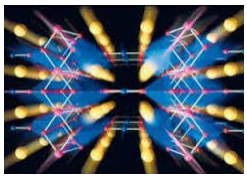
SHARE, Summer 2013



Disruptive Technology: Let's *Upset* Your Quiet Mainframe Life

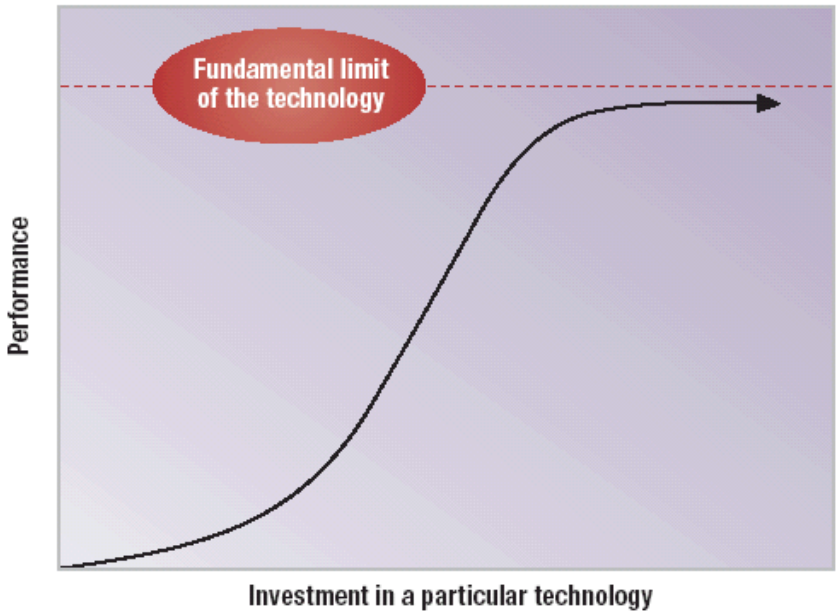
Glenn Anderson
IBM Lab Services and Training

SHARE Session 14277

SHARE Member Survey

- Employers want well-rounded, business-savvy employees
- "People need to understand the 'big picture' of how computers work, from the deep level programming to how it affects – and interconnects with – applications, servers, and other things in the data center"

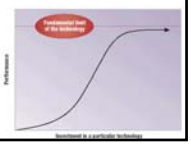
The Technology Curve



The Technology Curve Implications

- The extent and nature of payoff from technologies depends on their position on the curve
- Payoff and performance of new technologies can actually be lower than the payoff and performance of the technologies they are meant to replace

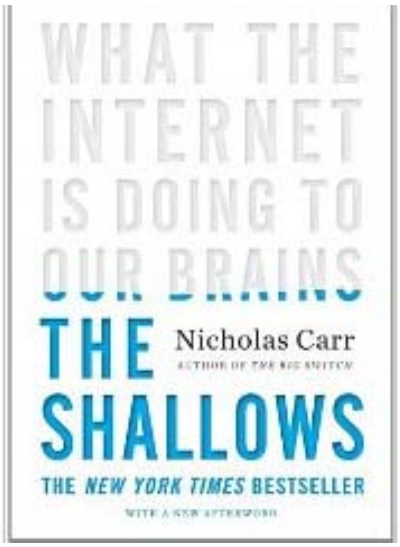
From The IT Payoff, by Sarv Devaraj and Rajiv Kohli



Disruptive Technology

- New way of doing things that disrupts or overturns traditional business methods and practices
- Attributes initially not valued by customers
- May look financially unattractive to established companies

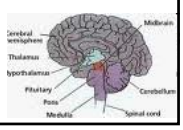
Customers find little use for disruptive products … at first



We find ourselves between two technological worlds…..

