



TECHNO TRENDS

THE BIG IDEAS THAT ARE CHANGING EVERYTHING

The High Risk of “Wait and See”

By Daniel Burrus, CEO of Burrus Research



Chances are your company is one of many taking a “wait and see” approach to one or more business issues right now. That position looks something like this:

“Should we redo our website? Let’s wait and see what the competitors do.” “Should we expand into a new market? Let’s wait and see what the economy does.” “Should we invest in this new technology? Let’s wait and see if it catches on first.”

On the surface, it makes so much sense, doesn’t it? After all, we’re dealing with a national and global economy filled with uncertainties ... right? So many shifts in technology, so much rapid change on so many levels.

Not a good time to act, is it? Wait and see certainly seems less risky than sticking our necks out. Right? Wrong.

To Wait Is Too Late

These days, a wait-and-see strategy carries more risk than the action it postpones. Sometimes, a lot more risk.

Motorola, Kodak, and Polaroid all played wait and see with the shift from analog to digital. Blockbuster played wait and see with the move to online video. The major record labels played wait and see with the leap to MP3 and streaming audio. Hewlett-Packard played wait and see with the idea of digital pads. They all suffered wounds as a result, some of them near-fatal. The problem with wait and see is that if you wait, it’s too late.

In the past, you could afford to wait and see. It was harder for competitors to develop and deploy new offerings fast. There was time to watch new developments and then react.
continued on page 2

NOVEMBER 2011

VOL. XXVII, NO. 11

- “SMART” CITIES
- BIOSENSOR BANDAGE
- MEMBRANE BATTERY
- TOUCH-WALL, TOUCH-PAD, TOUCH-HAND
- ARTIFICIAL PHOTOSYNTHESIS
- ELECTRONIC EYEGLASSES
- FUEL FROM AIR
- BIOPLASTIC FROM SUGARCANE

WIRED MAGAZINE & DANIEL BURRUS

Daniel Burrus was handpicked by Wired Magazine as an expert to blog about and discuss innovation during the week of October 10, 2011 on the Change Innovation Blog. You can still read and comment on Daniel Burrus’ posts for Wired Magazine at www.wired.com/changeaccelerators

FOLLOW DAN BURRUS

-  www.Twitter.com/DanielBurrus
-  www.Facebook.com/DanielBurrus
-  www.linkedin.com/in/DanielBurrus

PUBLISHED BY:

burrus
research

800-827-6770
www.burrus.com

High Risk of “Wait and See” *(continued from page 1)*

It was harder for newcomers, let alone established players, to completely change the game overnight. Not anymore. Today we're in a time of light-speed transformation. Today, new competitors can emerge rapidly, even from completely different parts of the globe. The barriers to entry are absurdly low. The ability to scale is equally fast. Anyone, anytime, can quickly become more relevant than you. In a world where the game is rapidly transforming, taking the wait and see position can put you on a path of increasing irrelevancy or even rapid demise.

Transform to Grow

Understand: transformation is vastly different from mere change. Barnes & Noble changed bookselling by creating the book superstore; Amazon transformed it. Blockbuster Video changed how we view movies; Netflix transformed it. Yahoo! ushered in the era of search; Google transformed it. Best Buy changed the retail environment; Apple transformed it.

Every field, every sector of society, is ripe for transformation. Take education for example. As school begins this fall, Grandview High School in Jefferson County, Missouri, is moving away from printed textbooks and issuing their students tablets filled with ebooks. Students will use the tablets to take tests, do homework, and complete assigned readings. An Internet filter blocks inappropriate web sites. Students will keep their tablets (which will be updated) throughout their high school careers. When they graduate, they can keep them. This is a game-changing move, one that has already saved the school about \$25,000. And many forward-looking school districts across the country are doing the same thing.

The tools to transform everything—even education—are there. The question is, are you using them?

The Hidden Costs of Saying “No”

“Wait and see” is often rooted in budget concerns. Let's say someone suggests your company redesign its website. You shoot down the suggestion: “No, we already have a website that works just fine.” Designing a new site would cost money, while playing wait and see avoids that new expense ... right? Not necessarily.

