Measuring the Economic Impact of the Sharing Economy
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MIT Center for Digital Business
December 12, 2012
Measuring the Economic Impact of Sharing on the Data Economy

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From Open Source to Open Data

I’m going to chart a course that applies what we’ve learned from open source software to the world of data. The lesson: Open data is an imperative!
And I want to talk not just about Value
but about Values. What kind of world do we want to create? We make choices about the future, and we can choose for good or ill.
I want to begin by referencing a series of talks I started giving in 2008, before the financial crisis struck, in which I asked entrepreneurs to stop focusing just on making money and instead to work on stuff that matters. There's a blog post I wrote in January 2009 that summarizes some of my key points from those talks. At the time I was focused mostly on the silliness of so many social media and mobile apps while the world has many great and pressing problems that go unsolved.
But, of course, the financial crash of 2008 made clear that it wasn't just a missed opportunity, but that there was something fundamentally wrong with our economy. Somewhere along the line we'd gone off the rails and forgotten the business principle that I have always espoused at O'Reilly:
Create More Value Than You Capture
I call it “the big lie” of modern business

This is in sharp contrast to the dominant ideology of modern capitalism over the past few decades, which says that the only responsibility of a company is to make money for its shareholders. Leaving aside the fact of excessive executive compensation as prima facie evidence that no big company really believes that principle, this notion misses the point that an economy is an ecosystem.
Looting

"...the normal economics of maximizing economic value is replaced by the topsy-turvy economics of maximizing current extractable value, which tends to drive the firm's economic net worth deeply negative. Once owners have decided they can extract more from a firm by maximizing their present take, any action that allows them to extract more currently will be attractive--even if it causes a large reduction in the true economic net worth of the firm. A dollar in increased dividends today is worth a dollar to owners, but a dollar in increased future earnings is worth nothing because future payments accrue to the creditors who will be left holding the bag."


Economists George Akerlof and Paul Romer nailed this pathology in their 1996 paper on “moral hazard.” The paper was called Looting, and it’s endemic in not just the financial industry, but increasingly throughout our economy, in which companies try to extract value rather than deliver it. A startup that thinks its business model begins with VC money and ends with a quick exit is working the same angle as the banks.
“There’s a wonderful section in *Les Miserables* about the good that Jean Valjean does as a businessman (operating under the pseudonym of Father Madeleine). Through his industry and vision, he makes an entire region prosperous, so that “there was no pocket so obscure that it had not a little money in it; no dwelling so lowly that there was not some little joy within it.”

And the key point: “Father Madeleine made his fortune; but a singular thing in a simple man of business, it did not seem as though that were his chief care. He appeared to be thinking much of others, and little of himself.”

Contrast this with a quote from the blog post about working on stuff that matters that I cited in the first slide.

It talks about how business can create value rather than just extract it.
Nick Hanauer made this point brilliantly in his TEDU talk earlier this year. Nick is a billionaire investor (first non-family investor in Amazon) and entrepreneur (founder of Acquantive, acquired by Microsoft for $6B, among other companies). In this talk, he skewers the notion that capital creates jobs. “Customers create jobs!” he says. Without people who have enough money to buy a product or service, no company can succeed, no matter how much capital it raises or how brilliant the ideas of its entrepreneurial developers.
“We all do better when we *all* do better.”

As Nick and his co-author Eric Liu say in their book Gardens of Democracy
How do we make the economy better while also creating a richer, fairer world?
And I keep coming back to this answer.

Create More Value Than You Capture
An economy is an ecosystem
If you take more out than you put in, the ecosystem eventually fails.
That’s something these guys didn’t care about

Bernie Madoff  Allen Stanford  Charles Ponzi

And these guys seemed to forget

Lloyd Blankfein  Jamie Dimon  Vikram Pandit
  Goldman Sachs  JP Morgan  Citigroup

Sunday, December 30, 12
But it’s something these people all deeply understood!
You may be a bit surprised to see Bill Gates on that list. But of course, he exploited and the internet just as much as Google or Facebook. Ditto Steve Jobs. But the impact goes even further than the usual suspects.
There are all kinds of unexpected beneficiaries

“I built my business on open source software, and I want to give something back.”

- Hari Ravichandran

*Endurance International Group*
If you put your clothes in the dryer, the energy you use is measured and counted, but if you hang them on the clothesline to be dried by the sun, the energy saved disappears from our accounting!

