

Outliers and Strategic Novelty: Learning from Things Yet to Happen

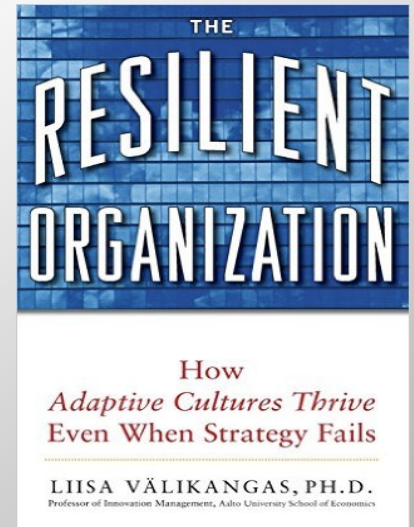
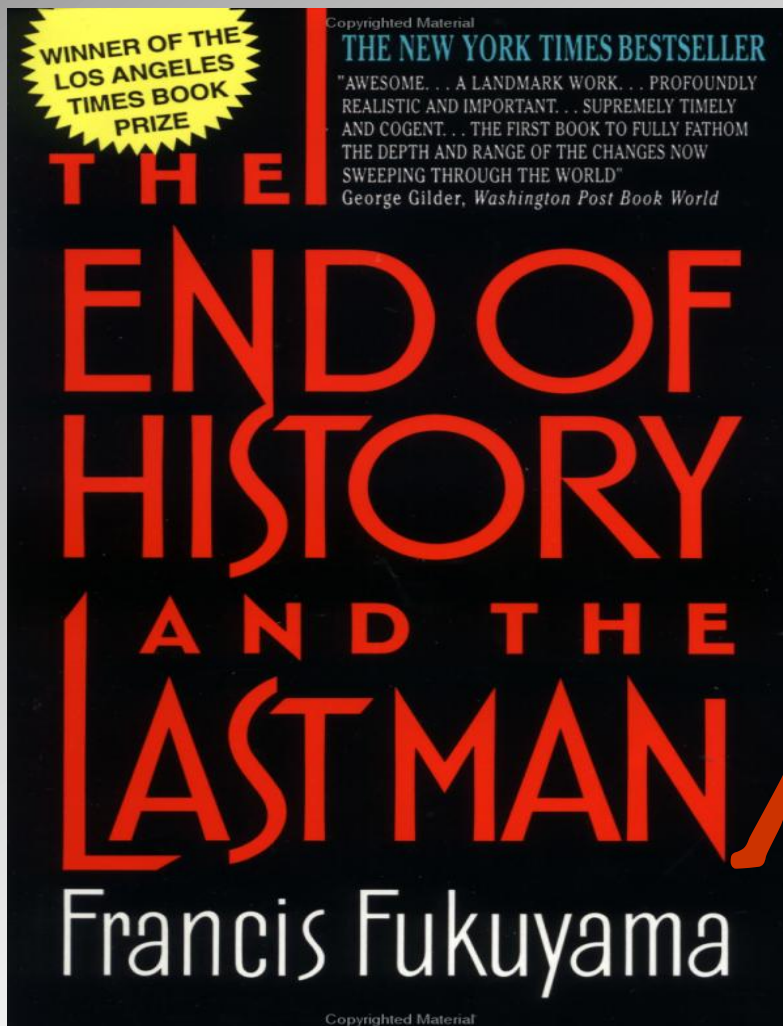
Liisa Välikangas

Aalto University & Hanken School of Economics

November 7, 2015

Management history has not ended either.

2010:



Management is becoming ever more difficult...

Organizational environment:

- Hierarchy buys less effective authority
- The grounds for commitment are shifting
- Ambition is diverging between those who defend status quo and those who seek a lot more

Business environment:

- Rare events/black swans: “No visibility”
- Global interconnectivity: “Systemic soup”
- Lack of shared judgment grounds: Whose values?

...while we expect more and more
from our leaders.



