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EMERGING TECHNOLOGY:
HARNESSING THE POWER OF "WHAT'S NEXT" FOR YOUR BUSINESS

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From the Internet of Things to mobility and the cloud, technology is giving your company unprecedented capacity for disruption.

THE "THINGS" MOVING BUSINESS TODAY

Technology has become everyone's business. Companies that fail to keep up with it risk failing entirely. But your technology watch list gets longer all the time, and you can't afford to let running your business take a back seat to staying informed about the latest tools and trends. The good news is that you don't have to. By defining the challenges your company faces, you can tune out distractions and focus on trends that support the solutions you're developing.

In today's market, three trends are bound to have an impact on your company's performance: the Internet of Things (IoT), the evolution of the cloud, and disruptive business models.

You may not have thought much about the impact of the IoT on the workplace. But its significance goes well beyond fanciful depictions of home appliances "talking" with one another. In our increasingly connected world, this trend can help you to capture data that gives you fresh insights on operating efficiencies, team dynamics, and customer, vendor, and employee needs and behaviors.

The rising prevalence of cloud computing parallels another key trend for business: the growth in use of mobile devices. Web analytics company StatCounter found that in October 2016, the global volume of Internet use on tablets and other mobile devices exceeded that on desktops for the first time. That month, tablets and mobile devices accounted for 51.3 percent of Internet usage. The company noted that the trend does not hold in "mature markets;" in the U.S., for example, 58 percent of all Internet use is still on desktops. But the trajectory is clear, and the growing preference for devices that can access information and data from anywhere underscores the importance of the cloud.

These developments are helping to drive the third trend, disruptive business models. In both the B2B and B2C spaces, customers have demonstrated that they are ready to embrace new models for everything from managing their bank accounts to accessing entertainment. But disruption in your workplace doesn't have to shake up your entire industry. Companies are discovering that even small changes—many of them powered by the IoT or the cloud—can deliver a significant return in terms of relationships, productivity, and profitability.

THE INTERNET OF THINGS THAT BOOST PERFORMANCE

It's still so new that the IoT can seem more futuristic than firmly entrenched in the present. But it's "nothing revolutionary," says Bruce Sinclair, president of IoT-Inc. and author of IoT Inc: *How Your Company Can Use the Internet of Things to Win in the Outcome Economy*. "It's just an evolution of the Internet, which is extending its reach further and further—and this time, it's extending into physical objects. What that does for business is revolutionary, because it allows you to have a

direct connection with your products, with your environment, and with your systems, and have a very good understanding of what they're doing. You can also control that."

What does that mean in practical terms? It can mean improving processes and operating efficiencies by learning from the way people and equipment interact in your business. (See the sidebar "Wearables in the Workplace.")

Another example is automating utility use and increasing energy efficiency by monitoring and adjusting the climate and lighting within your office or factory. IoT elements integrated into your products can alert you to impending maintenance or repair needs before they break down. You'll also gain a better understanding of how customers are using the products, which can help you to identify profitable enhancements or develop new products and services.

If you maintain a fleet of vehicles, sensors in tires can monitor air pressure and how the vehicles are being driven. This information can enhance driver safety and point to strategies for improving fuel economy. It can even pinpoint precisely when tires have reached the end of their useful lives, which will allow you to eliminate the practice of approximating a replacement schedule based on miles driven.

In other words, the IoT has the capacity to address both expense management and top-line growth challenges. Another aspect of its utility comes into play in the context of smart cities and smart grids. "You make things smart with the IoT by transforming them into something we call the digital twin," Sinclair says. "A digital twin is a software representation of a product or system. When you have it in this software form, you can make it more efficient. We're seeing IoT used in smart cities initially in the areas of parking utilization, traffic patterns, signage, and personalized marketing."