Sunday, December 30, 12

In the course of our conversation, I remembered this great piece about alternative energy that I read back in 1975 in The CoEvolution Quarterly, Stewart Brand’s successor to The Whole Earth Catalog. It’s called The Clothesline Paradox, and it made the point that ... It struck me that open source is a lot like sunshine. It disappears from our economic accounting.
We look at the financial success of explicit open source companies like Red Hat or MySQL, and while we’re proud of it, it’s relatively small relative to the success of proprietary companies.
It's a bit like the energy pie charts that Steve Baer talks about in The Clothesline Paradox, where solar energy shows up as this tiny slice, even though it's really the wellspring of absolutely everything else in the energy pie!
Because of course the companies whose logos appear on this slide (and many more) were built on a foundation of open source software, and wouldn’t exist without the generosity of those who created the internet and the world wide web, Linux, and the cornucopia of open source tools and languages that made the fertile soup from which today’s tech innovation sprang.

According to McKinsey, the internet is now responsible for more than 3% of GDP. That’s downstream value created (but not captured) by open source communities.
ISP Services - a $79 Billion market in the US alone

Web hosting and domain name registration - a $5 Billion market

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Talking with Hari, I realized that we also need to give credit to open source for the internet service provider market. As I mentioned a minute ago, what does an ISP provide but subscription access to open source software, and to the vast, generative creativity of the sharing economy of social media and the web? Sure, they provide infrastructure, but without that software and without that free content, no one would give a rats ass about using their infrastructure.
But perhaps the most interesting thing that Hari pointed me to was a McKinsey report on the net’s overall impact on growth, jobs, and prosperity. One of the things that caught our attention was the assertion that having a web site increases the productivity of small businesses by 10%.
So that’s where the value gets captured - by everyone!

So that’s where the economic value created by open source ultimately gets captured: by people who may not even know what open source is, but benefit from it nonetheless.
We worked with EIG’s Bluehost unit on a study to show the benefits of open source software in the SMB market.

More than 70% of the 1 million Bluehost customers were SMBs. Applying the survey data they provided to the raw data set, we made this extrapolation of their revenues. It’s a total of $124 billion. Given that we estimate that Bluehost represents 10–12% of the hosting market, that means we’re talking about a $1.3 trillion market.

It’s hard to quantify how much of this value to attribute to open source and the web, but it’s meaningful. McKinsey said there was a 10% uplift in productivity. That’s $130 billion in annual value for small business created by a bunch of geeks giving away their software for free.
“Sharing” economies end up creating real economic value
So I started thinking about the “clothesline paradox” in other sharing economies.
Why do people keep saying that users won’t pay for content when they are paying the same amount for Internet access as they pay for Cable TV?

For example, I asked myself...
When Comcast (or other Cable Company) customers view cable TV content, Comcast pays content providers.

When Comcast customers watch YouTube, spend time on Facebook or Twitter, or visit websites, Comcast gets its content for free, much of it created by the very customers who are paying for access!

So it’s actually Comcast, not the user, who is getting the content without paying for it! The internet sharing economy is a big part of what is funding the enormous profits of Cable companies.
For example, my three year-old grandson loves to watch Thomas the Tank Engine train crash videos made by other kids. This one has 23 million views. Not bad for an amateur production.
So I went down to Vidcon, which is the heartland of the Youtube creator community, and it was like going back to the early days of the Beatles! There were literally thousands of screaming kids in the audience as various YouTube stars came out on stage!
Here’s the line of fans waiting to get autographs from 20–something British YouTube star Charlie McDonnell.

Vidcon was crawling with agents who used to be focused purely on Hollywood talent.
While I was there, I heard lots of interesting scuttlebutt. You may not know that when a viral video gets uploaded that uses copyrighted music, instead of taking it down, Google runs ads against it, and forwards the revenue to the music publisher. You can see the result of the ContentID match on the lower right.

What blew my mind though is that I heard one story about a major pop star who makes more money on YouTube than on iTunes, and more than half of that comes from “unofficial” videos that use her music as a soundtrack, rather than from her own official tracks. That’s the sound of the sharing economy being monetized.
And of course open source software and the creative video economy are only part of a bigger sharing economy. Overall, there are thousands of companies exploring what Lisa Gansky calls the Mesh – the sharing economy.
What started out as a sharing economy – “couchsurfing” – is turning into serious businesses like AirBnB. They are really accelerating. After being around for four years, they hit a total of 5 million room nights shared this past February. It took them only another four months to double that. They hit 10 million room nights in June. And they say that they are getting a lot of traction in depressed European economies like Spain and Greece as people look for new ways of supplementing income.
Shelby Clark of RelayRides told me recently that people are buying a second car just for sharing.
Even Silicon Valley darlings like Jack Dorsey’s second company, Square, started out by trying to create a kind of peer to peer economy, in which anyone can take credit cards.
Now, like the web, Square is revolutionizing the retail experience for small merchants. I don’t know how many of you have tried the combination of Square Register and the Square wallet app. It automatically checks you in when you walk into a participating merchant. Your name and face appear on the register, and since your payment details are already on file, all the retail clerk has to do is confirm your identity, as shown in this screen shot.
What about data?
Google has taken a leadership role in making clear that users own their own data, and can always extract it from Google products. Other companies should join in their data liberation efforts.
But much as I think it is important for users to own their own data, and to be able to extract it from cloud services, so many of the benefits of data come only when it is shared. That’s why I look instead to open, shared data. In the area of open science, I’d point you to the Panton Principles, which outline the rules of the road for open data in research.
And as some of you may know, I’ve been focused for the past few years on the importance of open government data. This is a huge area where we see the clothesline paradox at work.

