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Daniel Burrus'

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TECHNOTRENDS[®] NEWSLETTER

*The biggest ideas that are
changing everything*

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Discover New Opportunities Never Before Available

By Daniel Burrus, CEO of Burrus Research

Disruption is a central component of the Anticipatory Organization Model, focusing closely on how Anticipatory Organizations and individuals can look at disruption and see enormous opportunities.

The untimely situation we currently face with COVID-19 is no exception; not only has every industry been touched by the coronavirus pandemic and subsequent lockdown, every country has. There is literally no safe haven from this disease, and businesses both large and small have found themselves in a predicament unlike ever before.

Traditionally, there are three common reasons industries get stuck

However, much as they do with digital disruption, Anticipatory Leaders leverage disruption of any kind by way of realigning their focus and, especially in the case of the COVID-19 pandemic, develop a new product or service to benefit humankind or to help wage war on this terrible illness.

Being an [Anticipatory Leader](#) during this crisis allows you to anticipate what's to come and thus not have to wait for the next big disruption to innovate and transform your industry. Traditionally, there are three common reasons industries get stuck, and during a global pandemic, these still prove to be obstacles.

Here are those three obstacles, with some real examples of companies overcoming them, and ideas for companies in specific industries

that have undoubtedly been disrupted and had production halted due to the coronavirus pandemic.

1. Stagnation

You may have felt a strong sense of growth before the COVID-19 pandemic; however, once lockdowns were put in place, that positivity about the future was greatly challenged, possibly sending you and your organization into stagnation.

I implore you to continue to innovate and become an [Anticipatory Organization](#) during all of this. Resting on your laurels rarely works during conventional times, and it will surely be trouble during uncertain times. Let's say you own a screen-printing company that was deemed nonessential. How can you still push innovation in the face of uncertainty and become a positive disruptor in your industry during a lockdown?

I have a feeling you can! A screen-printing company has the ability to transition from making corporate and college apparel, such as T-shirts and hoodies, to much-needed PPE like face masks. In addition to creating the physical protective gear, it's possible for the company, in even the smallest ways, to improve mental health by way of perhaps screen-printing fun graphics and artwork on masks to help bring a smile to the faces of those in these dark times.

2. Customer Frustration

The message is clear: We are all uncomfortable being locked down, disallowed to visit our

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TECHNOLOGY NEWS HIGHLIGHTS

Dream Hacking

A new investigative device called Dormio could someday be used to alter our dreams. The method is based on the fact that the brain is highly impressionable. Even when we're awake, it's difficult not to turn our thoughts to an object when it's suggested (e.g., "visualize an elephant standing on one leg"), but during certain sleep states the effect is even more powerful.

Dormio consists of a sensor glove that tracks changes in muscle tone, heart rate and skin conductance, all of which are indicators of changes in sleep state.

The signals are analyzed continuously, and when a transitional stage is detected, an audio cue partially wakes the user, planting a mental image that will appear in his or her dream. In a study of 50 subjects, those

who used Dormio to foster dreams about trees scored higher on follow-up creativity tests related to trees than those who slept normally or didn't sleep at all.

The developers see Dormio as a way to help people retrieve memories and develop solutions to problems that our waking minds may not be able to access. Other potential areas of study might include nightmare therapy, treatments for post-traumatic stress disorder (PTSD) and accelerated learning.

For information: Adam Haar Horowitz, Massachusetts Institute of Technology, Media Lab, 77 Massachusetts Avenue, E14/E15, Cambridge, MA 02139; email: adamjhh@mit.edu; Web site: <https://www.media.mit.edu/> or <https://www.media.mit.edu/projects/sleep-creativity/overview/>



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The Internet of Everything

A recent winner of Fast Company's 2020 World Changing Ideas Awards is developing a system that could be capable of tagging and tracking everything that people use on a day-to-day basis, from the time it's manufactured to wherever it ends up, taking the Internet of Things to a whole new level. Aptly named EVERYTHNG, the technology would assign a digital identity to every physical product – clothing, beverages, cleaning products, food items, to name just a few. Using QR codes, RFID tags, and Bluetooth tags, EVERYTHNG would manage data throughout the entire product life cycle on its Product Cloud platform.

The company is already working with dozens of big-name consumer brands. While digitizing inventory has obvious advantages for manufacturing and supply chain management, it will also help to identify counterfeit goods.