Looking ahead, digital twins are also expected to facilitate interaction among different products so that they "work together to achieve a particular outcome for the customer," he says. That will become possible because, thanks to the IoT, you'll know how your customer is using your product to make money. With that

STREAMLINE YOUR BUSINESS FROM THE INSIDE

Plug into the IoT's power to:

Reduce electricity costs
■ **Automatically turn off lights when rooms are not in use**

■ **Put equipment into sleep mode during down time**

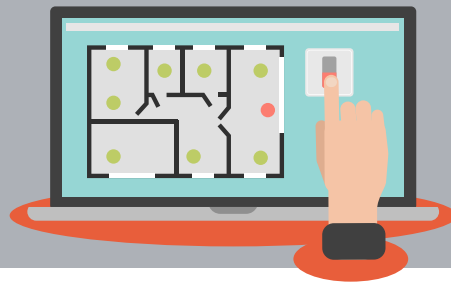**Increase energy efficiency**
■ **Monitor heating and cooling to reduce costs and optimize comfort levels**

Improve operating efficiencies
■ **Track human and equipment interaction to optimize productivity**

Be more responsive to customer needs
■ **Receive maintenance alerts before product performance is affected**

knowledge in hand, you can develop product interfaces akin to contemporary software interfaces and evolve your business model accordingly.

PUTTING DISRUPTION TO WORK FOR YOUR BUSINESS

Before you disrupt your business, you might want to disrupt your thinking. That's the advice you'll get from Daniel Burrus, CEO of Burrus Research and co-author, with John David Mann, of *The New York Times* and *Wall Street Journal* bestseller *Flash Foresight: How to See the Invisible and Do the Impossible.*

"Hey, you're smart. If you were working on the right problem, you would've solved it by now," he says. "Most of us ill-define the problem or the challenge. That's why we're having trouble with it. But I've never found a problem you couldn't solve once you defined it correctly."

When the problem is what it will take to spark disruption at your company, remember that even small ideas and incremental changes can have a big impact. "Start thinking about how you're interacting with your suppliers, your customers, and the people who need to work with you as a part of your business," says technology futurist and speaker Sierra Modro. "That's when you have to understand how connected they are. Their needs may drive you to adopt technologies you hadn't thought about."

Start with the problem, and then identify the technology that will address it quickly, simply, and within your budget parameters, she says. It's a mistake to begin by being drawn to the technology and then trying to figure out what you can do with it. In fact, that can create new problems.

Another strategy is to "unplug from the present" and "plug into your future" for at least an hour each week. Burrus recommends this as a means of getting out of the mindset of putting out fires and engaging in crisis management. Instead, he says, "change the conversation with yourself" to focus on what he calls "hard trends"—things you're certain of that will have

WEARABLES IN THE WORKPLACE

Wristbands that keep track of your physical activity are just the beginning. Wearable technology works for business in many unexpected ways.

"Monitoring is a big one," Sinclair says. It allows you to see how employees and machinery are interacting. That can reveal different ways of using the machinery and identify people who are (and aren't) suited to working with that equipment. "You can recommend that certain people work with each other and not with others" and compare the performance of different groups of people in a given set of work circumstances.

It's important for employees to feel that the goal of monitoring is to help them improve their performance or enhance their safety and well-being. Burrus offers the example of using those fitness devices to encourage physical activity in an office where workers tend to be sedentary. He advocates introducing competitions and prizes that promote employees' well-being (which, in turn, reduces absenteeism) and team-building (which enhances productivity and performance) without making the staff feel as though the company is spying on them.

Just emerging on the wearables front are items of clothing made from smart textiles that have sensors or other nanotechnology woven into the fabric. Those sensors allow the fabric to monitor and respond to vital signs. Those advances may make it possible to work more safely and more productively in stressful situations or extreme environments.

an impact on the future of your business—and "soft trends" (the ifs and maybes that play a role in any business). "By separating the hard trends from the soft trends, you can start to see the game-changing opportunities, even as a small business."

Remember that strategy and his problem-definition advice when you're assessing customers' current problems and anticipating their future needs. He notes that the standard strategy of asking customers to name their biggest challenge can backfire if they give you an answer but haven't defined the problem properly.

Finally, make sure you're fully exploiting the technology that you already have on hand, including artificial intelligence. In a recent newsletter, Burrus wrote about the impact of Amazon's decision to allow Amazon Echo owners to plug their own corporate databases into the device. One of his readers taught Alexa to answer the 50 questions his company receives most often from customers. The results were so positive that the company is exploring further use of the device.

"There are these amazing opportunities right in front of us that don't cost a lot of money," he says. "And most of us just busy ourselves until we're disrupted by some small outside upstart that comes in and is not so busy."

LEVERAGING THE CLOUD, EMPOWERING RAINMAKERS

The cloud, meanwhile, has become so ubiquitous that we don't give it much thought anymore—but we should, because there are still more ways to optimize its power and its impact on the bottom line.

