



TECHNO

THE BIG IDEAS THAT
ARE CHANGING EVERYTHING

TRENDS

REDEFINE AND REINVENT TO SEIZE FUTURE OPPORTUNITIES

BY DANIEL BURRUS, CEO OF BURRUS RESEARCH



In my new book *Flash Foresight*, I share seven principles that can make invisible opportunities visible. Knowing how and when to redefine and reinvent yourself

and your company is critical.

In the twenty-first century, the one and only thing you can depend on is transformation. Technology-driven business process transformation is a hard trend; it will happen, and it is happening now! Using this hard trend to redefine and reinvent your business and career is a soft trend; some will do it and prosper, others will not. For those who want to use the forces of change and transformation to grow and prosper, this article is for you. It is important to understand that you can't go backward, and you can't stand still; you can't rest on your laurels, and you can't keep doing what you've always done and expect to thrive, even if you do your best to keep doing it better. The only way to survive, let alone thrive, is to continuously reinvent and redefine.

Reinvent and redefine what? Everything.

Transformation is an accelerated, magnified force of change. Redefining and reinventing is a way of harnessing that wild force and applying it to a product, a service, an industry, or a career.

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A NEW YORK TIMES BESTSELLER...

Flash Foresight has already been named a New York Times, Wall Street Journal and USA Today Bestseller. Daniel Burrus' new book was also #1 in hardcover and Kindle sales on Amazon.com You can get your hardcover or digital version of *Flash Foresight* at www.FlashForesight.com

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REDEFINE AND REINVENT *(continued from page 1)*

Redefining and reinventing mean seizing the opportunity to rewrite your own history—before a competitor does it for you.

Lee Iacocca and Hal Sperlich reinvented an entire marketplace back in 1983 when they redefined the family station wagon. At the time, station wagon sales were not growing, even though baby boomers were in their prime childbearing years and the nation was bursting with new families. Why? Because even though baby boomers needed a set of wheels with substantial family room, they did not want to look and act just like their parents.

But vans? They were kind of cool (at the time)—and more importantly, their parents never drove vans. Chrysler introduced the Dodge Caravan in November 1983, creating an entire automotive category—the minivan—that would continue to dominate for the next quarter century. It was a stroke of flash foresight, based on the hard trend of baby boomers and their needs (along with the eternal insight that people don't want to look or act like their parents).

Reinventing has always been a powerful strategy. But in the past, corporate and product reinvention was an option; today it is an imperative. We live today in a unique context, an environment we've never seen or experienced before. We have never had this kind of processing power and bandwidth, this kind of runaway acceleration in technological capacity, and it has completely transformed our relationship to the concept of stability. In the past, stability and change were two contrasting states: when you achieved stability, you did so despite change. Today change itself has become an integral part of stability: today you can achieve stability only by embracing change as a continuous and permanent state.

But even change itself has changed. Information and new knowledge now travel around the world at the speed of light, and technological innovation proceeds at close to the speed of thought. Today you cannot just reinvent now and then: to survive and thrive in a time of vertical change, you have to be redefining and reinventing yourself, your business, and your career continuously.

If you are a business, this means you have an urgent question in front of you every day: are your customers changing faster than you are? Are they learning faster than you are? Because they are changing and learning fast—and if you are not already designing and providing the solutions to the problem they are going to have next week and next year, you are behind a curve you cannot afford to be behind. And this is true whether you are an individual, a small business, or a multinational corporation.

Thus, the question becomes, will we let ourselves see the opportunities and become motivated by foresight, or wait until we are seeing the crises happen before our eyes, and become motivated by hindsight? It's time to stop mourning the "good old days" and start reinventing the new ones.