The technology has benefits for the consumer as well. For example, EVERYTHNG gives grocery shoppers the ability to track where their food originated, when it was harvested, and how it was transported. Many items could also be conveniently reordered simply by scanning the QR code. And the codes can be integrated into customer rewards programs.

Although it may be a long way off from tracking literally everything, by developing an open, standardized format for tagging, EVERYTHNG has come up with a platform that is highly scalable with an eye to the future.

For information: Niall Murphy, CEO, EVERYTHNG, 23 West 23rd Street, Suite 200, New York, NY 10010; Web site: <https://evrythng.com/>



3D Printed Community

Another Fast Company 2020 World Changing Ideas Awards winner is looking to create the world's first 3D printed community. The project, located in southern Mexico, is scheduled for completion later this year and will house 50 families.

Each house is constructed using a 33-foot-long printer, known as Vulcan II, which dispenses a customized concrete mixture (called Lavacrete) in layers to form the walls of the home. The material is designed to flow easily but set quickly and precisely to produce a structure that is more rugged than conventional construction without the need for additional treatment or coatings. The walls for an entire house can be completed in 24 hours, cutting total construction time in half. Engineers are also looking at ways to integrate electrical and plumbing systems into the printing process, but for now that will be added later, along

with the roof and windows.

The developer has partnered with a nonprofit organization to build housing in some of the poorest areas of Mexico. These homes will be donated to families, many of whom have never had indoor plumbing or electricity. Technologies like this will be instrumental in addressing the global housing crisis and the need for fast, affordable solutions.

For information: Icon; Web site: <https://www.iconbuild.com/>

materials and can support a load of up to 500,000 pounds (227,000 kilograms).

During its two-and-a-half-hour maiden flight, Stratolaunch reached a maximum speed of 189 miles (304 kilometers) per hour and an altitude of 17,000 feet (5,200 meters). Dates for subsequent flights have not yet been announced.

For information: Stratolaunch, 555 Riccomini Avenue, Mojave, CA 93501; Web site: <https://www.stratolaunch.com/> or <https://www.stratolaunch.com/vehicles/carrier>



World's Biggest Airplane

The world's largest airplane recently completed its first test flight. Dubbed Stratolaunch, the new aircraft is designed to someday serve as an airborne launch pad for rockets carrying satellites into orbit. It's also being touted as the next-generation Air Force One, expected to debut in 2024.

The six-engine, double-fuselage plane has the longest wingspan of any aircraft to date, stretching 385 feet (117 meters). That's wider than three 737 MAX aircraft placed side by side. The gigantic plane is also longer than a football field, stands 50 feet (15 meters) tall, and has a maximum take-off weight of 1.3 million pounds (nearly 600,000 kilograms), which is distributed evenly over 28 wheels. The body is built from carbon-reinforced



Solid State Air Conditioning

Yet another Fast Company award went to a company for development of a sustainable cooling system that can replace environmentally damaging compressor-based air conditioning systems. The new product platform, known as OACIS, pulls heat from the air using semiconductors, and can be used for outdoor as well as indoor applications.

The system makes use of a phenomenon called the Peltier Effect (a thermoelectric effect). When a current is applied to a semiconductor, a temperature gradient occurs at the junction between the two conductor materials. The heat can be pushed in one direction, leaving the other side cooler, and this effect can be magnified

by employing many semiconductor chips. A bladeless fan circulates the cool air to reduce temperature and humidity in the surrounding environment. Also known as solid state cooling, the technology requires no refrigerants and can control the degree of cooling more precisely than traditional systems.

The company has successfully completed a three-month outdoor pilot test in Singapore at a variety of locations including a waterpark, an outdoor restaurant, and a parking garage. Even in direct heat and high humidity, OACIS performed well, making the city more livable for residents and business owners.

For information: Phononic, 801 Capitola Drive, Durham, NC 27713; phone: 919-908-6300; Web site: <https://www.phononic.com/> or <https://www.phononic.com/solid-state-products/climate-control/oacis-bladeless-fan/>

as part of a home solar system that also includes some LED lighting and two phone charging stations. A battery is capable of powering the refrigeration unit for up to one-and-a-half days, even without sunlight. Customers pay a small fee every day via cell phone until the system is paid off.

