TECHNO TRENDS
THE BIG IDEAS THAT ARE CHANGING EVERYTHING

What Should Today's Managers Really Be Managing? (Part I)

By Daniel Burrus, CEO of Burrus Research

As an executive or leader in your organization, you're managing many things: the company's image, numerous projects, and a talented group of people. But you're also managing many other important things, including the perception others have of you and your department, how distracted you and your team are on a daily basis, and many other things you may not even be aware of. For many people, these "other" things are just part of the job, how things have always been done, and the expected stressors of business. But do they have to be that way?

Let's start with perception. Why is managing perception important? Because perception is often more important than reality. And in fact, your reality will not be a happy one if you're not managing perception.

You've likely seen many examples of how perception is more important than reality. For example, a stock might be beaten up horribly because of the way people view the company, whether that view of the company is accurate or not. So the point is that perception is something you have to constantly manage. Whose perception? Everyone's—the C-level executives, the employees, the customer's customer, and most importantly, your own.

Therefore, ask yourself, "How do I perceive myself?" Do you perceive yourself as trying to keep up? Trying to protect and defend? Trying to integrate the new? How you perceive yourself is going to reflect how others perceive you. So you need to perceive yourself

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Today's Managers *(continued from page 1)*

and everyone in your department as a major competitive advantage and as a major strategic asset for the organization. As long as that's how you perceive yourself and your team, that's how you'll act, and that's how others will see you as well.

PLUG INTO YOUR FUTURE

Equally important to managing perceptions is managing distractions (a.k.a., change). The fact is that in today's marketplace, change is coming at us fast…and it's only getting faster. That means organizations will be facing more problems than ever before. One thing we know for sure is that most distractions or changes come from the outside in—external factors impact the organization. This causes people to react, crisis manage, and continually put out fires. But to be a strategic asset to your company, you can't simply be a crisis manager; you also have to become an opportunity manager. The question is, how do you do that? The answer is to become an opportunity manager and plug into the future.

To be an opportunity manager and strategic asset for your organization, distraction is the enemy. To provide major new competitive advantage and to create new products, markets, and services, distraction is the enemy. Unfortunately, we have never been more distracted. Not only is everyone in your organization distracted, but so is everyone in your competitors' organizations. But in a way, this is actually good news, because it means there's a huge competitive advantage in pulling out of that mess of distraction. To do so, though, takes leadership and discipline.

Realize that our distraction level has gotten worse over the years rather than better. Why? It used to be that we had several different realities. We had our home reality with our spouse and children, and we had our work reality with our co-workers. Often the spouse and kids didn't know what we specifically did at work, and all the people in our work reality didn't know much detail about our home reality. We also had our leisure friends, or our personal reality. And we belonged to a club or church group and had that reality. Finally, we had our vacation time reality.

As we went through life, we would go from one reality to the other. This was a good thing psychologically because it allowed us to recharge. Then, when we went from one reality to the other, we were refreshed and mentally sharp. Today, technology has allowed all those realities to become one reality. But before you blame technology for this merging of realities, realize it's not technology's fault. Technology is neither good nor evil. It's all about how we use it. We have the choice whether to plug in or unplug. Therefore, to reduce the level of distraction in your own life, you need to understand the power of unplugging on a regular basis.

Unfortunately, most people are afraid to unplug, even when they're on vacation. They believe something might happen, so they have to be always connected to work. But this means they're never really on vacation, and when they're home, they're not really home; they're always working. But if your people are always working, how well are they functioning? The answer: not very well. They're certainly not as creative and innovative as they need to be. And if you're not unplugging on a regular basis, then you're not as creative and innovative as you need to be either. Next month, I'll cover the importance of unplugging and recharging and how to focus on managing what's really important.

