

What Twitter, the London Stock Exchange, and eHarmony Have in Common and Why the Capital Markets Industry Should Care

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The Discovery of a New Species

At the turn of the century economists made an important discovery. That discovery has revolutionized how we analyze businesses like many of yours. It has huge practical implications for corporate strategies. It has important insights into public policy. And it provides a framework for thinking about how the global capital markets industry could, and perhaps, should evolve.

To help you understand this breakthrough let me begin by telling you about the births of three very different industries.

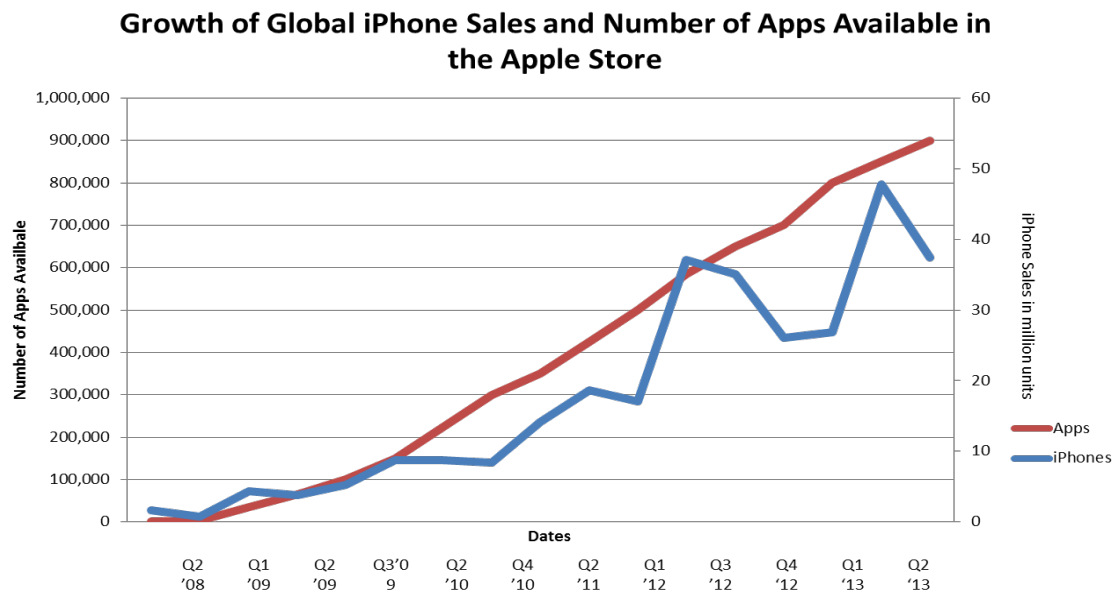
Around 1949, Frank McNamara was having lunch in Manhattan. He forgot his checkbook and didn't have any cash to pay his bill. While his wife was coming to his rescue he came up with the idea of the modern payment card.

The next year he founded Diners Club. His fledgling company signed up 13 Diners Club gave cards away to a few hundred people who could then use those cards to pay for meals at the restaurants that accepted the cards. Diners Club took 10 percent off of the top,

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paid the restaurant the rest, and then billed the cardholder for the full amount of all their charges at the end of every month. Consumers loved it, more merchants started accepting it, and more consumers wanted it. From these small beginnings the vast debit and credit card industry sprang.

Fast forward to 2007. Apple introduced the iPhone. Although it looked pretty cool, and had a nice screen, it wasn't very good for making and taking calls. Its magic resided in the software platform known as the iOS that came with the phone. Apple gave developers access to that platform and a set of tools for writing applications. For free. Soon there were so many applications that more people wanted the phone just to use those applications. And more developers decided to write applications to reach those consumers. Eventually the iPhone was actually pretty for making and taking calls. Today, Apple is the most valuable company in the world.



Now let me take you back a few millennia. Even back then, men and women needed help in finding someone to settle down with. Matchmaking was a nice business in many parts of the world. Some of these matchmakers were very sophisticated. They looked like an early version of investment banking: scouring for families with men looking for women and families with women looking for men to put together; and then getting paid to negotiate the deal and guide the merger.

Of course, to be a successful matchmaker you needed to know a lot of eligible women for the men, and a lot of eligible men for the women. The matchmaking business has evolved over many thousands of years. Village matchmakers still thrive in some part of the world. But they've been displaced by modern platforms ranging from nightclubs to speed dating to internet-based matchmakers.