Crisis as an industrial management legacy:

- “The business environment is becoming more turbulent than companies are becoming resilient.” Gary Hamel & Liisa Välikangas
- “Our current capability and understanding on how to drive collective global change is woefully inadequate relative to the challenges facing us in the next 10-20 years.” Jane Dutton, U of Michigan
- “The Singularity is near.” Ray Kurzweil

Our managerial DNA:

Principles

1. Specialization
2. Standardization
3. Hierarchy
4. Planning & control
5. Extrinsic rewards

Toxic side effects

- Limits cross-boundary learning and circumscribes opportunities
- Forgoes innovation in favor of conformance
- Over-values experience and under-values new thinking
- Creates a dangerous illusion of extrapolation-based predictability
- Discounts the power of self-organization and volunteerism

‘Outlier’ analysis of management journals*

	Articles	Percent
Outliers mentioned	198	
“Eliminated or controlled for”	147	74%
Noted as “important” but not studied	34	18%
Outliers studied	16	8%

*Academy of Management Journal, Strategic Management Journal, Research Policy, Journal of Management Studies, 1980-2012

Regressing to the mean:

“Our strategy is a good one. We know it because everyone else [in our industry] has the same strategy.” *CFO of a Fortune 500 company*

“We are continuously being contaminated with conventional thinking.” *A Nobel Laureate*

Why study outliers?

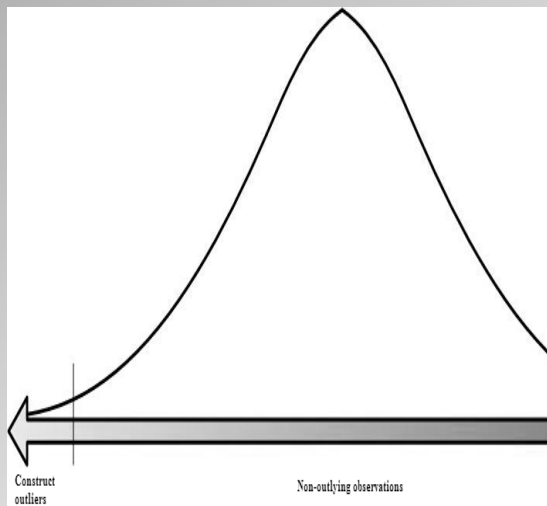
Categorization		Example
Methodological implications	The inclusion of outliers is required for a full analysis of the data	Cluster analysis would have been incomplete without accounting for outliers (Hambrick, 1993)
Theoretical “contrarian” implications	The inclusion of outliers in the data challenging extant models or theoretical assumptions	“... studies on why extant institutional voids theory explains these outliers so poorly” (Carney et al., 2001)
Theoretical “Expected novelty” implications	The inclusion of outliers in the sample is sought out because these data provide information deviate from the norm	“Outliers are a source of multiple perspectives and innovative ideas and can help in identifying and addressing risks” (Singhal and Singhal, 2011)
Model or Result changing implications	The inclusion/exclusion of outlier data significantly alters the study’s findings	The explanatory power of the model changed from 34.4% to 20.9% when the leading outlier firm was subtracted from the sample of 100 firms (Starbuck, 1993)

Learning from samples of one or fewer:

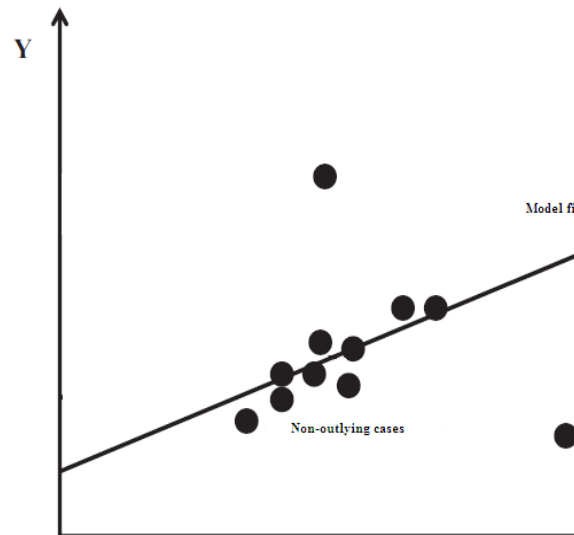
- Experience history richly
 - Explore multiple interpretations for what happened
 - Explore multiple aspiration levels and definitions of success
 - Explore the events from the point of view of different stakeholders or actors
- Consider near-histories, accidents that almost happened and future scenarios

How to find outliers?