TECHNOLOGY NEWS HIGHLIGHTS

Cognitive Computing

IBM recently unveiled another new generation of computer chips, which are designed to emulate the human ability to find correlations and learn through experience. Known as neurosynaptic chips, the new technology represents a significant step in the evolution of computing technology by mimicking the structure of the brain. In a conventional computer, the computational elements (central processing unit or CPU) and memory elements (random access memory or RAM) are separate. In the cognitive chips, they're wired together. The result is that less energy is wasted moving electrons back and forth, with the potential to increase efficiency by orders of magnitude. Perhaps more importantly, the new chips will be far more effective at certain types of problem-solving and pattern recognition.

For information: IBM Corporation, 1 New Orchard Road, Armonk, NY 10504; phone: 914-499-1900; Web site: www.ibm.com

Day & Night Solar Power

Seville, Spain is the site of the first thermosolar plant that is capable of supplying uninterrupted power day and night. It uses a heliostat field of 2,650 adjustable mirrors, which concentrate sunlight to the tip of a central tower containing molten salt that is heated to 1,650 degrees Fahrenheit. As the salt cools, it produces steam, which is fed into turbines to generate power. The amount of heat stored in the molten salt will power the generators for up to 15 hours even with no solar input, guaranteeing production for 6,500 hours per year – which is 1.5 to 3 times more than other renewable technologies. The 19.9-megawatt Gemasolar plant is capable of producing 110 Giga-watts per year – enough to supply 25,000 homes – and will reduce carbon dioxide emissions by up to 30,000 tons per year.

For information: Torresol Energy Investments, S.A., Avda. Zugazarte, 61, 48930 Getxo (Vizcaya) Spain; phone: +34-944-817-871; Web site: www.torresolenergy.com

Cars That Can "See"

Researchers in Germany are looking for ways to incorporate optical sensing technologies into a broader range of passenger vehicles with a new multi-functional detector that can analyze images as well as distinguish between darkness and fog. The device consists of a camera, an infrared LED and two optical sensors with wide-aperture, Fresnel lenses, and is designed to mount between the windshield and rearview mirror. It would enable cars to "see" obstacles when trying to park, alert drivers when following too closely, and even turn on fog lamps when conditions warrant. A key hurdle to be overcome was keeping the system small enough and practical enough for mass marketing. So instead of using optical fibers, the sensors utilize "light pipe" technology that can deflect light by up to 90 degrees. A hot-stamping process, which can easily be scaled up for production quantities, was developed to produce the hollow mirrored tubes inexpensively.

For information: Henning Schroeder, Fraunhofer Institute for Reliability and Microintegration, Winterbergstr. 28, 01277 Dresden, Germany; phone: +49-351-83391-0; fax: +49-351-83391-3300; Web site: www.iws.fraunhofer.de

Crystal Invisibility Cloak

Until now, invisibility cloaks have used what are known as metamaterials – fabricated composites that possess properties not found in nature – and their success has been limited to hiding objects that were already microscopic in scale. But recently, researchers reported concealing objects as large as a paper clip, bringing us one step closer to a true cloaking device. The key is a transparent mineral called calcite. This natural crystal has double refraction properties, meaning that when light enters, it is split into two separate rays with different polarizations, traveling at different speeds, and in different directions. This makes it possible to hide objects that are much larger than the light wavelengths being emitted.

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Cambridge Crude Batteries

The batteries that power today's electric cars are heavy, expensive and take up lots of space. But a new battery that runs on a semi-solid slurry resembling crude oil could revolutionize rechargeable battery design. Instead of transferring electrons from one solid electrode to another through a liquid or powdered electrolyte, the "flow" battery contains two streams of lithium compound mixed with a liquid electrolyte. As the liquid is pumped across a permeable membrane, it exchanges ions with aluminum and copper collectors, causing current to flow. The battery can be recharged simply by applying a voltage to push the ions back across the membrane (which might take a matter of hours), or by pumping out the spent slurry and replacing it with a fresh supply (which would take a matter of minutes). It's been estimated that the "Cambridge Crude" batteries will be capable of generating ten times the power per unit volume of conventional batteries at about one-third the cost. They would also deliver double the mileage on a single charge. The developers plan to have a prototype ready by 2013.