- After 550 years, the printing press and its products are being pushed from the center
- First wave of electronic media – radio, cinema, phonograph, television
  - They could displace but not replace the book
- Today's electronic revolution – desktop, laptop, handheld – become constant companion and the Internet becomes medium of choice for information

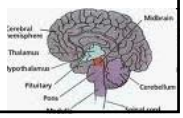
From The Shallows, by Nicholas Carr



The effects of the net……

- The time we spend reading print publications is decreasing
- The multimedia Net fragments content and disrupts our concentration

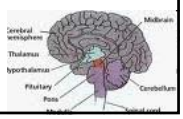
From The Shallows, by Nicholas Carr



The effects of the net……

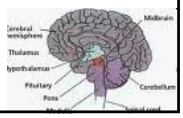
- The time we spend reading print publications is decreasing
- The multimedia Net fragments content and disrupts our concentration
- Media companies adapt to the audience's new expectations
- Publication becomes an ongoing process rather than a discrete event
- The Net seizes our attention only to scatter it

From The Shallows, by Nicholas Carr



"The world of the screen is a very different place from the world of the page. A new intellectual ethic is taking hold. The pathways in our brains are once again being rerouted."

From The Shallows, by Nicholas Carr



IBM Watson

IBM zEnterprise System

zEnterprise Unified Resource Manager

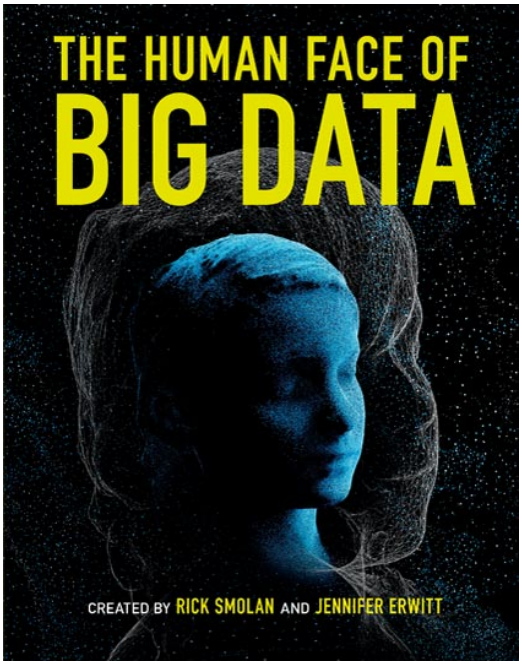
- Provides platform, hardware and workload management

IBM zEnterprise™ zEC12

- Most efficient platform Capable of massive scale up, over 50 Billion Instructions per Second (BIPS)

IBM zEnterprise BladeCenter® Extension (zBX)

- Selected IBM POWER7® blades and IBM x86 Blades[1] for tens of thousands of AIX® and Linux applications


