Augmented Humanity and AI

What Happens When The Machines Take Over

MAY 2018

R “RAY” WANG (@RWANG0) 🌐

PRINCIPAL ANALYST & CHAIRMAN
52% of the Fortune 500 firms since 2000 are gone

@rwang0 #DisruptingDigital
Digital business models create a winner take all market not a digital divide

<table>
<thead>
<tr>
<th>Overall Market Share</th>
<th>Digital Leaders</th>
<th>Everyone Else</th>
</tr>
</thead>
<tbody>
<tr>
<td>69.8%</td>
<td>77.1%</td>
<td>22.9%</td>
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<tr>
<td>30.2%</td>
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</table>

Percentage of Profits: 77.1% for Digital Leaders and 22.9% for Everyone Else.
What’s the hottest performing stock since 2010?
What’s the hottest performing stock since 2010?

[Graph showing the performance of Domino’s Pizza and Netflix stocks from 2010 to 2017]
Welcome to the post-sale, on-demand, attention economy!
Disrupt Or Be Disrupted
Incremental innovation is table stakes and expected
Transformational innovation disrupts markets
Samsung is after Apple on the high end
Micromax is after Samsung
Lessons Learned From Disrupting Digital
Digital disruption is more than just a technology shift. It’s about transforming business models and how we engage.
Tech convergence powers digital disruption

Mobile  Social  Cloud  Big Data  IOT  3D Printing

Design Thinking Inspired User Experience
Social creates new verbs and experiences that bring people and networks together

Twitter – I need to pee
Facebook – I pee’d
Google+ - More pee in circles
FourSquare – I’m peeing here
Pinterest – My pee scrapbook
Instagram – My pee in sepia
LinkedIn – Hire me to pee
Path – Watch me pee privately
You Tube – Watch me pee
Vine – Watch my pee loop
SnapChat – I have no proof I pee’d
Jelly – Does this look like pee?
What’s app – I told you I pee’d
Periscope– Watch me pee live
Tech convergence powers digital disruption

Design Thinking Inspired User Experience

- Mobile
- Social
- Cloud
- Big Data
- IOT
- 3D Printing
Uber incorporates five key pillars
We move from selling products and services to keeping brand promises in an attention economy.
We battle for experiences and outcomes
Digital accelerates business model transformation

- Product companies give away product for service revenues.
- Service based businesses sell experiences at varying price points and service levels.
- Experience based businesses selling business models
- Business model companies sell peace of mind.
Medical device companies just don’t sell imaging systems
Disney doesn’t just sell theme park tickets
Disney fully applies mobile and data as the gateway to new customer experiences
You're not competing with another company, you're really competing for time and attention.
New unit cost pricing models enable disruptive business models to thrive.
Dollar shave club shows what happens when you change how people buy

@rwang0 DisruptingDigital
From all you can drink.... to by the sip
From power turbine to green electrons
Same metric, yet different business models...
Data is the foundation of digital business. Every touch point, every click, every digital exhaust is relevant insight.
Data and content explosion goes exponential

- **90%** of data created in last 2 years 2014,
  1 year 2015,
  1 sec 2020

- **100M** viral connections per minute by 2020

- **80 Billion** sensors in devices by 2020

- **60%** of mission critical data will reside outside four walls by 2020
Use big data context to improve analytical insight to make better decisions

Data Sources
- Structured
- Semi-structured
- Unstructured

Information & Orchestration
- Physical
- Virtual
- Machine
- Contextual

Insight
- Performance
- Deduction
- Inference
- Prediction

Decisions & Actions
- Next best action
- Prevention
- Suggestion
- No action

Secure Sense and Respond

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If 20% of your revenue is not an insight stream by 2020, you won’t have a digital biz model
The future is big data business models built on insight

Insight based differentiation
- Drive demand
- Create new service offerings
- Improve c-sat
- Drive lower cost models

Insight brokering
- Raw information
- Analysis and insights
- Benchmarking

Insight based business platforms
- Marketplaces
- Deal making
- Advertising
What could you plan for next with context?
The power of IOT is monetizing the networked economy with insights
What happens with sensors on showers?
Five IOT data driven business models change industries forever