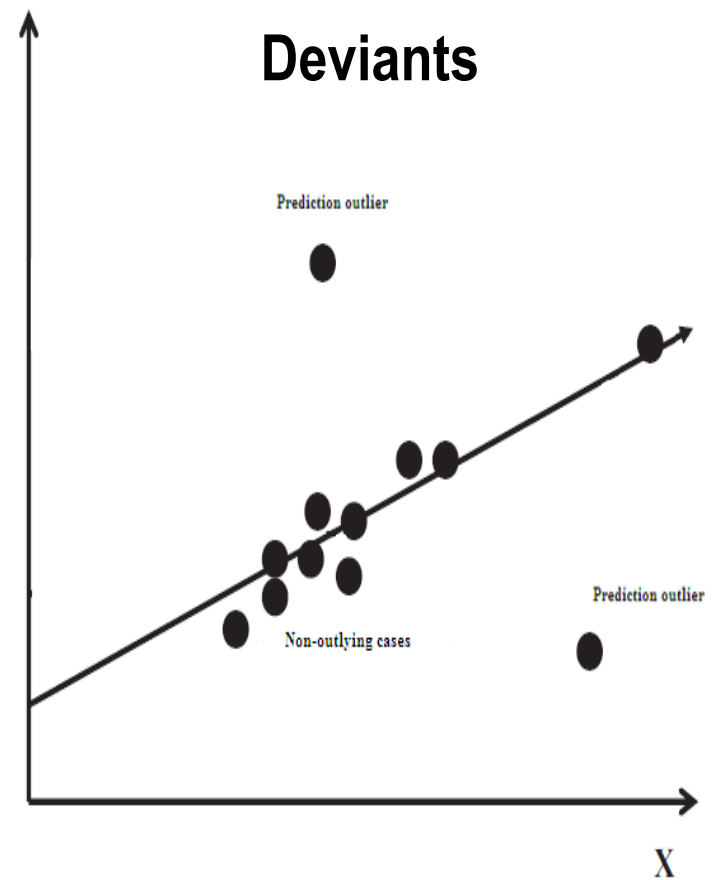
Extreme values



Overperforming

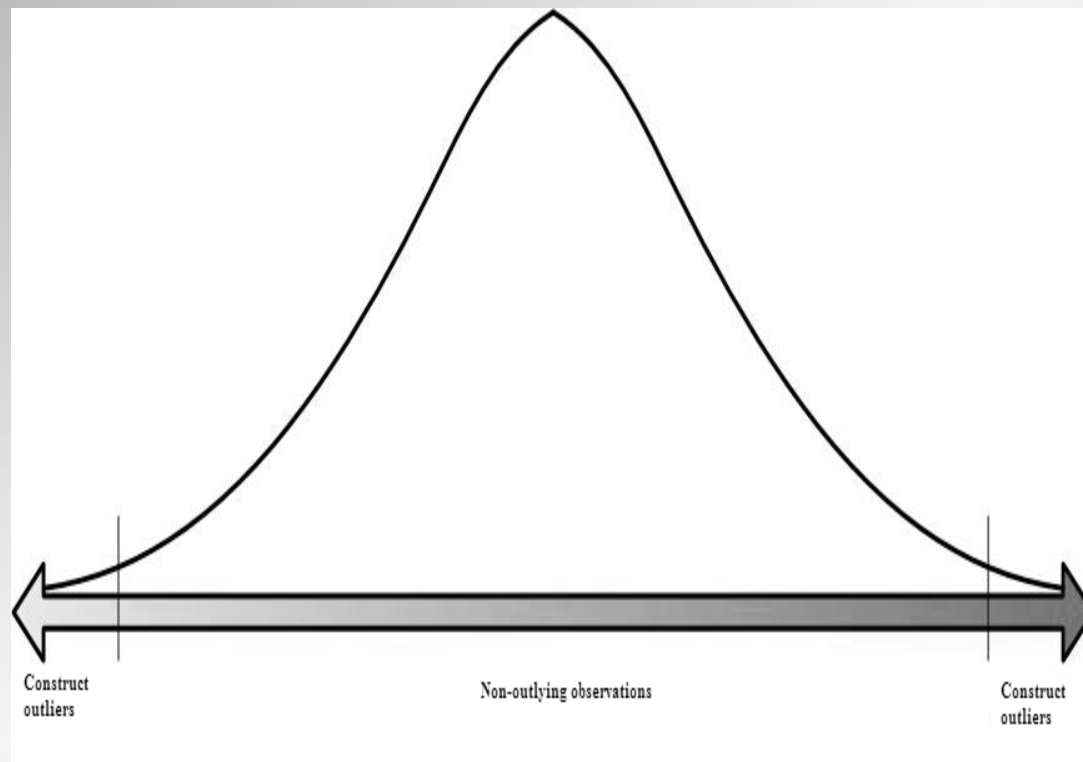


Deviants



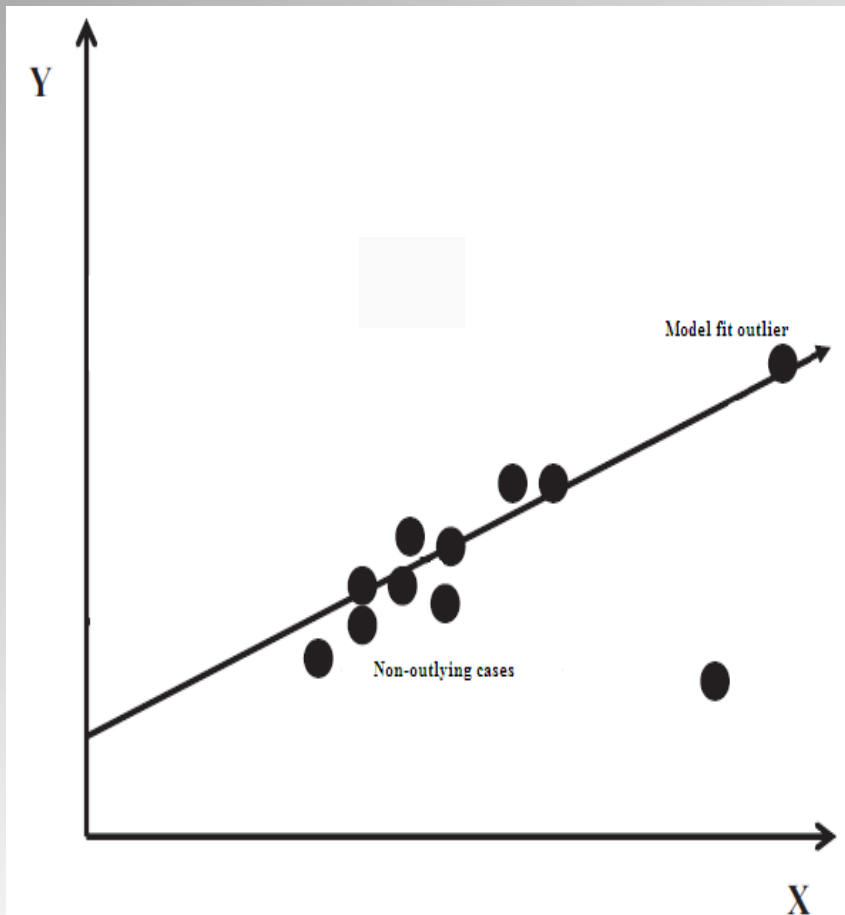
Source: Gibbert, M., Nair, L.B., & Weiss, M. (2014). "Oops, I've got an outlier in my data—what now?" Using the Deviant Case Method for theory building. 74th Academy of Management Annual Meeting. Philadelphia, USA.

(a) Construct Outliers – Extreme values on a given variable whether dependent or independent variable, in one or in a set of variables.