Consider that what you can do with a new website today is vastly different from what you can do with a website that was created two years ago. The way you can design for mobile users, engage visitors, increase sales, track people, and improve your rankings with search engine optimization are all changing so rapidly that if your site is two years old, it's obsolete. In other words, taking action is the less expensive move. It's more expensive to wait and see — and when you factor in all the opportunities you'll be missing, potentially a lot more expensive. This goes way beyond website design. Saying no to any new capability—embracing tablets for the enterprise, leveraging mobility in new ways, adopting new collaborative tools that can revolutionize how your teams work, using the cloud to more rapidly deploy innovations—locks you into an obsolete past and prevents you from transforming. Meanwhile, competitors are taking action.

Stop Waiting, Start Doing

In the late nineties, someone within Apple Inc. proposed the idea of opening Apple-branded retail stores. Apple could have easily said no. There was immense risk involved. The company had just emerged from some dark years and its future was far from assured. They could have looked at Circuit City and Best Buy and said, “Are you crazy? Why would we want to do that?” Instead they asked, “How can we reinvent retail?” They embraced a transformational mindset to redefine retail and extend their brand. Circuit City and Best Buy ... not so much. In a world filled with uncertainty, it's easy to fall into a wait and see mindset. But saying “Not now” bears a cost just as high as saying “Let's do it!”—if not higher. Remember this: If you don't do it, someone else will. They're doing it right now!

TECHNOLOGY NEWS HIGHLIGHTS

“Smart” Cities

As the era of machine-to-machine (M2M) communication continues to expand, a new technology has been developed that will make entire cities more efficient. Known as the Urban Operating System (UOS™) it's designed to run a variety

of application services (called PlaceApps) to interconnect systems that traditionally don't communicate with each other. The goal is to improve efficiencies in everything from energy management to traffic flow without the need for human intervention. It all adds up to better response and deployment of services. For example, if a fire is detected in a downtown office building, UOS can automatically re-route traffic, unlock doors and pump additional water to hydrants in the area, saving precious time for firefighters. In the future, smartphone apps may also allow users to tap into the system to control appliances and energy systems in their homes. The company works with an extensive network of partners allowing developers, building owners and service providers to access their system. The first installation in Paredes, Portugal is projected to cost between \$12 and \$15 billion.

For information: Living PlanIT SA, Parque Jose Guilherme, 4850-130 Paredes, Portuga; Web site: www.living-planit.com

Biosensor Bandage

Currently, assessing persistent wounds like pressure sores and diabetic ulcers requires sending samples to a laboratory – a process that often carries the risk of further infection. But a new material has been developed that could make it easier for clinicians to evaluate how well a wound is healing. The new “smart” dressing monitors healing by detecting changes in acidity levels through the use of optical threads that are robust enough to carry light signals yet flexible enough to be stitched into a bandage. The fibers are coated with an acid-sensitive outer layer and then woven into the material. By shining light in one end of the fiber and observing the color change at the other end, acid-induced changes in the tissue can be monitored without having to remove the dressing.

For information: Bastian Schyrr, University of Fribourg, Av. Europe 20, 1700 Fribourg, Switzerland; phone: +41-26-300-7111; fax: +41-300-9700; Web site: www.unifr.ch

Membrane Battery

A new polymer membrane may prove to be more cost-effective than rechargeable batteries or supercapacitors when it comes to storing energy. The soft, pliable material is made from organic waste and sandwiched between two graphite plates. When charged, it will store up to 200 microfarads per square centimeter (as opposed to the typical 1 microfarad per square centimeter for a standard capacitor using liquid electrolytes). This translates into a substantial cost savings, down from about \$7 per farad to about 62 cents per farad, and could transform battery technology for electric vehicles, renewable power systems and mobile devices alike.

For information: Xie Xianning, National University of Singapore, Nanoscience and Nanotechnology Initiative, Faculty of Engineering, Blk E3-05-29, 2 Engineering Drive 3, Singapore 117581; phone: +65-6516-3980; fax: +65-6872-5563; email: nixxn@nus.edu.sg; Web site: www.nus.edu.sg

Touch-wall, Touch-pad, Touch-hand...

A new technology called OmniTouch combines a wearable projector with a depth-sensing camera to turn any surface – walls, pads of paper, or even your hand – into an interactive touch screen. Developed in cooperation with Microsoft Research, the new device promises to make computing more ubiquitous than ever. A laser pico-projector superimposes controls (such as a keyboard or keypad) onto a surface, automatically adjusting for irregularities. The camera tracks a user's motions (such as tapping and dragging) in three-dimensions, allowing them to control applications just like they would on a smart phone or tablet computer. Best of all, OmniTouch requires no wiring or instrumentation of the environment and no calibration. In a few years the wearable projector used to beam the screen will be small enough to have many practical applications.