Ancient Chinese Matchmaker

Payment cards, smart phones, and matchmaking: it turns out, and here is the discovery, these very different businesses have a lot in common.

One thing you've probably noticed is they all have two different types of customers:

cardholders and merchants, mobile phone users and application developers, and men and women. Those sets of customers receive value only if they are able to find each other and get together easily.

You might also have realized that they have indirect network effects. Each of these businesses is more valuable to one type of customer if the business can provide access to more of the other type of customer.

There are a great many businesses that work in just the same way. That includes:

- most of the large Internet businesses;
- advertising-supported media including newspapers, radio, television and magazines;
- shopping malls, both bricks and mortar and online;
- anything that involves a software platform whether that's video games, mobile phones, or desktop computers;
- all methods of payments;
- the whole dating business from nightclubs to matchmaking services;
- every method of communication;
- B2B exchanges;
- and, of course, financial exchanges and clearing houses.

And that isn't list isn't even exhaustive.

One thing I suspect you didn't pick up on is that you can pretty much forget about using 20th century microeconomics to describe these businesses. So all of those formulas you learned, in business school or in undergraduate econ, about maximizing profits, demand and supply, monopoly pricing, and marginal cost pricing are wrong. I mean just flat out

mathematically-you-get-the-wrong-answer-dead-wrong.

Biologists recently discovered a new species of mammal. It is called the Olinguito. Economists needed a name for the new species of businesses we discovered. Being much less clever than biologists, but perhaps more practical, we settled on calling them multi-sided platforms. They are “platforms” because they usually provide a virtual or physical place for different types of customers to get together. And they are “multi-sided” because they involve two or more distinct groups of customers.

Unlike the Olinguito, however, multi-sided platforms are hardly rare. Thirty-three of the companies on the FT’s list of the 100 most valuable companies in the world are primarily multisided platforms. They include Apple, Google, Vodafone, NewsCorp, SAP, and Visa.

You probably encounter multi-sided platforms many times during your day without really noticing it. Let me talk about a day in the life one of you prototypical Londoners. The alarm app on your Samsung Android phone wakes you up, you read the FT, check your Facebook page, then as you head to work you use your Visa card to reload your Oyster card, when you get to work you boot up your Windows PC and check your email, you use the Bloomberg terminal on your desk to check the price of the Yen, at lunch you go to shopping mall to pick up a new tablet, then use Google to find the best new restaurant in the City to take your mate to dinner on Saturday evening, use TopTable to make a reservation, respond to a few LinkedIn invites, use HAILO to order a taxi home, and when you get there, relax by playing a video game on your Xbox or what one of the advertising supported television channels in the UK. All of these are multi-sided platforms.

Here’s one of the most remarkable features of these businesses. Many of them subsidize one of the groups of customers to get them interested in using the platform. That’s what Diner’s Club and Apple did. Sometimes multi-sided platforms don’t recover the

incremental costs of letting these customers use the platform. That's true for many newspapers and magazines. Or they let them use the platform for free. You don't pay to go to the shopping mall or use a search engine. And in some cases platforms even pay customers to come. Some of my colleagues who work on two-sided platforms seldom miss the opportunity to talk about nightclubs that let women in for free and offer them free drinks.

How do you know if your business is a multi-sided platform? Roughly speaking you are operating a multi-sided platform if you answer yes to these two questions.

- Do you have a chicken and egg problem? In other words do you need to get a critical mass of different kinds of customers to even have a business?
- Can you use the relative prices that you charge different customers to increase volume? For example do you take lower margins on some kinds of customers because you really need to get them on board?

Exchanges, clearinghouses, and other financial services businesses that serve the capital markets are multi-sided platforms. If you are operating a financial exchange this is what I think you'd say to the two questions I just posed:

- Yes, I have a chicken and egg problem. I need liquidity providers and liquidity takers. If I lost too many of either I'd be looking for another job.
- Yes, I can play around with relative prices to increase volume. In fact, I give liquidity providers a break because I need them more and I make my money mainly from liquidity takers.

Today, like the Olinguito, you've learned that you are not alone out there. You have brothers, and sisters, and cousins all over the world in lots of seemingly different lines of work that share your DNA.