TECHNOLOGY NEWS HIGHLIGHTS

ARTIFICIAL ORGAN IMPLANT

A 36-year old man, who was suffering from late stage tracheal cancer, is the first patient in history to receive a permanent artificial organ implant – a trachea made from a synthetic nanocomposite scaffold seeded with his own stem cells. Just as remarkable is the fact that it took only two days to create the new windpipe using a specially designed bioreactor produced by Harvard Bioscience. The concept of implanting synthetically engineered organs – known as regenerative medicine – opens up a whole new field of therapeutic options for a variety of fatal and degenerative diseases. Although there are other documented cases of successful tracheal implants, all of them relied on human donor organs. The ability to use the patient's own stem cells grown over a synthetic scaffolds means that patients will not have to wait for a suitable donor, greatly improving their chances of survival. This is particularly significant for children where the number of available donors is far lower. And because the cells used to construct the organ come from the recipient, rejection is highly unlikely.

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PLASTIC TRUCKS

Until electric vehicle technologies advance to the point where they are able to meet the power and range demands of a delivery truck, UPS has decided to take another approach to improve mileage of their fleet vehicles. Prototypes trucks made from lightweight ABS plastic are

currently undergoing testing, and the results are pretty impressive. First of all, they've been able to reduce the overall vehicle weight by 1000 pounds compared to those built using traditional sheet metal body parts. In addition to increasing mileage by up to 40 percent, improvements in overall vehicle efficiency have enabled a reduction in engine size (from 200-horsepower to 150-horsepower) without sacrificing power. The modular plastic body parts will also translate into more efficient servicing, as they are more resistant to dents and can be replaced easily, quickly and inexpensively. Most importantly, all of these benefits can be realized in the very near future, as the newly designed trucks could start rolling off the line as early as 2012.

For information: United Parcel Service, 55 Glenlake Parkway NE, Atlanta, GA 30328; phone: 404-828-7123 or 800-742-5877; Web site: www.ups.com or www.pressroom.ups.com

PHASE CHANGE MEMORY

Researchers recently demonstrated a way to make phase change memory (PCM) stable over long periods of time, a breakthrough that could someday replace flash for non-volatile memory applications. Phase change memory takes advantage of the fact that the resistance of a material changes when it changes phases. In the case of PCM, the material exhibits a high resistance in the crystalline state, and a lower resistance in the amorphous state. This allows multiple bits of memory to be stored in a given cell, greatly increasing storage capacity. The problem has been that, in the amorphous phase, resistance tends to drift over long periods of time, which leads to errors in reading the data. The new technology takes this into consideration, coding the data in a way that is tolerant to changes in resistance.

For information: IBM Research GmbH, Saumerstrasse 4, CH-8803, Ruschlikon, Switzerland; phone: +41-44-724-8111; fax: +41-44-724-8911; Web site: www.zurich.ibm.com

DRAWING CIRCUITS

A new type of metal ink has been developed that remains liquid inside the barrel of a ballpoint pen, but dries after being applied to paper or other substrates, leaving behind a conductive silver "wire." The ink can then be used to interconnect components, creating bendable electronic circuits. The liquid is made from silver nanoparticles, suspended in a liquid. Cellulose is also added to give it a more "inky" viscosity. Circuits are simply drawn by hand using a pen and can be customized to conform to small, irregularly shaped surfaces. The device is also cheaper, more portable, and easier to use than computer-driven technologies such as 3D printers. Best of all, the circuits are very robust. In a laboratory test, it took several thousand folds to break the conductive lines on a piece of paper.

For information: Jennifer Lewis, University of Illinois at Urbana-Champaign, Materials Science and Engineering phone: 217-244-4973; fax: 217-333-2736; email: jalewis@illinois.edu; Web site: www.matse.illinois.edu

TEMPORARY AUTOPILOT

In another step forward for driverless car technology, Volkswagen recently announced the development of their new Temporary Autopilot Program (TAP). The product of a European Union research project known as HAVEit (Highly Automated Vehicles for Intelligent Transport), the goal is to prevent accidents resulting from inattentive drivers by providing semi-automatic control of an automobile at speeds up to 80 miles per hour. A radar system, laser scanner and ultrasonic sensors combined with features such as adaptive cruise control and side monitoring will enable a TAP-equipped vehicle to maintain a safe distance from the car in front of it, stay centered in its lane by checking lane markers, and slow down as it approaches a bend in the road. However, at any time, a driver can override the automatic features and take control of the vehicle.