For information: Chris Harrison, Carnegie Mellon University, School of Computer Science, Human-Computer Interaction Institute, 5000 Forbes Avenue, Pittsburgh, PA 15213; fax: 412-268-1266; email: chris.harrison@cs.cmu.edu; Web site: www.emu.edu or www.hcii.cmu.edu

Artificial Photosynthesis

MIT researchers have created a device that turns energy from sunlight into a chemical fuel that can be stored for later use – a process that mimics photosynthesis. The artificial leaf, as it's been dubbed, consists of a thin sheet of semiconducting silicon

bound with a layer of cobalt-based catalyst on one side and a nickel-molybdenum-zinc alloy on the other. When placed in a glass of water, the cobalt side releases oxygen and the nickel alloy side releases hydrogen, both of which bubble off and may be collected and stored for later use. The developers plan to experiment with applying the same idea to tiny particles made of the same materials – a kind of “photosynthetic algae.” While such an approach would likely boost efficiency, it poses some additional challenges with separating and harnessing the gases.

For information: Daniel Nocera, Massachusetts Institute of Technology, Department of Chemistry, 77 Massachusetts Avenue, Cambridge, MA 02139; phone: 617-253-5537; fax: 617-253-7670; email: nocera@mit.edu; Web site: www.mit.edu

Electronic Eyeglasses

First reported months ago, the world’s first electronic focusing eyewear has been refined to a point where it could revolutionize the way people see the world – literally. Called emPower!, they allow you to focus near, far or in between as quickly as you can blink your eye. Plus they offer a wider field of view and less distortion than conventional spectacles. The glasses combine traditional lenses with transparent liquid crystals that adjust for near zone optical power as needed. By applying a small current, the crystals realign to change a portion of the lens to match the wearer’s prescription. A tiny accelerometer on the earpiece activates manual or automatic modes which are controlled by a built-in microprocessor. A rechargeable battery will power the glasses for several days on a single charge.

emPower! glasses are available in virtually any prescription and also come with UV protection, anti-glare and scratch-resistant coatings. The retail cost of \$1,250 is at least partly covered by many insurance plans. They are currently available from licensed professionals in several states throughout the southeastern U.S. and will be available on the west coast by the end of the year.

For information: PixelOptics, 5241 Valleypark Drive, Roanoke, VA 24019; phone: 540-777-6550; fax: 540-777-6555; Web site: www.pixeloptics.com

Fuel from Air

A pilot plant for producing hydrocarbon fuels from air is scheduled to open before the end of the year. The near-carbon-neutral method will be suitable for all fuel types, including aviation fuel, and is designed as a means for companies and remote communities to produce their own fuel. The process involves several stages. Carbon dioxide in the air is combined with sodium hydroxide to produce sodium carbonate, which is then electrolyzed to form pure carbon dioxide. Water vapor is collected using a dehumidifier and converted to hydrogen and oxygen, also using electrolysis. The two gases are then placed in a high temperature environment with a metal catalyst to produce a liquid hydrocarbon fuel. The efficiency of the process is about 45 percent and it utilizes around 20Kwh of electricity per liter of fuel. The developer eventually plans to utilize wind generators for power, making the entire process carbon neutral.

For information: Tony Marmont, Air Fuel Synthesis Limited, 94 Cleveland Avenue, Darlington DL3 7BE, United Kingdom; phone: +44-1325-247-910; email: info@airfuelsynthesis.com; Web site: www.airfuelsynthesis.com

Bioplastic from Sugarcane

Toyota has introduced an updated version of their Sai Hybrid that increases the amount of interior bioplastic to 80 percent. That’s up from 60 percent in earlier models where the bioplastic used was not sturdy enough for things like floor mats. The new plastic is made from sugar cane, has better resistance to abrasion, and is comparable in performance and cost to petroleum-based counterparts. Look for this on a wider range of models in the near future.

For information: Toyota Tsusho Corporation, 702 Triport Road, Georgetown, KY 40324; phone: 502-867-5024; Web site: www.taiamerica.com

Technotrends is published 12 times a year by Burrus Research, Inc., a research and consulting firm that monitors global advancements in science and technology and their direct impact on business and consumers. Mary Norby, Editor P.O. Box 47, Hartland, WI 53029-0047. To subscribe, call 800-827-6770, or email office@burrus.com. © 2011 Burrus Research, Inc.