THE HUMAN FACE OF
BIG DATA
CREATED BY RICK SMOLAN AND JENNIFER ERWITT

BASEBALL AFICIONADOS have been obsessed with statistics for as long as the sport has existed. True fans don't hesitate to compare stats of great players even if they took the field a century apart. Thanks to the movie Moneyball, statistics are now as closely associated with America's pastime as hot dogs and beer. So it is no surprise that Big Data has already begun to transform every aspect of baseball.
Let's take a look at a single second in one mid-season Major League Baseball game—in this case, the Cleveland Indians hosting the Cincinnati Reds at Progressive Field on June 16, 2012—and see how the amount of data being captured in that one single moment of time is greater than that of entire seasons only a few years ago.
MLB Advanced Media (MLBAM), headed by CEO Bob Bowman, is the digital media company responsible for the collection and management of all this data. All season long, its data and video technicians log every pitch and action for every game, not to mention the post-season, the pre-season, the All-Star Game, and everything in between.
00.00 As any fan knows, every call by an umpire produces a flurry of statistics, from batting averages to strikeouts. Three days, that's only the start. Here, during that second, Indians starting pitcher Derek Lowe delivers a pitch under the close watch of the MLBAM and PITCHf/x systems. The three data streams are married together in real time using MLBAM's proprietary software, distributed to broadcasters and stadium operators, and curated later for ESPN, Bloomberg Sports, and others.
00.01 Three other PITCHf/x cameras are aimed at the diamond. Operating at a rate of 60 photos per second, the PITCHf/x system generates nearly 20 million images per season. In addition to this camera, positioned high over the first-base line, two baseline cameras track the telemetry of the pitch, while the center-field camera is used to size the strike zone.
00.26 At the MLBAM Transmission Operations Center in New York, a broadcast engineer oversees the acquisition of the HD home and visiting video feeds, along with the statistics data feed for each ballpark. Per an MLB standard game night, the aggregate inbound and outbound transmission can reach over two gigabytes per second of video and statistical data feeds—10 terabytes of media and statistical content over the course of the evening. Each second-long pitching event is given a 10-digit ID number.
00.49 During this same second, the home viewer sees the PITCHf/x technology, wherein the path of the pitch is presented as a drawn line. The speed of the pitch is also typically displayed as well. For this technology, MLBAM has partnered with Sportvision.
00.72 In the scoreboard operations room, stats operator Dan Lapchak takes data from a variety of feeds of the game in progress, as well as overall season data. He curates it all and programs it for display on the Jumbotron and the other stadium scoreboards.
01.00 Again during that same second, a fan checks out the mobile version of MLBAM's website host, known as Gameday, which allows any fan anywhere in the world to track the game in real time.
As the second ends and the ball snaps into the catcher's mitt for the called strike, gigabytes of data have been stored, to be searched by generations of baseball fans not yet born (and players, coaches, and scouts later that night). All of that data gathering will be repeated in the next second, and the second after that, throughout the long season at every Major League Baseball park. On the field, it remains the same game it has been for more than a century—but thanks to Big Data, everything surrounding that field is changing for the better.
PHOTOS: ALEX GARCIA; BOTTOM SECOND FROM LEFT: SATCHMO, SEE.CH
00:01
00:26
00:49
00:72
01:00
ONE SECOND IN MAJOR LEAGUE BASEBALL

Prioritizing disruptions that matter

User Experience
- Is it easy for people to use?
- Does it enable people to connect in new ways?

Business Model
- Does it tap new revenue streams?
- Is it done at a lower cost?

Ecosystem Value
- Does it change the flow of value?
- Does it shift power from one player to another?

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Augmented Reality

Google Glass

http://www.youtube.com/watch?v=lK_cdkpazjI

Data is the……

……New Astrology

Ubiquitous Computing

LIKEONOMICS

The new global currency isn't made of paper.
It's made of relationships & affinity.

Most Trusted Forms of Advertising

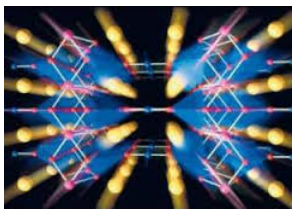
- Recommendations from people known – 90%
- Consumer opinions posted online – 70%
- Search engine result ads – 41%
- Online banner ads – 33%
- Text ads on mobile phones – 24%

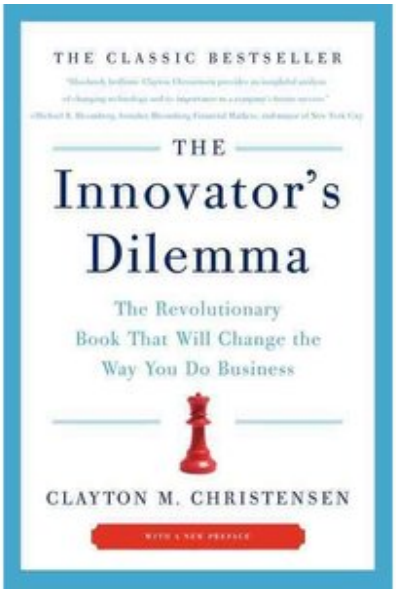
Disruption in marketing

Five Corporation-Crushing Disruptive Technologies That Will Empower the Masses

- Decentralized Currencies (Bitcoin)
- Crowd Funding
- Graphene
- Psychedelics
- 3-D Printing and Digital Fabrication