As the volume of business data grows and our access to it anywhere, at any time, grows, the cloud gives us an unprecedented capacity to respond to customers' questions and address their problems in real time. This

THE CLOUD'S BUSINESS TRAJECTORY

It began with storing documents off-site. Today, your company can flex its cloud muscle to:

■ **Access data and collaborate on projects from any location—wherever business takes you.**
■ **Share business intelligence to facilitate real-time decision making and response to market opportunities.**
■ **Employ the best talent, regardless of location, to optimize competitiveness.**
■ **Operate across more vertical markets and geographic regions.**
■ **Perform like a big business, regardless of the company's actual size.**

merger of data analytics and the cloud is a key tool in strengthening customer relationships and being seen not just as a product vendor or service provider, but rather as a partner in supporting customers' business objectives. With access to the right data at just the right moment, your business may even find the means of adding to customers' profitability and prospects for continued growth.

The cloud has become integral to expense management initiatives, as well. "The cloud is allowing us as business owners to reduce costs in a lot of ways that we're not thinking about," Modro notes. "All of the documents, programs, and resources that you need to use on a daily basis are probably either cloud-based or very small apps. We've gotten to the point where the amount of computing power that we have in our pocket exceeds the amount of computing power most people expect and need from a laptop. So, what we're doing now is choosing form factor, not computing power."

As the cloud and the IoT continue to evolve, we'll see further opportunities to implement disruptive business models. These technological advances promote innovation and make it more affordable than ever to bring game-changing ideas to market. In effect, these technologies are rewriting the business playbook and making the old rules of competition obsolete. By tapping into the full extent of their power, you can position your company for optimal performance and sustainable success.

HARNESSING TECHNOLOGY RESOURCES
Use these online references and tools to track technology trends, and use them strategically.

Mobile technology and the cloud have made information more accessible. Now you need a strategy for making all that business intelligence more actionable. By making full use of cloud capabilities and tapping into the insights available as the IoT evolves, your business can gain a better understanding of its relationship with customers and even its operational strengths and challenges. That, in turn, creates a foundation for anticipating market trends and needs, pursuing disruption, and sustaining a competitive advantage. These online resources can help you learn to make the most of these tools and optimize your company's performance for the long term.

Harvard Business Review
■ **"Using IoT Data to Understand How Your Products Perform." "The companies with the greatest value from IoT to date are the best at dealing with how products are performing for customers," Satya Ramaswamy writes. "Once you accept that, it becomes a lot easier to understand what you need to do to get value from IoT."**

■ "**The IT/Business Partnership: The Cloud, Technology, and Transformation**." "**Companies want to turn technology into business transformation, but sometimes struggle to make the leap,**" **notes the introduction to this webinar. Access the recording for a presentation by George Westerman of MIT's Sloan Center for Digital Business, who presents the key components of a strong digital capability and the path to CIO/business partnership.**

■ **How IoT Creates New Customer Relationships. Led by Accenture's James Wilson, this hour-long webinar reviewed "human-specific issues related to the IoT," provided an overview of key trends, and presented early-adopter case studies.**

■ **The Analytics of Things: Finding Value in the New World of IoT Data. This Harvard Business Review webinar explains that as everyday products become more connected and generate information, business owners must develop an understanding of "how to join machine intelligence and human decision-making." Access this recording to learn how Babson Professor Tom Davenport suggests business owners use "the Analytics of Things" to "gain new insights and deliver actionable intelligence."**

Forrester Research

■ **As your business moves to the cloud, it's important to assess the effectiveness of your data management infrastructure. Forrester's Data Management Infrastructure Self-Assessment Tool, licensed by IBM, helps you to evaluate your data management architecture capabilities and identify next steps you can take.**

IoT-Inc.

■ **The organization helps companies incorporate the IoT into their business. Its website's media section includes articles, podcasts, and videos on such topics as:**

   ■ **Your IoT Journey: Taking the Right Steps**

   ■ **Creating Value from Connected Things**

   ■ **Predictive Analytics for IoT**

   ■ **External IoT Security**

   ■ **The IoT Product Versus the Smart and Connected Product**

   ■ **Location-based IoT Services in the Retail Shopping Environment**

Burrus Research

■ **The website's resource page offers access to Daniel Burrus' "Top 20 Technology-Driven Hard Trends Shaping the Future;" the Burrus Blog; and the (free, but subscription-based)** *Strategic Insights* **newsletter.**