I’ve always found myself wondering why people aren’t more aware of how government data powers non-governmental services that citizens take for granted, many of them never taking the time to think how much government investment went into building the infrastructure that makes it possible for the private sector to offer services like weather predictions.
How about Global positioning satellites. Here government investment in a hard, long term project, is paying off in uncounted new private sector developments.

A huge project with uncertain return, started in 1973 and now showing enormous fruit in the 21st century, with huge value add from the commercial sector. Everything from maps and directions on your phone to future self-driving cars spring from this platform investment, and the key policy decision to open the data and make it available for commercial use. No one dreamed of the unexpected applications that became possible by opening up this data. That’s why we need open web services by default.
Mapping services have taken data developed at great expense by government and turned it into hugely powerful experiences for citizens. Here are my walking directions from my hotel to this venue today, courtesy of Google, but also of centuries of government investment in mapping services. Not to mention that Google Transit directions got its start with the government of Portland, Oregon, who in classic internet style, proposed a data specification for transit timetables that could be consumed by third party applications.
Government as a platform means an end to the design of only complete, closed “applications.” Instead the government should provide fundamental services on which we, the people, (also known as “the market”) build applications.

That’s why I’ve been trying to shift the mindset from government as a vending machine for services paid by taxes, to the notion that government should be a platform.
What happens when you throw open the doors to partners

Apple showed us the power of this kind of entrepreneurial explosion when they turned the smartphone into a platform with the introduction of the iPhone app store. We went from phones that had twenty or thirty apps cooked up in a back room deal to a platform that allows anyone to come up with new features.

This is the kind of platform I’d like to see for government.
Code for America is a nonprofit I've been working with on this idea. Code for America provides new kinds of engagement, working with local governments to build simple, beautiful and easy-to-use interfaces to government services and challenging government to reinvent the way it engages with citizens. We do a lot of work with open data.
This coming year, we’re going to be working with New York City and Louisville KY on a project that Anne Milgram from the Arnold Foundation, calls Moneyballing Criminal Justice. It turns out that pre-trial incarceration is one of the biggest costs for cities. Using predictive analytics to figure out who to release on bail can save huge sums for cities, but more importantly, it can save jobs and families. Keep someone in jail unnecessarily and they may lose their job, forcing them into the very life of crime we’re trying to avoid.
At Code for America, we’ve capitalized on the idea that open data can also be the basis for new companies, by launching a startup accelerator, finding and nurturing creative startups who are re-using or opening up government data, creating new interfaces to government services, or building tools that will help governments to engage with their community.
This same kind of building a commercial ecosystem based on government open data has characterized Todd Park’s work on open data at HHS. Rather than just opening the data, he proactively sought out partners who could consume government data. For example, HHS had a huge database of hospital and nursing home quality and user satisfaction metrics, which now helps to power Bing’s hospital search, and not just the HHS Hospital Compare application.

The HHS open data initiative now features a thriving developer conference, hundreds of apps, and numerous funded startups.
The Obama administration is now trying to replicate this open data/government as a platform playbook in other areas like energy.
and Education.
LearnSprout is one of the companies in the Code for America accelerator that is focused on opening up education data.
I’ve put Alex Howard on the job of mapping out the entrepreneurial economy built on open government data. Follow his posts on the Radar blog to see more on this topic.
But health care is the field I’m most excited about where shared data can make a difference for society.

Data science is going to make a huge difference in healthcare. I became so convinced of that that I launched a new conference called StrataRx, which will be held here in Boston next year.
I also wrote a short ebook on the subject, How Data Science is Transforming Health Care.

I don't have time to go into all the details today, but the report is a free download.
But just to give two examples that show the tie to the sharing economy...
What we see from initiatives like PatientsLikeMe is the role of peer-to-peer open data in creating value.
Sites like 23andme are sitting on a boundary between personal data and public good. Your data is yours, but they encourage you to share and to participate in what is essentially a giant crowdsourced research project linking genotype data to phenotype surveys.
Don’t just think about how much business value you can extract from data

In conclusion,
Think about how much value you can create for customers and for society.

Thank you very much.
Thank you!

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