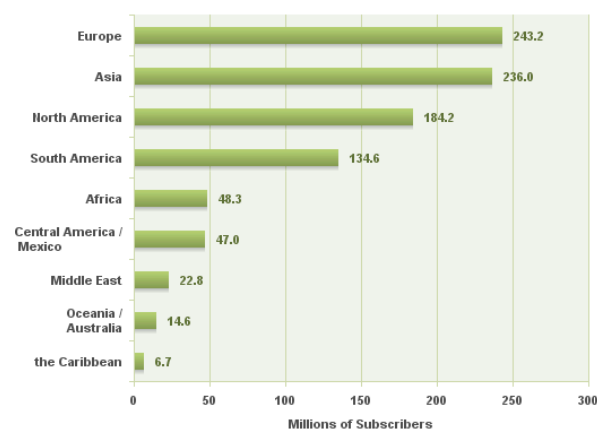
Online Platforms

In fact, you can take a look at some of these relatives for ideas and inspiration. Let me introduce you to some of your closest relatives—the ones who live up there in the cloud.

Multi-sided platforms are behind the wave of creative destruction that is sweeping the globe. Consider Facebook. It is a communication platform that allows friends to send and receive messages from each other. It is an advertising platform that allows advertisers to market to Facebook users. It is a software development platform that enables developers to write applications like games that Facebook users can play. It is a payment platform with its own PayPal like wallet. And it may become a commerce platform so that businesses can sell directly to consumers and they can extract profits from those transactions. Thus, it is a six-sided platform. In eight years it has attracted more than a billion users. Facebook's population is bigger than the European Union--plus Russia and the rest of the Commonwealth of Independent States.

Facebook started at Harvard University in 2004. It quickly spread to every city and town in America and to almost every country in the world. In fact, today, 30% percent of people in the European Union are on Facebook.

**Facebook Users in the World
by Regions - September 2012**



Source: Internet World Stats - www.internetworldstats.com/facebook.htm
The total number of Facebook subscribers in the world is estimated to be 937,407,180 on September 30, 2012.
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We talked earlier about the iPhone. The other mobile operating system that is driving innovation is Google's Android operating system. It is a 4-sided platform for hardware makers, application developers, mobile network operators, and users. Started in 2008, there are now more than 700 million Android users in the world, 850 thousand applications in the Google Play Store, and hundreds of Android handset makers. In fact, over 35 percent of mobile phone users in the EU-5 have an Android phone.

Now isn't the place to talk about the creative destruction of industries that is taking place because of these global multi-sided platforms. But they include the obvious ones such as newspapers and yellow pages, the less obvious ones like email, the much less obvious ones like traditional retail stores.

Several things are simply amazing about these online multi-sided platforms: the speed at which they've grown; their rapid diffusion around the globe; and the tremendous value they bring by providing a common platform for everyone on the planet.

I'd like to dwell on this last point. Think about the things that are not only possible today, but also commonplace:

- A person in Croatia can use Facebook to communicate with a friend in Thailand. They don't need to use email or make a phone call.
- A business in Siena can set up a website which someone in Austin, Texas can find through Google search.
- That business in Siena can use PayPal to receive money from the consumer in Austin who wants to buy something from her website.
- An entrepreneur in Stockholm can develop an online music service, Spotify that disrupts the music business in Europe and the US.
- An entrepreneur in San Francisco can build a business around an iPhone app and

completely change how people get taxis and limousines in cities across the US and in London and Paris too. This is Uber.

- A guy in Shanghai can use WeChat to communicate by text, audio, or video with his friends in Guangdong, Singapore, New York, or Brussels.
- An anonymous developer has created a global electronic currency that people are using around the world for legal and not so legal activities. That is Bitcoin.

Quite rapidly, a set of neurons is connecting people and businesses in every nook and cranny of our planet. It makes the idea of European integration look quaint. And it's all being done by multi-sided platforms.

Integration and Harmonization of European Capital Markets

Capital market institutions have a lot in common with online businesses. Many of them are multi-sided platforms. They have powerful indirect network effects. That means that bigger is better. Exchanges, clearinghouses, and other capital market institutions rely heavily—or certainly could—on digital information and communications. Computers and software bulk large in their costs. That means significant scale economies.