- CX service monitoring
- Data play on field service
- Uber type plumber network
- Green efficiency play
- Loyalty programs
Why the IOT of Toasters is a B2B2C World
New AI business models powered by data

- Customer experience monitoring
- Remote field service
- Toasts as a service
- Direct to consumer
- Cross-sell
Organizations who built multiple business models will succeed

R Ray Wang (王瑞光) @rwang0 (2015)

“Every industry is learning from each other. Expect hybrid and multi-modal business models to be the norm”
You can be the content, the network, and the arms dealer. Today’s digital winners vertically integrate all three into network economies.
Now it’s everyone vs amazon
BORDERS VS. Videos VS. Shipping

Barnes & Noble VS. Cloud Computing

Toys "R" Us VS. Amazon

eBay VS. Devices

Best Buy VS. Samsung Galaxy

Target VS. Media

Android VS. USA Today VS. The New York Times VS. WSJ

FedEx VS. Microsoft Azure

Google Shopping Express
Digital artisans emerge to humanize digital across the organization
GE knows when a transmission line will go down 8 to 10 days before it happens
We must invest in digital artisans in order to humanize digital
“Design thinking is a methodology to unlock solutions to questions you never would have asked” (@rwang0)
Design for people segments of one
Can you support a human segment of one and deliver on mass personalization at scale?
Context provides relevancy from real time to right time
Choose your own adventure journeys
Intention driven design “skate where the puck will be” or anticipatory analytics
Contextual relevancy earns you the permission to engage and identify the next best action
AI driven smart services power the future
Deliver brand promises via orchestration across personas, processes, and the graph

Atomic Level Customer Journeys, IOT Smart Services, Work Streams, & Block Chains

1. Digital Footprint & Exhaust
2. AI/Cognitive Reckoning
3. Channels
4. Choices
5. Value Exchange: Monetary, Non-Monetary, Consensus
6. Cadence
7. Machine Learning

Orchestration of Trust

Immersive Experiences:
- Context
- Content
- Collaboration

Personalization at Scale:
- Anticipatory Analytics
- Catalysts

Value Exchange:
- Monetary
- Non-Monetary
- Consensus
Assign outcomes, amplify with Artificial Intelligence

What’s happening now?  |  What do I need to know?  |  What do you recommend?  |  What should I always do?  |  What can I expect to happen?  |  What can I avoid?  |  What do I need to do right now?  

1  |  2  |  3  |  4  |  5  |  6  |  7  

Perception  |  Notification  |  Suggestion  |  Automation  |  Prediction  |  Prevention  |  Situational Awareness  

Continuous learning

What do you recommend?
What should I always do?
What can I expect to happen?
What can I avoid?
What do I need to do right now?
What’s happening now?
What do I need to know?
### AI driven systems drive the future of digital

<table>
<thead>
<tr>
<th>Elements</th>
<th>Transactional Systems</th>
<th>Engagement Systems</th>
<th>Experiential Systems</th>
<th>Mass Personalized Systems</th>
<th>AI-Driven Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design point</td>
<td>Continuous improvement</td>
<td>Sense and respond</td>
<td>Agile and flexible</td>
<td>Intention driven</td>
<td>Decision driven</td>
</tr>
<tr>
<td>Continuous improvement</td>
<td>Massive computing scale</td>
<td>Massive social scale</td>
<td>Massive contextual scale</td>
<td>Massive individual scale</td>
<td>Massive decision scale</td>
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<tr>
<td>Challenge</td>
<td>Computing based</td>
<td>Interactive</td>
<td>Bionic</td>
<td>Personalized</td>
<td>Natural</td>
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<tr>
<td>User Exp</td>
<td>Broadcast dictatorial</td>
<td>Conversational</td>
<td>Role tailored</td>
<td>Sentient</td>
<td>Human like</td>
</tr>
<tr>
<td>Comm Style</td>
<td>Just in time</td>
<td>Real time</td>
<td>Right time</td>
<td>Anticipatory</td>
<td>Space time continuum</td>
</tr>
<tr>
<td>Speed</td>
<td>Departmental/ corporate silos</td>
<td>Interconnected</td>
<td>Segmented value chains</td>
<td>P2P networks</td>
<td>Virtual</td>
</tr>
<tr>
<td>Impact and reach</td>
<td>Highly structured</td>
<td>Loosely structured knowledge</td>
<td>Immersive streams</td>
<td>Self aware embedded knowledge</td>
<td>Continuous learning</td>
</tr>
<tr>
<td>Info mgmt</td>
<td>Hard coded</td>
<td>Deterministic business rules</td>
<td>Probabilistic pattern based</td>
<td>Predictive</td>
<td>Situational awareness</td>
</tr>
<tr>
<td>Intelligence</td>
<td>Examples</td>
<td>Social and collaboration</td>
<td>Ad networks, gamification</td>
<td>Decision support, VRM</td>
<td>Augmented humanity</td>
</tr>
<tr>
<td>Payroll, ERP, CRM</td>
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@rwang0 #DisruptingDigital
The path to AI