For example:
Outliers: The Story of Success by Malcolm Gladwell, 2008. The book examines the factors that contribute to high levels of success.

(b) Model Fit Outliers – Observations “on” the regression line, but are outlying in the sense that they assume relatively (i.e., relative to the main body of observations) high/low values.

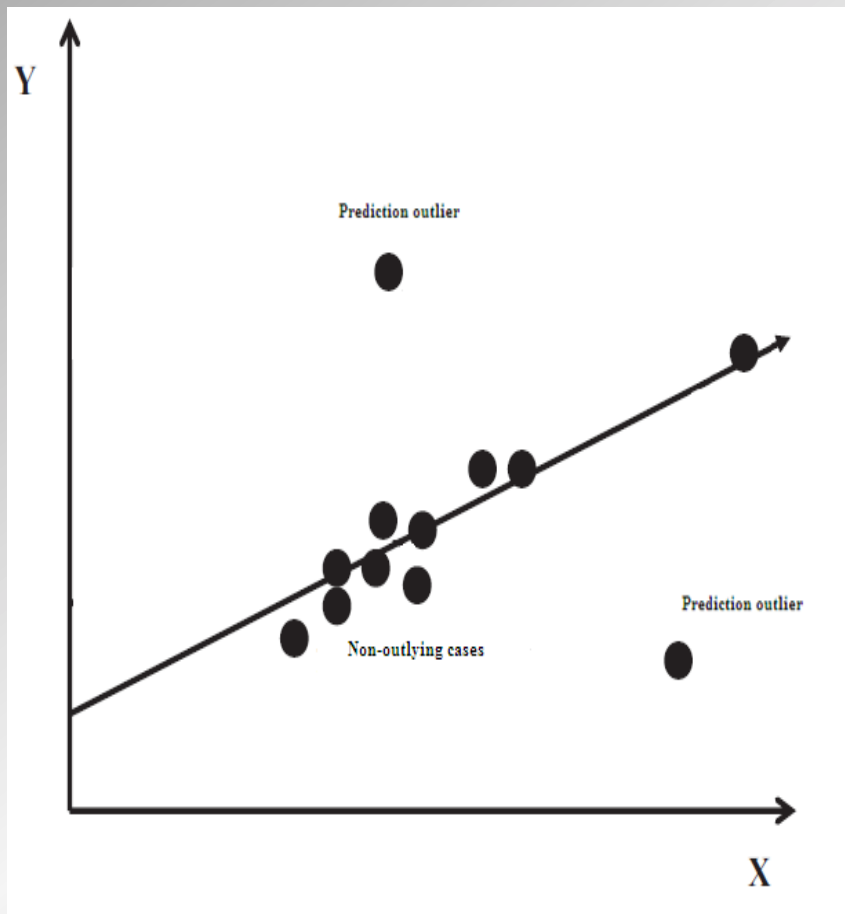


For example:

1) *Blue Ocean strategy* by W. Chan Kim and Renée Mauborgne. Creating an uncontested market space to achieve success.

2) *Good to Great: Why Some Companies Make the Leap... and Others Don't* by James C. Collins. How companies transition from average to great (financial performance several multiples better than the market average over a sustained period).

(c) Prediction Outliers Aka Deviant Cases - “off” the regression line; they are typically referred to as “deviant cases”, precisely because they usually deviate from theoretical expectations.



For example:

Represent strategic novelty discussed in L. Välikangas & M. Gibbert, *Strategic Innovation*, Pearson/FT Press, 2015

Strategic Novelty: Do I hear something (very) different?

IF NOISE,

- we eliminate it:
 - “An outlier is an observation which deviates so much from the other observations as to arouse suspicion that it was generated by a different mechanism” (Hawkins, 1980).
- we consider it irrelevant:
 - Outliers do not compete on managerial logics that incumbents consider strategic and are thus potentially, eventually, highly disruptive.

Strategic Novelty: Do I see something (very) different?

IF SERENDIPITY,

- Outliers offer an opportunity for renewing strategic thinking (blindness).
- Outliers suggest potential ways of making sense of novelty and generating (r)evolutionary change.

What is our attitude?