The technology not only makes it possible to store perishables and medications (such as insulin). It also frees up time that would otherwise be spent walking back and forth to markets. By buying in larger quantities, storing and saving leftovers, and reducing food spoilage, some families are saving up to 50 percent of their household incomes. The developer was yet another winner of Fast Company's 2020 World Changing Ideas Awards.

For information: Youmma, Rui Barbosa 1020, P.O. Box 91, Joinville-SC, Brazil 89219-901; Web site: <https://www.yoummasolar.com/>

Solar Refrigerator

A small refrigerator that's efficient enough to run off of a single solar panel is transforming lives for families in Africa, where more than half a billion people don't have access to electricity. And to make it affordable, the systems are installed on a pay-as-you-go basis to fit limited income budgets.

The energy-saving appliances are offered

Reducing Cow Emissions

It's been reported that, taken as a group, cows emit more methane than some large countries. In fact, one research firm estimated that they would rank sixth in the world – ahead of Brazil, Japan and Germany. For this reason, a lot of effort has been going into finding alternative feeds that could reduce the amount of methane that cows produce by altering their digestive

chemistry.

Methane is produced by the enzymes in a cow's stomach that are used to break down cellulose, starch, and sugars in a process similar to fermentation. As the gas builds, a cow has to burp to release the pressure, which also sends methane (a greenhouse gas) into the atmosphere. But researchers have found that a volatile compound called allicin – which is found in garlic – interacts with microbes in the stomach. When combined with citrus extract, the resulting product (called Mootral) reduced methane output by up to 30 percent.

Subsequent field tests have reported anywhere from 20 percent to 38 percent reductions, depending on the breeds of cattle tested. Unexpected anecdotal benefits have included an increase in milk production and one report that flies were not pestering the cows as much – perhaps due to their garlic breath.

For information: Mootral, Avenue des Uttins 1, 1180 Rolle, Switzerland; email: digital@mootral.com; Web site: <https://www.mootral.com/>

amounts of radiation and radioactive waste, fusion is cleaner, safer, and more efficient. But it has also been more elusive.

Much of the recent research on fusion reactors has focused on heating two types of hydrogen (deuterium and tritium) to extremely high temperatures (100 million degrees Kelvin) and, under extreme pressures, forcing the individual atoms together to generate energy. The problem is that it requires a tremendous amount of energy to initiate, sustain, and control such reactions, and they last for only fractions of a second.

Now, a new technology is being proposed that uses an advanced laser to ignite a fusion reaction between hydrogen and boron (B-11) inside a metal sphere.

The reaction generates helium atoms with no electrons (alpha particles). These positively charged particles are trapped inside the sphere, where they can be converted directly into electricity. A second laser serves to increase the reaction yield by establishing a magnetic containment field.

Tests have shown that this laser-triggered reaction can produce reaction rates up to a billion times higher than the researchers predicted. The method uses fuels that are abundant in nature and produces no radioactive by-products. It also doesn't require the high temperatures that traditional approaches do. In the long run, the hydrogen-boron reactor could be the ultimate answer to sustainable, abundant power.

For information: HB11 Energy; Web site: <https://www.hb11.energy/>



Laser-Driven Fusion Reactor

For decades, scientists have been looking to the nuclear fusion reactor as the ultimate source of efficient, limitless power. Unlike nuclear fission reactors that generate large

Discover New Opportunities Never Before Available

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favorite restaurant or partake in our usual gym routine. Many customers will feel like canceling their memberships out of frustration and distancing themselves from their favorite establishments, so you must find a way to engage them. We are all in this together; observe your customers' behavior and create opportunities in a way to still serve them, even with your doors closed.

Don't focus on the obstacles of being shut down; focus on how you can innovate and still serve your loyal customer base despite having to close. For example, think of how a self-defense gym can continue to host daily classes remotely via Zoom to keep its members engaged and satisfied.

Aside from teaching classes remotely, the same self-defense gym could take this opportunity to introduce a new product and offer new classes never before offered to its students, such as fitness courses to prevent injury while practicing self-defense or learning how to eat healthier with meal plans.

3. Slow-to-Launch Products

With now being a better time than any to pay attention to the Hard Trends, separating them from the Soft Trends, and becoming Anticipatory in order to continue innovation in a time possibly void of progress, if you have identified a product or service that can help the world, don't dawdle.