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Eyeglass Camera

Now you can record live video of what your own eyes are seeing and share it with your friends while you're walking down the street. Eyez™ sunglasses are equipped with a built-in camera that's disguised as a grommet on the frame. The half-inch fisheye lens captures a 130-degree field of vision, and a high definition sensor sends images to an on-board 1-gigahertz processor for compression. All of it is powered by a lithium-polymer battery housed in the left arm of the frame which lasts up to three hours. The glasses include 8 gigabytes of built-in flash memory, or the footage may be transferred via 2.4 gigahertz WiFi/Bluetooth or micro USB to a smartphone or computer. The Eyez smartphone and tablet app provides remote camera control and also streams the footage to Facebook, YouTube or cloud storage. List price is around $200, however the company is offering a $50 discount on pre-orders until October 1st.

For information: Zioneyez, 10015 Lakecity Way NE, Suite #350, Seattle, WA 98125; Web site: www.zioneyez.com

Colonoscopy Capsule

An 800-patient, multi-center clinical trial is currently underway to obtain approval from the U.S. Food and Drug Administration (FDA) for a pill-type endoscope that is designed for use in the large intestine. The PillCam COLON 2 is the latest in a series of capsule cameras aimed at increasing patient compliance and decreasing the costs of endoscopic procedures. Previous versions include PillCam ESO for examining the esophagus and PillCam SB for visualizing the small bowel. PillCam devices feature bi-directional communication with an external data recorder which can also adjust the frame rate from 4 frames per second to 35 frames per second to improve resolution when needed. More than 2,000 patients throughout Canada, Europe, Latin America, Australia and Asia have undergone PillCam colonoscopies since it received CE approval in 2009, and the company plans to apply for marketing approval in Japan in 2012.

For information: Given Imaging, Ltd., 2 Hacarmel Street, New Industrial Park, POB 258, Yoqneam 20692 Israel; Web site: www.givenimaging.com

Magnets Boost Biofuel Production

Scientists have been looking to algae as a potential source of biofuel for a number of reasons. It allows us to reduce our dependence on fossil fuels, but doesn't compete with the food supply as corn does. It's also very efficient, producing 10 to 100 times more fuel per acre than traditional biofuel crops. A recent report from the U.S. Department of Energy estimated that algae biofuel could eventually replace up to 17 percent of oil imports. Now, researchers have found a way to make algae even more productive by exposing them to magnetic fields. They created an oval-shaped raceway-type pond in which they cultivated Chlorella kessleri (a common type of single-celled algae) and measured the rate of growth and lipid (oil) production. When they began circulating the water through an area with a static magnetic field, the rate of biomass and lipid product nearly quadrupled. The algae also produced more antioxidants, which are widely used in food supplements. It appeared that the growth rate increased with increasing field strength, but only up to a certain point, after which it declined rapidly.

For information: Wankei Wan, University of Western Ontario; email: wkwan@uwo.ca; Web site: www.uwo.ca or www.eng.uwo.ca

Power and Water Generator

A new technology has been developed for bringing power and water to remote areas. The unit weighs less than 100 pounds and is capable of converting non-potable water to drinking water while extracting hydrogen to generate electricity. The key is a new alloy of aluminum, gallium, indium and tin. When immersed in water (fresh or salt) it spontaneously produces steam, hydrogen and aluminum tri-hydroxide. The hydrogen is fed to a fuel cell, which generates electricity and produces potable water as a by-product. The steam kills any bacteria and also condenses to produce more purified water. The waste is a non-toxic substance that can be safely discarded. The system also works to desalinate salt water, making it suitable for marine use. Estimated cost to run the system is $1.00 per gallon for potable water and 35 cents per kilowatt for electricity.

For information: Jerry Woodall, Purdue University, School of Electrical and Computer Engineering; Web site: www.engineering.purdue.edu

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