

DANIEL BURRUS'

TECHNO TRENDS

THE BIG IDEAS THAT ARE
CHANGING EVERYTHING

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25 Game-Changing Hard Trends That Will Create Both Disruption and Opportunity

By Daniel Burrus, CEO of Burrus Research

No matter what industry you're in, your company can't survive without technology. From smart phones and tablets to mobile apps and cloud-based technology, there's a plethora of technological advancements not only to keep track of, but also to profit from. To stay competitive, your organization needs to anticipate the most significant technology trends that are shaping your business and changing your customer, and then develop innovative ways to use them to your advantage, both inside and outside of your organization. Remember, if it can be done, it will be done. If you don't use these technologies to create a competitive advantage, someone else will.

In the next five short years, the following game-changing technologies will transform every business process, including how we sell, market, communicate, collaborate, educate, train, innovate, and much more.

This is the 32nd year we have published our list of Hard Trends (trends that will happen) and if you have followed them over the years you have seen them as they first emerged. But now they have reached a new stage that you must pay attention to if you want to thrive in the future.

As you read through these Hard Trends, ask yourself if they will disrupt your current business model. Then ask yourself if you should be the disruptor rather than the disrupted.

1. Big Data Gets Bigger as the Use of High Speed Data Analytics Expands

Big Data is a term used to describe the technologies and techniques that capture and utilize the exponentially increasing streams of data

chain, logistics, distribution, service, sales, maintenance, and more grow rapidly. There will be an increasing focus on Business App Stores within companies, giving users access to the personalized information they need on their mobile devices anytime and anywhere.

13. 3D Displays for Smartphones and Tablets Start to Appear

3D displays will move beyond large TVs and gaming to become part of our smartphones and tablets. This will drive a wide-scale consumer acceptance of 3D computing. This trend is just starting with hand-held gaming systems and, thanks to the need to visualize ever-increasing amounts of rich data, we will see 3D data simulations for the enterprise grow rapidly for the military, medicine, fashion, architecture, and entertainment, to name a few.

14. Augmented Reality (AR) Apps and Devices Starts to Grow

Augmented Reality has been slow to start, but it will soon become more common as cities, retailers, distributors, and manufacturers add just-in-time information to our physical world. Simply aim your smartphone camera at a crowded street to find the stores who have the exact products you are looking for. Or, when you are in a store, use your phone's camera and AR app to quickly locate the products you need.

15. Smart Virtual Electronic Assistants Get Better and More Personal

The use of smart eAssistants is accelerating and offering what is rapidly becoming a mobile electronic concierge available on any of your smart devices, including your phone, tablet, television, and car. Soon retailers will have a Siri-like sales assistant and many will be using an e-Personal Health Assistant that taps into the real-time health data from your smart watch to predict potential problems and offer suggestions.

16. Multiple Biometrics Used for Security

Next Gen Biometrics will be increasingly integrated into your smartphone, tablet and other devices, which will

play an increasing role in both identity management and security. Expect to see multiple biometrics that go beyond your thumb to include facial recognition and voice recognition, based on the level of security you need.

17. Mobile Banking and Smartphone Payments Takes Off

Mobile banking using smartphones as an eWallet is already being used in an increasing number of countries and is finally taking off on a larger scale in the US. This is thanks to an increasing number of phones with secure mobile banking apps, Near Field Communications (NFC) chips, Biometric Identification, and the use of tokens where no credit card or personal information is exchanged.

18. Visual Communications for Business Increase

Visual communications takes video conferencing to a broader level thanks to free programs like Skype, FaceTime, and others for video communication on phones, tablets, and home televisions. Businesses of all sizes are rapidly embracing these programs as their main relationship-building and communications tools.

19. Enhanced Location Awareness Embraced by Large Retail

Location awareness, which uses in-building systems, allows customers with smartphones to navigate stores and find what they are looking for fast. This combined with Geo-Social Marketing and Augmented Reality will drive the creation of more business-to-consumer apps.

20. Personalized Streaming Entertainment Increasingly Challenges Cable

The increasing use of Internet Television (IPTV) and an increasing number of quality programs produced by streaming companies such as Netflix and Amazon will fuel a major shift in home viewing. Next-generation apps for your TV will allow you to further personalize the viewing experience. In addition to large HD and 4K Ultra HD TVs as our main viewing screen, tablets are increasingly becoming a viable replacement for the second and third TV in your home. This is the beginning of a major shift that will take place in living rooms globally.

21. 3D Printing (Additive Manufacturing) of Finished Goods Takes Another Step Forward

Personalized Manufacturing of finished goods using 3D printing will grow exponentially. 3D printers build things by depositing a material—typically plastic or metal—layer by layer until the product is finished. Originally designed to print prototypes, they are increasingly being used to print final products such as jewelry, iPhone cases, shoes, car dashboards, parts for jet engines, prosthetic limbs, human jawbones, and much more. 3D printing allows companies to manufacture one-of-a-kind or small runs of items quickly, locally, and with far fewer costs. We will begin to see Manufacturing-as-a-Service in which designers use CAD software to design a product, send it digitally to a 3D printing company who owns the industrial strength 3D printers, and who will then ship it to the customer.

22. Machine-to-Machine (M2M) and the Internet of Things (IoT) Expand Rapidly

Machine-to-Machine communications—using chips, micro-sensors, and both wired and wireless networks—will join networked sensors to create a rapidly growing Internet of Things that shares real-time data, performs diagnostics, and makes virtual repairs, all without human intervention. By 2020, there will be well over 50 billion “things” talking to each other, performing tasks, and making decisions based on predefined guidelines, all using artificial intelligence. For example, smart cars will increasingly become aware of situational changes and respond. This trend will increase as cars get more connected to smart infrastructure such as roads, bridges, and other cars via embedded and networked, sensors combined with other technologies such as GPS.

23. Advanced Automation and Intelligent Robotics Find Wider Use

Rapid advances in Machine Learning and AI, coupled with networked intelligent sensors, will create a giant leap forward after decades of promise and slow growth, thanks to exponential advances in processing power, digital storage, and bandwidth. Also, thanks to better sensors, increasing Machine Intelligence, and Siri-like voice communications, robots will work with humans in new and productive ways.

24. Drones Go Beyond Fire, Police, Search and Rescue

The number of applications for drones will continue to expand rapidly. Drones have already proven to be of high value for search and rescue, and are rapidly being applied to many industries. For example, agriculture uses drones to check crops, fences, and cattle. Utility companies use them to look for downed power lines, and real estate agents use them for aerial photography. The explosion of hobby drones will drive innovation for both personal and industrial applications.

25. Energy Storage and Micro Grids Increase in Application and Use

Energy storage will start to become a reality. As first-generation hybrid vehicles get too old for the marketplace, there will be millions of batteries that will still hold enough of a charge to be repurposed into inexpensive energy storage systems. In addition, companies such as Tesla will start to sell their smart battery systems to businesses and homes who generate some of their own power using solar, wind, or other systems. This will enable a national network of smaller, and more secure smart Micro Grids. Looking a little further out, as electric and hybrid cars increase in numbers, they will increasingly be plugged in when not in use for the purposes of charging, storing, and using power.

I suggest that you pick one or two and act now before your competitors do!



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