Be sure to reassign your workforce, employees, or coworkers to focus on that product or service exclusively to get it out now rather than later. An example: a company that hosts 5K fun runs and needs to shut down all its spring and summer events might create an app that allows

individuals to compete in a "remote 5K" by logging in and still participating in a 5K. Doing this would allow the company to still host the event in some way, whereas if it delayed or ignored this opportunity, someone else would take advantage of it.

With wearable technology dominating the fitness industry previously and now even more so, given the number of individuals out of work and looking for something to improve their lives with, the companies that create these devices have taken note and expedited the release of new products quickly. Fitbit is a great example, as during April the company rolled out a set of new features that help its users learn how to protect themselves from COVID-19 and, more importantly for working out and self-betterment, reduce stress during the quarantine.

Industries That Are Experiencing Disruption

Everything from Disney World and its in-person experiences to the music industry and summer music festivals are experiencing tremendous uncertainty. But again, with that uncertainty comes great opportunity combined with digital technology, as can be seen with recording artist Travis Scott and his virtual Fortnite concert breaking records and redefining what can be done when there seems to be no hope for going back to normal.

Want to know some specific industries in which this global pandemic has created obvious opportunities for disruption and possibly paved the way for a more cost-effective and efficient future? Here are three that come to mind, along with some examples as to how those industries have already seized new opportunities in this pandemic and overcome some seemingly impossible roadblocks:

Sports Entertainment. Prior to COVID-19, there was already a boom of e-sports, with everything from basketball to racing, so will this pandemic be the final disruptive event to push the sports industry over the edge to where e-sports officially becomes the new mainstay of

tomorrow? Or better yet, will “crowd-less” games and races become a more cost-effective way to run things?

Here's a real-world example of sports entertainment innovation that has already happened in the NFL: the annual draft. This year, it was supposed to be hosted in Las Vegas, new home of the Raiders organization, and staged right at the Bellagio fountains. Given the nationwide quarantine, this event was abruptly cancelled; however, the draft was not.

Using Zoom Communications in conjunction with its broadcast, the NFL hosted the very first remote NFL draft in history. It even broadcasted fans on the TV screen behind the commissioner, who was live from his basement, to help keep that “audience” feel to the event. Only time will tell if, come this fall, the NFL hosts its first “crowd-less” games in the history of the league.

Real Estate. One indisputable fact of this pandemic is that working remotely is possible, reduces pollution, and saves companies money by cutting down on office space. Realtors already work remotely, but how do they show homes remotely? There have already been some virtual tours accomplished with the use of virtual reality (VR). Will this be the new way of seeing a home after all this?

Prior to COVID-19, there were several commercial buildings sitting mostly vacant due to the reality that remote work is on the rise. Now, given the situation we find ourselves in worldwide, many of those buildings are completely empty, giving way to the question, “Couldn’t those be converted into temporary hospitals?”

They definitely could, as many exposition centers at fairgrounds and even convention centers, such as the Javits Convention Center in New York, the area most affected in our country by the coronavirus, are being converted into overflow hospitals for those who have become ill. Think of the positive impact real estate investors with vacant commercial properties could make by

way of opening smaller, more local, improvised overflow hospitals.

Higher Education. Many professors I’ve spoken to since the start of the global pandemic have quickly converted to online teaching by using Zoom and other video media. Several colleges are completely online; however, even more are not. Will this be the push to use more affordable online education technology to cut down on student debt?

Despite courses going online, I’ve heard from both students and professors that many are disappointed in the reality that spring commencement has been called off or rescheduled. However, much as the NFL did with its draft, many universities have pivoted and explored doing a virtual commencement for now.

For example, Carroll University, the first four-year university to open in Wisconsin, holds commencement on the front lawn of its historic landmark Main Hall building every May. This year, for the first time in the college’s nearly 174-year history, it has been cancelled. But instead of just writing it off as a bad year, the university is having the first virtual commencement in its history, ushering in hundreds of new graduates in a historic way.

Take a few minutes to consider your industry (or one that interests you). Are there opportunities and a need for positive disruption during this pandemic?



2020 EDITION

DANIEL BURRUS' TOP 20

TECHNOLOGY HARD TRENDS SHAPING 2020

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