Yet, the European capital markets industry sure doesn't look like Facebook, Android, Twitter, or Google. It is highly fragmented with lots of national exchanges and clearing houses. It does not seem like a very sensible way to organize an industry that seems similar to the global online firms.

Forward-looking Europeans have known for decades that breaking down these national barriers could unleash rapid economic growth and improvements in the standard of

living. The online revolution shows you how right you have been. It is happening before your eyes.

There was hope that the Markets in Financial Instruments Directive (MiFID) would create pan-European exchanges and clearinghouses. That has progressed slowly and some believe the effort has stalled. European policymakers are considering how to increase the pace of integration and I know many of you are interested in that issue as well.

I have neither the mandate nor the detailed knowledge to provide help on how to do that today. But I thought I would conclude by sharing some insights I've gleaned from studying multisided businesses around the world that might help you sort this out.

To begin with, I'm sure policymakers and many of you have views on what the capital markets industry should look like in Europe in a decade's time: How many players there should be, how much vertical integration, and how interoperable these platforms for financial instruments should be.

I would suggest being very cautious and modest in your abilities to figure out the right structure for this industry. The entrepreneurs who start multisided platforms are like people who are climbing a mountain for the first time. There's no roadmap. It is all about discovery. It is very hard for someone who isn't on the mountain to provide directions. And that task is harder if you have many operators of multi-sided platforms to manage.

Industrial policy and multi-sided platforms are a dangerous mix.

Whenever people hear that an industry has network effects and scale economies they immediately leap to the conclusion that if we let nature take its course surely a monopoly will emerge. Here is one of the payoffs of the discovery that economists have made about multi-sided platforms. In fact, most multi-sided platform industries end up having several competing platforms even though they have powerful network effects and scale economies.

Product differentiation is the major reason. Different platforms try to appeal to different types of customers. That appears to be the explanation for the network externality puzzle for exchanges. Securities trade on multiple exchanges in part because exchanges differentiate themselves in ways that appeal to different traders.

I'd also be very careful about forcing multi-sided platforms to be interoperable with each other. It sounds great that everyone on every platform can get access to everyone on every other platform. But it takes an immense amount of work getting customers to join a platform. Forcing a firm to then turn around and give its competitors access to those customers reduces the incentives to invest in acquiring those customers in the first place. That doesn't mean that interoperability isn't good and market participants may agree to it voluntarily.

Finally, one should never underestimate how unintended consequences of policy can slow the wheels of progress. Let me take you back about three centuries to the birth of your industry, which was almost strangled in the crib. Stock trading was very active in London the late 1600s and early 1700s. But then the British Parliament decided that trading was gambling. You could do it. But just you couldn't ask the courts for any help in enforcing contracts you had entered into.

That wasn't the end of the trading world necessarily. Traders started forming clubs that could police themselves. They were what we would now call self-regulatory organizations. Back then traders met in coffee shops. A famous one was Jonathan's Coffee House. A group of traders rented the Coffee House for a period during the day for their exclusive use. In 1762 the traders at Jonathan Coffee House kicked someone out who wasn't a member. I mean they literally kicked him out. Gave him the boot.



MAD DOG IN A COFFEE-HOUSE.
(From a Rowlandson Caricature.)

The gentleman—Mr. Renoux—sued for assault. When a British court heard the case it found that the traders had no right to keep him out at all, and that Jonathan’s Coffee House needed to be a “free and open market”.

There’s no way to run a club—to have a self-regulatory organization--if can’t keep people from joining or booting them out for bad behavior. It took four decades for traders to navigate between the apparently intended consequences of the ill-conceived Barnard Act and the probably unintended consequences of the Renoux decision. Born in 1801, the London Stock Exchange managed to solve the problems caused by Barnard and Renoux. Capital markets then flourished in Britain. But only after losing almost a century.

The London Stock Exchange was of course a multi-sided platform. Just as multi-sided platforms are behind the Internet Revolution multi-sided platforms were very much behind the Industrial Revolution two hundred years ago.

So, as you go forth and think about strategies for growing your businesses, engaging in self-regulation of your platforms, and talking to policymakers here in Brussels and in your home countries, I’d like to recommend that you take to heart that you are not alone. You have a lot to learn from other members of your species including the most successful ones today who live in the cloud and are connecting all the people and businesses in the world.