For information: Volkswagen AG, Werk Wolfsburg, Brieffach 1470, 38436 Wolfsburg, Germany; fax: +49-5931-9-70687; Web site: www.vw.com/en.html or www.volkswagen.com

ROBOT BALANCING ACT

Engineers in Krakow, Poland recently debuted a robot that can balance on one wheel, even while it's stationary. Previous attempts to design a mono-wheel robot typically used gyroscopes and multiple wheels to solve the problem of balance, but those approaches require considerably more energy to keep the wheels spinning continuously. The new design simply uses a weighted lever that can tilt from side-to-side to provide the needed counterbalance. The robot's motor, battery, sensors and

controls are housed in the center of the wheel and remain stationary while the rubber tire rotates around the outside. If it begins to lean, an inclinometer and accelerometer detect changes in tilt and direction. A signal is then sent to the lever to compensate for the movement and keep the wheel upright. The researchers also plan to add vision sensors to allow the robot to guide itself. Because of its narrow profile and good traction, the unicycle robot will have many potential applications, for example, in search-and-rescue. The technique could also be adapted to create a motorcycle that balances itself.

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NO-POWER REFRIGERATOR

A revolutionary new technology has been developed that provides constant, reliable cooling without any power at all. Called SureChill™, it was originally designed to refrigerate vaccines, especially in developing nations where power isn't always available. It operates on the principle that phase-change materials absorb large amounts of heat as they move from a solid to liquid or liquid to gas. SureChill can run continuously on less than five hours of power per day, and operates off of main electricity, solar power or a combination of the two. When fully charged, it will maintain temperatures at a stable 50 degrees Fahrenheit (10 degrees Celsius) for more than ten days, even at ambient temperatures up to 110 degrees Fahrenheit (43 degrees Celsius). Other uses for the technology will undoubtedly include off-grid commercial and home refrigeration, air conditioning, and cooling systems for mobile electronic systems.

For information: True Energy Group, Pendre Enterprise Park, Tywyn Gwynedd, Wales LL36 9LW, United Kingdom; phone: +44-(0)1654-712-713; fax: +44-(0)1654-710-641; Web site: www.trueenergy.com

SUPERSIZED DISPLAY

A new touchscreen combines Internet-based virtual microscopy with modular, multi-touch displays to supersize microscopic images for collaboration, learning and research. The individual, 2.1 megapixel, LCD panels measure 46 inches and allow digital images to be magnified 1000-fold. Users can zoom in and move around an image to view any section at maximum magnification. The panels can also be stacked, scaled and combined to create large display arrays. And because they track hands, rather than points of contact, they can track multiple users at one time. The technology provides full 1920 x 1080p high definition display and is compatible across OSX, Linux and Windows platforms.

For information: MultiTouch Ltd., Henry Fordin katu 6B, 00150 Helsinki, Finland; phone: +358-45-630-8580; fax: +358-9-856-573-28; Web site: www.multitouch.fi/

CLEVER COUPONS

Consumers' insatiable appetite for bargains has created a whole new marketing phenomenon in online coupon deals. But they don't always turn out to be such a good deal for the merchants unless they can cultivate return customers. That's the idea behind a site called LevelUp, which follows a new model focused on loyalty and sustainability. It's designed to develop repeat business by offering a series of three deals, each with increasing incentives. The hope is that, after three visits, customers will have developed a level of familiarity with the merchant that encourages them to become regulars, even without the discounts. Over 83 million people currently subscribe to Groupon, the leader in online coupon marketing, with LivingSocial a distant second at 39 million subscribers. LevelUp, on the other hand, currently has only 100,000 subscribers. They hope to attract merchants by reducing their cut of the coupon price to 25 percent as compared to Groupon which charges merchants 50 percent off the top.

For information: LevelUp, 175 Second Street, Cambridge, MA 02142; phone: 855-538-3542; Web site: www.thelevelup.com

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