- Noise: Prove it!
- Serendipity: Explore it!

There is an ongoing Cambrian explosion out there.

For example:

1. New contributor architectures
2. On-demand design fuelled by additive manufacturing
3. Inviting everyone to meddle
4. Cost compression for bio-innovation
5. Designing generativity into the problem solving

New Contributor architectures: Virtual Choir



New contributor architectures:

kaggle™

Featured Competitions [View All »](#)

MACHINE LEARNING CHALLENGES FOR EDUCATION, RESEARCH, AND INDUSTRY.



**Springleaf
Marketing**
\$100,000

Determine whether to
send a direct mail
piece to a customer

Deloitte.

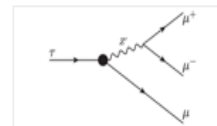
**Western Australia
Rental Prices**
\$100,000

Predict rental prices
for properties across
Western Australia



**Coupon Purchase
Prediction**
\$50,000

Predict which
coupons a customer
will buy



**Flavours of
Physics: Finding τ**
\$15,000

Identify a rare decay
phenomenon

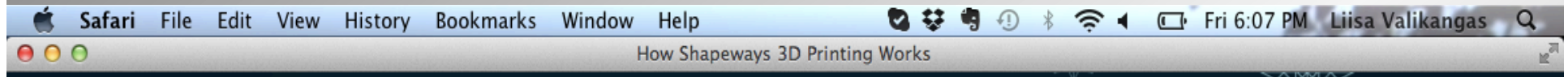


Truly Native?
\$10,000

Predict which web
pages served by
StumbleUpon are
sponsored



On-demand: Shapeways



shapeways★

SHOP

MAKE

SELL

CONNECT

Search



Join

Sign In

Gadgets

Accessories

Jewelry

Art

Home

Games

Miniatures

Beta Products

Gifts

Apps

Feed

Blog

How Shapeways 3D Printing Works

Creating a product has never been easier

1. Design a Product

2. Upload to Shapeways

3. We'll Produce it for You

4. Sell in the Marketplace

5. Get Product Feedback

6. Share with the World

Inviting everyone to meddle:

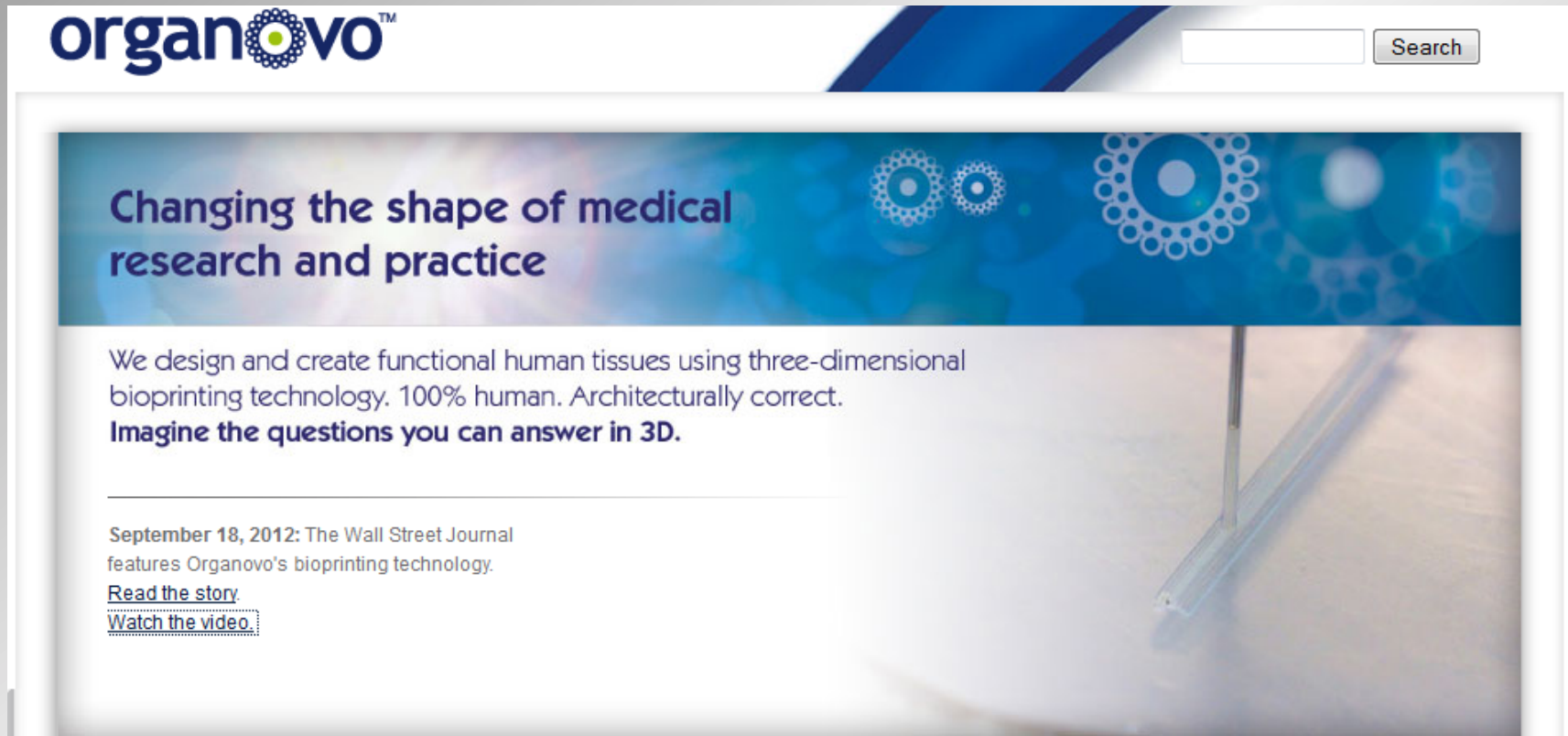


Now everybody can do their part to advance medical research.

Medical researchers are doing some of the most important work in the world, and they're committed to making life-changing discoveries that benefit us all. To help, we've created ResearchKit, an open source software framework that makes it easy for researchers and developers to create apps that could revolutionize medical studies, potentially transforming medicine forever.

[Watch the film](#) [View the Open Source Project](#)

Radical cost compression: Organovo



Tissue models and printing micro-livers -
A biotech company boosts drug testing with human organs
made on demand.

Designing for generativity:



- Volunteer based prototyping, open source and eXtreme manufacturing company
- Apply project management methods used in software development (Agile, Scrum, Kanban)
 - quick iterative and incremental progress; self-organizing, cross-functional teams in successive one-week sprints.
- Open volunteer team: 175 members in 20 countries
 - Ongoing work and unassigned tasks published in real-time

Strategy insight: Punch above your weight!

It appears many outlier strategies (intentionally or serendipitously) seek to amplify, rather than suppress, variety.

Democratize innovation:

MEET QUIRKY.
We make invention accessible.

(Now) **Wink**



Influence & Stats:



Invented By:
Jake Zien

Total Paid Out:
\$16,375.01

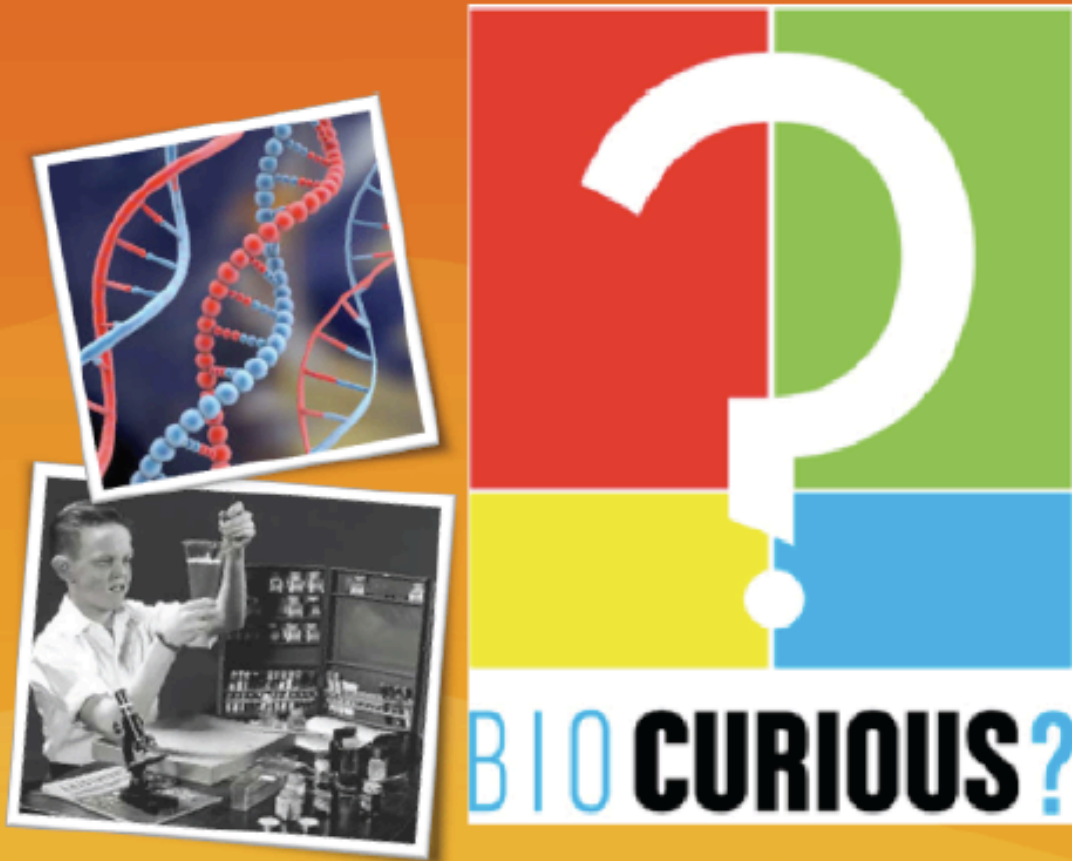
Development Duration:
about 1 month

Days in Store:
62

Units to Date:
47,832

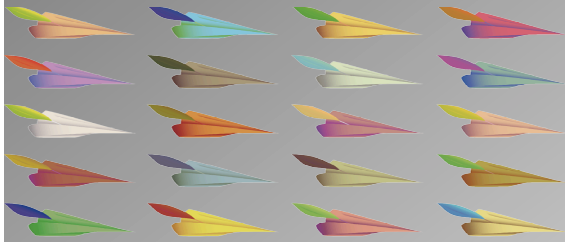
Beyond “Open Innovation”!

Democratize knowledge:



Curious about Biology? Come find out at the new biology collaborative lab space where citizen science moves of the classroom and into the community. Following the successful example of hackerspaces such as Noisebridge, Langdon Labs, Hacker Dojo, and co-working spaces such as the Hub, we're pleased to offer the first Bay Area space dedicated to Non Institutional Biology. Got an idea for a startup? Join the DIY, "garage biology" movement and found a new breed of biotech.

Experiment with friends!



Robin Hood
Minor Asset Management Cooperative

“Robin Hood is an asset management cooperative we established in June 2012. It is a counter-investment bank of the precariat, which is rethinking means of finance and financial services. We are bending the financialization of economy to our benefit. **Robin Hood is the power and imagination to do this.**”

Democratize finance:



Anticipation and Outliers?

Outliers express novelty as ‘permanently searching’

- Expressions of opportunity space and assemblies of variation (cf. Meyer and Rowan, 1977)
- “Most social scientists go about their work only after the dust has settled.” (Padgett & Powell, 2012: 434, Young, 1998)

In anticipation: Which is more evolvable?

1. Variation – selection – retention;

OR

1. Variation – amplification – permanently searching, or “learning from things yet to happen”?

According to Lewis Carroll:

“There is no use trying,” said Alice, “one can’t believe impossible things.”

“I dare say you haven’t had much practice,” said the Queen. “When I was your age I did it for half an hour a day. Why, sometimes I’ve believed as many as six impossible things before breakfast.”

Thank you.

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