyond your competition by nurturing, promoting, and enhancing innovation and original thinking—both individually and within your organization. In other words, you want to become an innovator, not an imitator, and go beyond the competitors.

What's the difference between competitors and innovators? No, competitors is not a misprint. It's an original term for those who reflexively compete rather than seek to gain a strategic advantage through innovation. Here are some of the distinctions between competitors and innovators:

COMPETERS	INNOVATORS
Copy what others are doing	Look for better ways of thinking and acting
Get locked into set patterns	Cultivate a creative mindset, create new patterns
Believe the future will take care of itself if they take care of the present	Focus on their future goals and building a path to get there
See scientific and technological developments as threats to their status quo	Focus on how they can apply new technologies to open up new opportunities
Collect and swim around massive amounts of raw data	Look for ways to translate raw data into actionable knowledge and insights
React to trends	Use Hard Trends (trends that will happen) to predict and even create new trends and profit from them
Have a short-range view of planning and consider it a necessary evil	Take a strategic view of planning and know the value of building change into the plan
Dread change and resist it as long as they can	Seek to remain adaptive and to use change to their advantage
Avoid anything that would cast them as being significantly different from their competitors	Maximize their differential advantage

COMPETERS	INNOVATORS
Try to control and direct their people	Empower their people for positive action
Complain about how unproductive their people are	Realize that people are their most upgradable resource and look for ways to help them be more productive and innovative
Think about how they can use high-technology to cut their workforces and save money	Integrate strategy, technology, and people to create new products and services
Believe in standardized operations that force people to act in predictable ways	Encourage creativity in their people to rapidly solve problems and grow their business
Are annoyed by problems and see them as enemies to progress	Go looking for problems they can turn into opportunities

In short, competitors are usually so caught up in meeting their day-to-day challenges and fighting the competition that they fail to see and act on new game-changing opportunities, while innovators see the present only as a stepping-stone they can use to create a bigger and better future.

Which would you rather be?

How to Innovate

If you're ready to stop being a competitor and start being an innovator, here are a few tips that will help.

Be Future-Oriented

Since you'll be spending the rest of your life in the future, doesn't it make sense to think about it and plan it rather than just let it happen? Identify the Hard Trends that will impact your business and industry and then list the opportunities that create the new advantage each represents. Identify the soft trends that might happen and list how you could change them into opportunities to gain new advantage. As you plan your future innovative path, ask yourself these five questions based on the Hard Trends and opportunities you have identified:

- 1 What path are my competitors on right now?
- 2 Where are the successful companies most likely to evolve to?
- 3 What's the logical progression of the industry?
- 4 How are my customers changing?
- 5 What are my customers greatest unmet needs both now and in the near future?

Your answers will enable you to stop competing and start creating by thinking in terms of innovation. They'll help you open your eyes to the future possibilities so you can stay ahead of the curve rather than simply keep up.

Remember: If you want real advantage and innovation, you have to think beyond what you're doing now and plan your future wisely.

Do What the Masses Don't Do

Most businesses copy successful competitors and then wonder why they aren't further ahead. For example, chances are that in your business you use a word processing program, and if you're like the majority of people, you use Microsoft Word. Did you know that there are over four thousand features in Microsoft Word? How many of those four thousand features do you use on a regular basis? Probably less than ten. How many did you pay for? All four-thousand! Do you think your competitors are using Word the same way you do? Most likely, yes.

Taking it a step further, when a new version of Word comes out, your competitors purchase it, just like you. They even use the same features in the new Word program as they did in the old version—again, just like you. As you might guess, you could easily substitute Word for all of the different software programs you use. Few people are going beyond what everyone else does in a way that produces any real advantage or leads to innovation.

The key is to dedicate yourself to finding advantage and using it to innovate. Using the word processing program example, ask yourself, "What are the features in Word that my competitors are not using that can give me an edge?" In other words, don't just copy what the competition does; rather, look at what they're doing and then do what they don't do.

Change Your Customer

If you truly can't find ways to innovate, then ask yourself if there's a better customer you can go after—one that's better and different than what everyone else is going after. Can you innovate by customizing your product or service for the better customer so that the better customer will want what you offer and not what the competitor

offers? This is the process that gives you the advantage, and it all boils down to simply being more innovative on an ongoing basis.

Shaping Your Future

One thing is certain about the future: competition will intensify. So why play that game when you can own the game? Standing out by innovating again and again! Granted, keeping track of what your competitors are doing

is a good idea; however, letting what they're doing dictate your next move is not the best strategy. Instead, focusing on innovation based on the direction Hard Trends are taking all of us in, is the way to go for long-term profits. In fact, when you become an innovator rather than a competitor, you'll be the company that is taking the industry into the future—the company all the others strive to imitate. That's when you'll truly be a leader and have the upper hand and the innovative outlook that enables you to turn tomorrow's opportunities into today's profits.