http://www.youtube.com/watch?v=quK6vmnjgUs



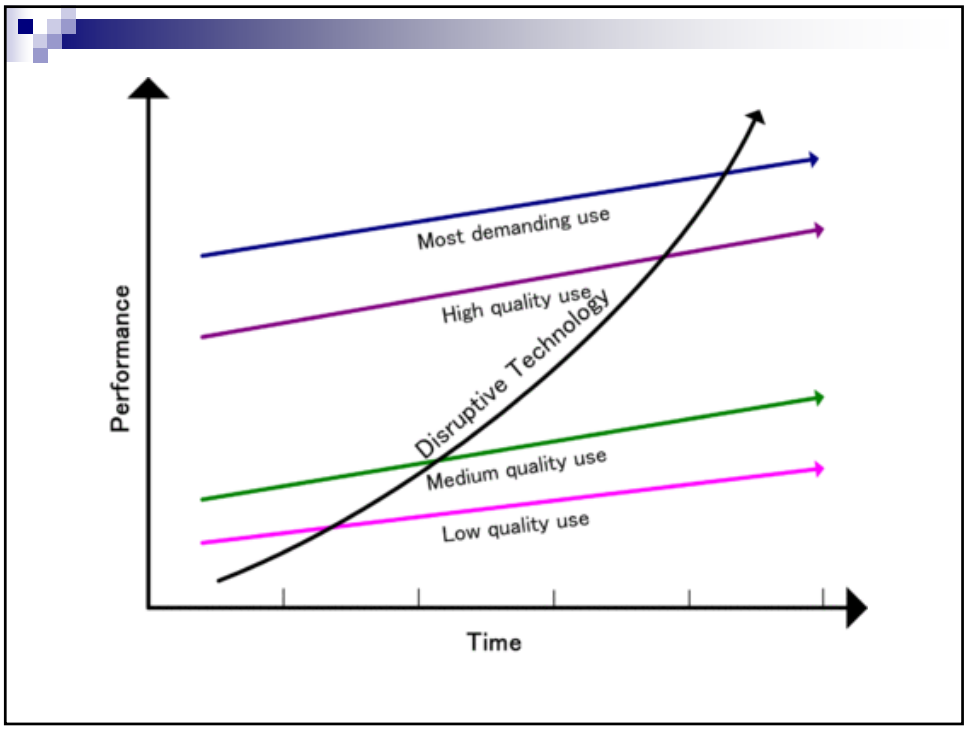


Disruptive Innovation

- Helps create a new market and value network
- Disrupts an existing market and value network, displacing an earlier technology
- Improves a product or a service in ways market did not expect
- Designing for a different set of consumers in the new market, later lowering prices in existing market