- Predictive analytics and big data
- Machine Learning
- Neural Networks
- Cognitive computing
- Narrow Artificial intelligence
- General Artificial Intelligence
Five generations of people by digital proficiency, not age
5 generations of digital people not by age but by digital proficiency

1. Digital Natives
   comfortable in engaging all digital channels

2. Digital Immigrants
   crossed the chasm into the digital world, forced into engagement with digital channels

3. Digital Voyeurs
   Recognize the shift to digital but not ready to be active yet themselves

4. Digital Holdouts
   Resisting the shift to digital, ignoring the impact

5. Digitally Disengaged
   Understand digital but avoiding engagement on purpose, often for privacy reasons
Inside The AI Future
Seven factors for AI success

- Large corpus of data
- Massive compute power
- Time
- Awesome math talent
- Industry specific expertise
- Natural UI/UX
- Contextual decisions
Let me tell you a story about the letter “A”
Teams require data proficiency
Start with the business question
Find all your data sources
Access not ownership drives the digital future

R Ray Wang (王瑞光) @rwang0 (2013)

“60% of mission critical data will be accessed not owned by 2020”
Nurture your data throughout the insights supply chain

- Augment
- Secure
- Deliver
- Refresh
- Transform
- Master
- Classify

Upstream data sources

Downstream data consumption

Start

Relate

Archive

Retire

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Connect to the right people
Deliver awesome visualization
When Will The Robots Take Over?
The robot to human ratio at Tesla Motors
Candidates for automation

<table>
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<tr>
<th>Human Powered</th>
<th>Augmenting Humanity</th>
<th>AI Powered</th>
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<tbody>
<tr>
<td>Low</td>
<td>Repetitiveness</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Volume</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>Complexity</td>
<td>Both</td>
</tr>
<tr>
<td>High</td>
<td>Creativity</td>
<td>Low</td>
</tr>
<tr>
<td>High</td>
<td>Physical presence</td>
<td>Low</td>
</tr>
<tr>
<td>Low</td>
<td>Time to complete</td>
<td>High</td>
</tr>
<tr>
<td>Low</td>
<td>Nodes of interaction</td>
<td>High</td>
</tr>
</tbody>
</table>
Auto-pilot runs 90% of the time in modern jets
83% of all accidents occur during take off and landing
Captain Sully rewrote the rules when he landed on the Hudson
Henna Hotel is AI driven
Do we tax the robots?
Is privacy dead?
Elon Musk may have a point
Design rules for AI ethics

- Transparent
- Human-led
- Explainable
- Trainable
- Reversible

Level 1 AI Ethics
Digital Darwinism is unkind to those who wait
Don’t be caught in the disruption!

Average company lifespan on S&P 500 Index (in years)

Year (each data point represents a rolling 7-year average of average lifespan)

DATA: INNOSIGHT/Richard N. Foster/Standard & Poor’s
Five steps to get started

- Design new experiences and outcomes
- Develop a culture of digital DNA
- Apply new business models and technologies to existing infrastructure
- Move from gut to data driven decisions
- Co-create and co-innovate with new partners
Join me and other innovators at Constellation’s Connected Enterprise

The Ritz Carlton, Half Moon Bay, CA | October 22-25, 2018 | www.constellationevents.com
Thank you.
Any questions?

R “Ray” Wang

+1.650.918.6619
R@ConstellationR.com
@rwang0
www.raywang.org
www.ConstellationR.com