12 CERTAINITIES THAT WILL TRANSFORM

EVERY CAREER AND CREATE NEW ONES

by Daniel Burrus

As technology continues to impact our lives, workers in today's ever-changing labor market need to be prepared with skills to adapt and succeed in the workplace.

The problem is, we live in an uncertain world, and because of the high levels of uncertainty we all face, people of all ages and career levels are finding it difficult to know what new skills to learn, what courses to take, and what degrees to get that will provide them with the most opportunity going forward. Uncertainty keeps us stuck in the present.

Certainty, on the other hand, gives us the confidence to make a decision, to move forward, and to invest time and money to learn new things. Over the past thirty years, I have developed and proven the power of the science of certainty. The science of certainty involves a scientific method of separating Hard Trends—trends that *will* happen – from Soft Trends—trends that *might* happen. This method is currently being used by many Fortune 500 companies including IBM, Deloitte, and Pratt & Whitney to name a few, to provide an accurate roadmap of the opportunities that are ahead.

That's why I'm launching a list of 12 Certainties that will transform every career, and create new ones. By providing an accurate roadmap for anyone who wishes to increase their personal career relevancy in a world of transformative change, you can now make career and education decisions with confidence. The list highlights technologies that are now, and will continue to transform present and future careers. As you read through the list, ask yourself how each one will play a key role in your industry and your personal career path.

- 1 MOBILE HARDWARE, SOFTWARE AND SERVICES** will continue to rapidly evolve, creating many new careers, as all phones become smartphones and our primary computer and tablets continue to evolve as our laptop replacement. This new level of mobility will allow any size business to transform how they market, sell, communicate, collaborate, educate, train, and innovate.
- 2 REMOTE VISUAL COMMUNICATIONS** will become a primary relationship-building tool for businesses of all sizes as employees use smartphones, tablets, and laptops, in combination with current video conferencing systems, to communicate at new levels with customers, partners, and employees.

3 **SOCIAL BUSINESS ENTERPRISE MANAGEMENT**

will grow rapidly as organizations shift from an Information Age “informing” model to a Communication Age “communicating and engaging” model. New careers will emerge as Social Software for business rapidly grows with applications to enhance relationships, collaboration, networking, social validation, and more. Social Search will increasingly shape careers as marketers, researchers and those on Wall Street create applications and services to tap into millions of daily tweets and Facebook conversations, providing real-time analysis of many key consumer metrics.

4 **CYBER SECURITY AND FORENSICS** careers will grow rapidly as we become increasingly connected and dependent on computer systems and machines using intelligent sensors connected to just about everything. Careers in data and information forensics will grow rapidly as the need to solve cyber crimes increases.

5 **ADDITIVE MANUFACTURING (3D PRINTING)** will create many new careers in manufacturing as this revolutionary technology allows any size company to manufacture quickly, locally and with far fewer costs. Additive manufacturing builds things by depositing material, typically plastic or metal, layer by layer until the final product is finished. Examples of final products today include jewelry, iPhone cases, shoes, car dashboards, parts for jet engines, prosthetic limbs and much more.

6 **GAMIFICATION OF EDUCATION** will create many new careers as corporations and educational institutions at all levels accelerate learning by using advanced simulations and skill-based learning systems that are self-diagnostic, interactive, game-like, and competitive, all focused on giving the user an immersive experience thanks to a photo-realistic 3D interface.

7 **CLOUD SERVICES AND VIRTUALIZATION** will be increasingly embraced by businesses of all sizes, as this represents a major shift in how organizations obtain and maintain software, hardware, and computing capacity. IT is rapidly becoming an on-demand service that is rapidly transforming all business processes resulting in a rapid evolution of current careers as well as creating new careers in every functional area.

8 **BIG DATA AND REAL-TIME ANALYTICS** describe the technologies and techniques used to capture and utilize the exponentially increasing

streams of data with the goal of bringing enterprise-wide visibility and insights to make rapid critical decisions. This new level of data integration and analytics will require many new skills and cross-functional training in order to take advantage of new opportunities as well as breakdown the many data and organizational silos that still exist.

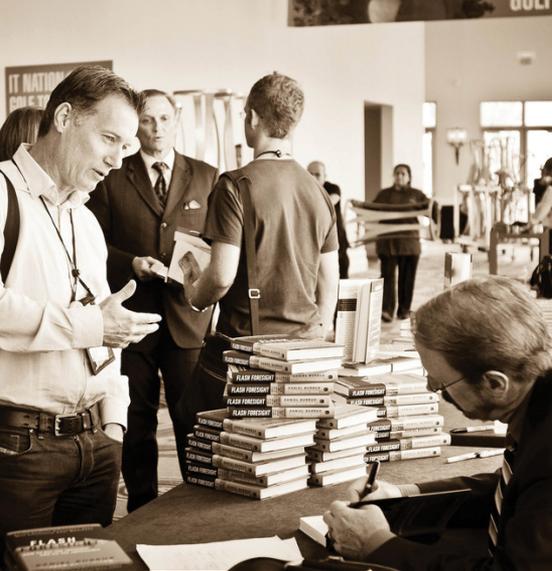
9 **INTELLIGENT EPERSONAL ASSISTANTS** using natural language voice commands was launched with Apple’s Siri, which was rapidly followed by Google, Microsoft, and others all offering what will become a mobile electronic concierge on your phone, tablet, and television. The technology will rapidly evolve and soon every profession from retailers to maintenance workers will have a Siri-like assistant. Adding an e-personal assistant to support an existing product and/or service will create many new careers.