The Disruptor

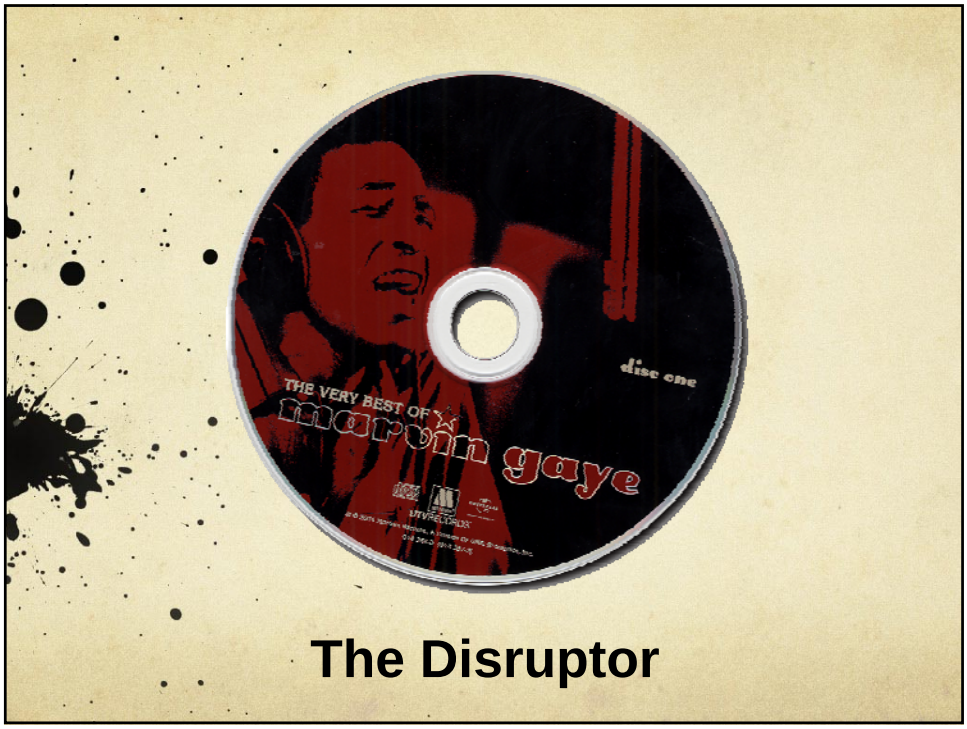
The Disrupted



Examples of Disruptive Innovations

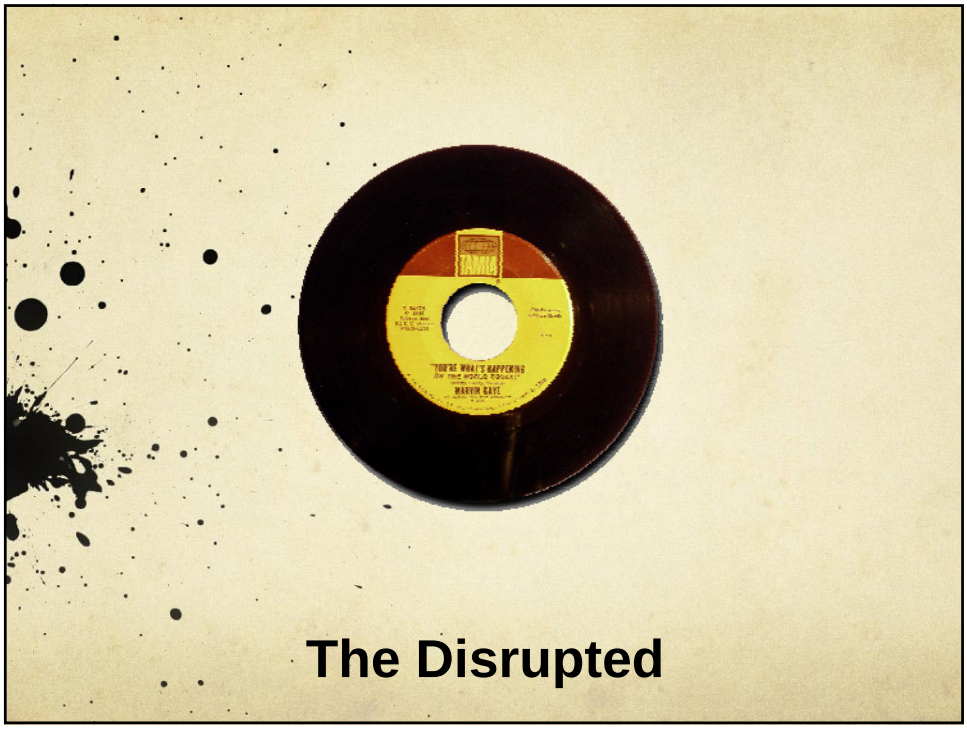
- Online retailing
- Distance education
- Outpatient clinics
- USB flash drives
- Digital Photography
- LCD
- Plastic