10 **3D WEB** will transform today’s Internet experience (which is like looking at a flat piece of paper with a few photos, embedded video, and a few hyperlinks) to a true 3D experience, similar to today’s video games, where you can virtually walk into a showroom, look around and both listen to and see the new car you are interested in, or whatever the website is trying to show you. This will employ many new graphic artists, designers and programmers.

11 **CONNECTED INTELLIGENT OBJECTS** using chips, microsensors and both wired and wireless networks will create a rapidly growing “Internet of things” sharing real-time data, performing diagnostics, and making remote repairs. Many jobs will be created as we add intelligent connected sensors to bridges, roads, buildings, homes and much more. By 2020, there will be well over a billion machines talking to each other, and people will install them.

12 **ADVANCED ROBOTICS AND AUTOMATION** will take a giant leap forward thanks to networked sensors, artificial intelligence, and Siri-like voice communications, taking the next level of repetitive jobs from humans. This will create many new career opportunities from design, programming, and installation to service and maintenance, to name just a few.

You don’t have to know the physics of a telephone in order to use it. You do have to know it exists and how to creatively use it to accomplish your goal. Don’t wait until next year, or the year after, or until you’re laid off. Invest the time to identify what you need to learn right away so that you will thrive both now and in the future, either in your current career or a new one.



"This is an outstanding business book, it exceeded my expectation. Daniel Burrus teaches the 7 techniques that you can use immediately to predict and anticipate the future, thus gaining a tremendous advantage over my competitors. I know that his principles are solid because I have been using some of them in my business and made some serious money. This book's philosophy fits perfectly with my own experiences."

—O. CHOU, AMAZON REVIEW

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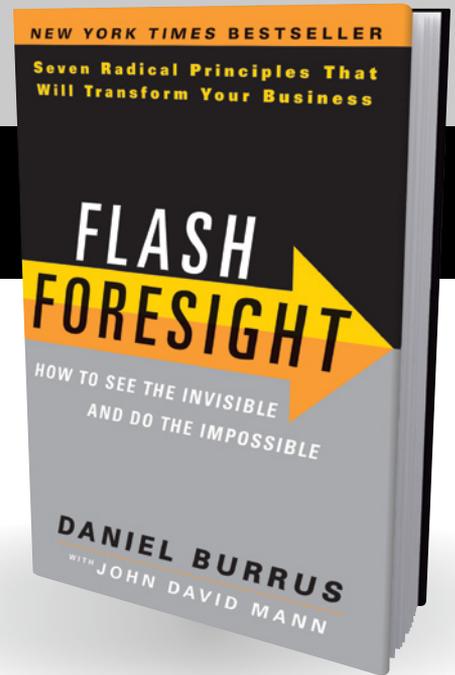
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ABOUT

DANIEL BURRUS

Daniel Burrus is considered one of the world's leading futurists on global trends and innovation. *The New York Times* has referred to him as one of the top three business gurus in the highest demand as a speaker.

He is a strategic advisor to executives from Fortune 500 companies, helping them to develop game-changing strategies based on his proven methodologies for capitalizing on technology innovations and their future impact. His client list includes companies such as Microsoft, GE, American Express, Google, Toshiba, Procter & Gamble, Honda, and IBM.

He is the author of six books, including *The New York Times* and *Wall Street Journal* best-seller ***Flash Foresight: How To See The Invisible and Do The Impossible***, as well as the international best-seller ***Technotrends***.

He is also a featured writer on the topics of innovation, change and the future for *CNBC*, *Huffington Post*, and *Wired Magazine* to name a few.

He has been the featured subject of several *PBS* television specials and has appeared on programs such as *CNN*, *Fox Business*, and *Bloomberg*, and is quoted in a variety of publications, including *The Wall Street Journal*, *Financial Times*, *Fortune*, and *Forbes*.

He has founded six businesses, three of which were national leaders in the United States in the first year. He is the CEO of Burrus Research, a research and consulting firm that monitors global advancements in technology-driven trends to help clients profit from technological, social and business forces that are converging to create enormous, untapped opportunities.

His accurate predictions date back to the early 1980s where he became the first and only futurist to accurately identify the twenty technologies that would become the driving force of business and economic change for decades to come. Since then, he has continued to establish a worldwide reputation for his exceptional record of predicting the future of technology-driven change and its direct impact on the business world.



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