Disruption in the music industry

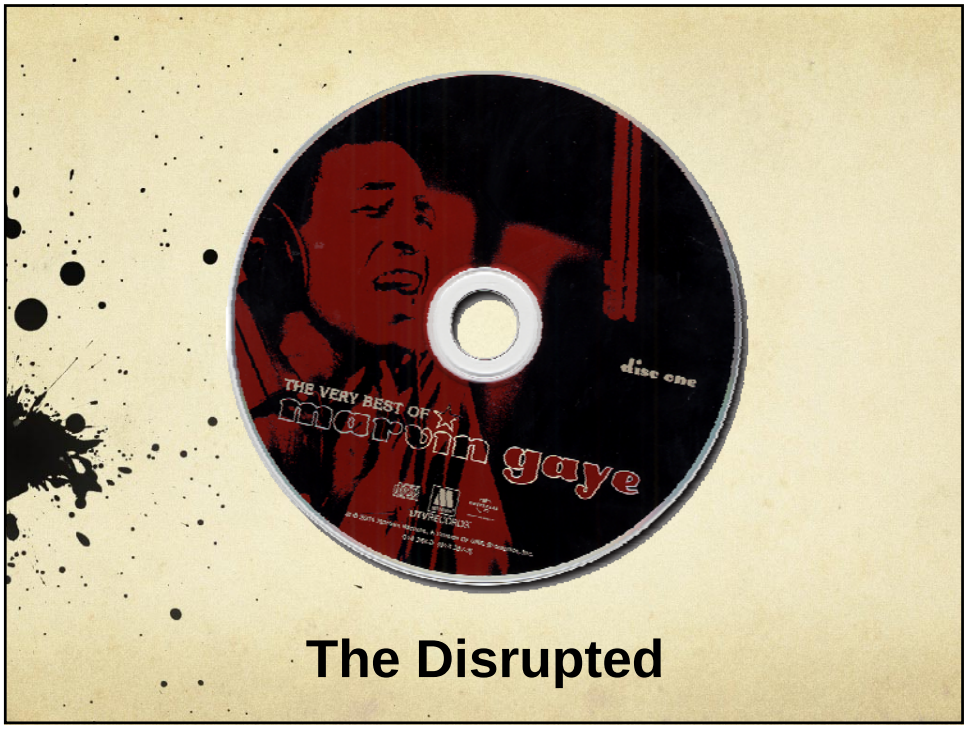


The Disruptor

The Disrupted


The Disrupted

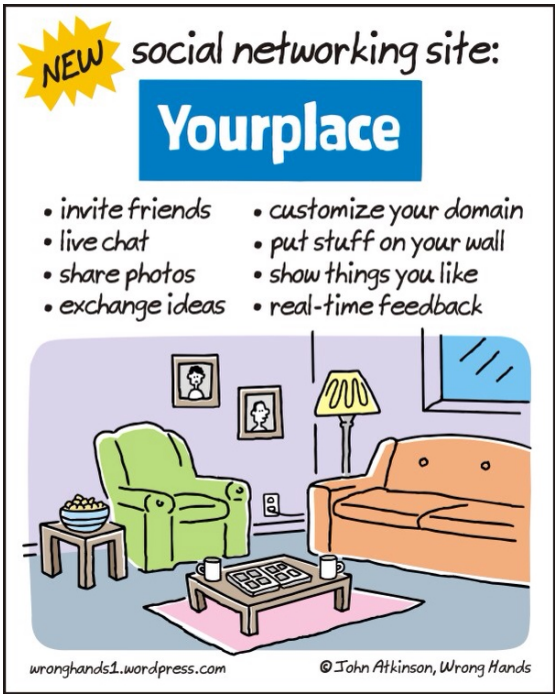
What's Going On (Remastered)
iTunes Review
The Disruptor



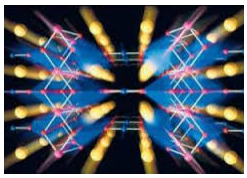
Principles of Disruptive Technology

- Companies depend on customers and investors for resources
- Small markets don't solve the growth needs of large companies
- Markets that don't exist can't be analyzed
- Technology supply may not equal market demand

http://klout.com/corp/how-it-works#the-score



SHARE, Summer 2013



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