

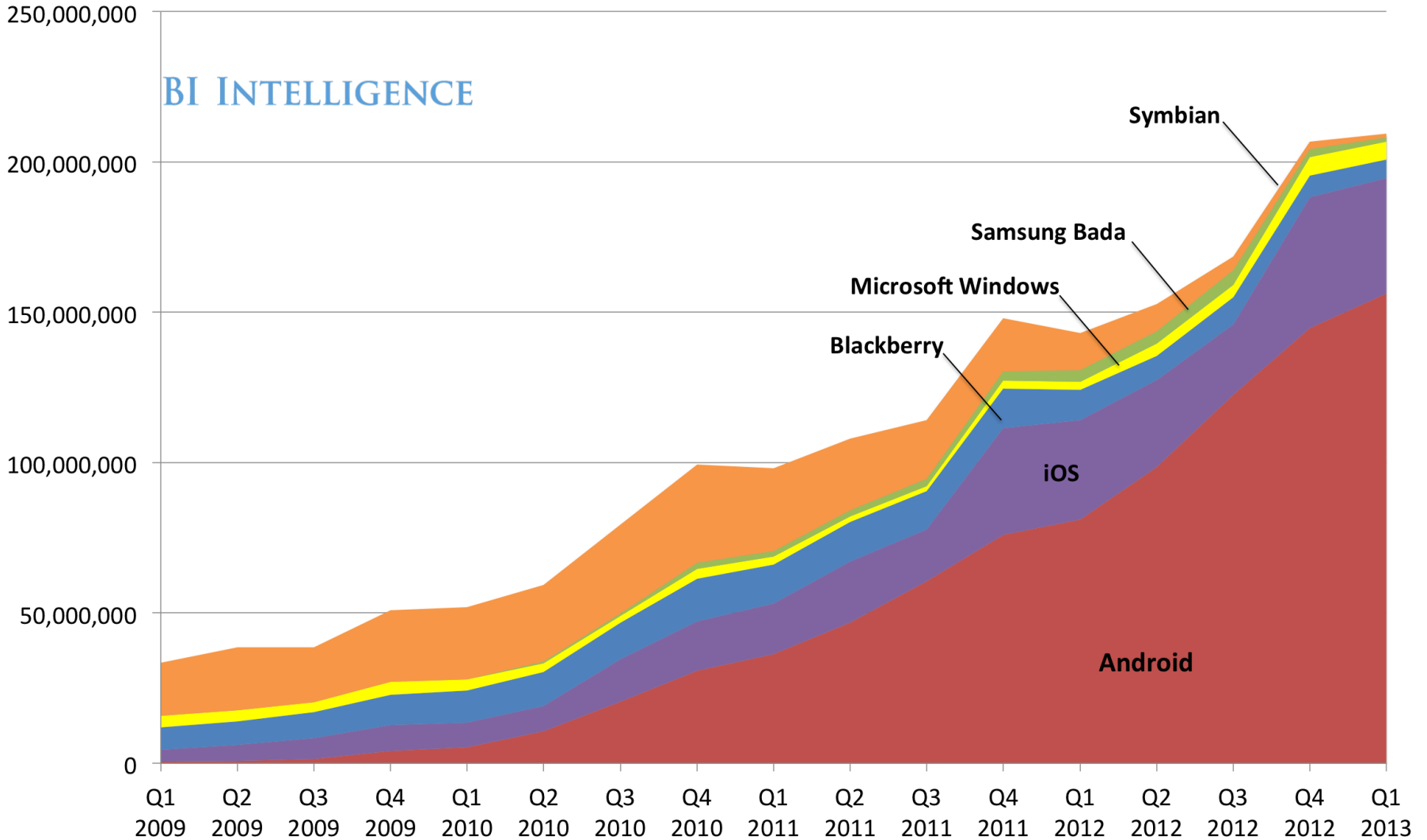
# **The Economics of E-commerce and Technology**

Introduction

# Numbers, Numbers, Numbers

# Global Smartphone Shipments By Platform

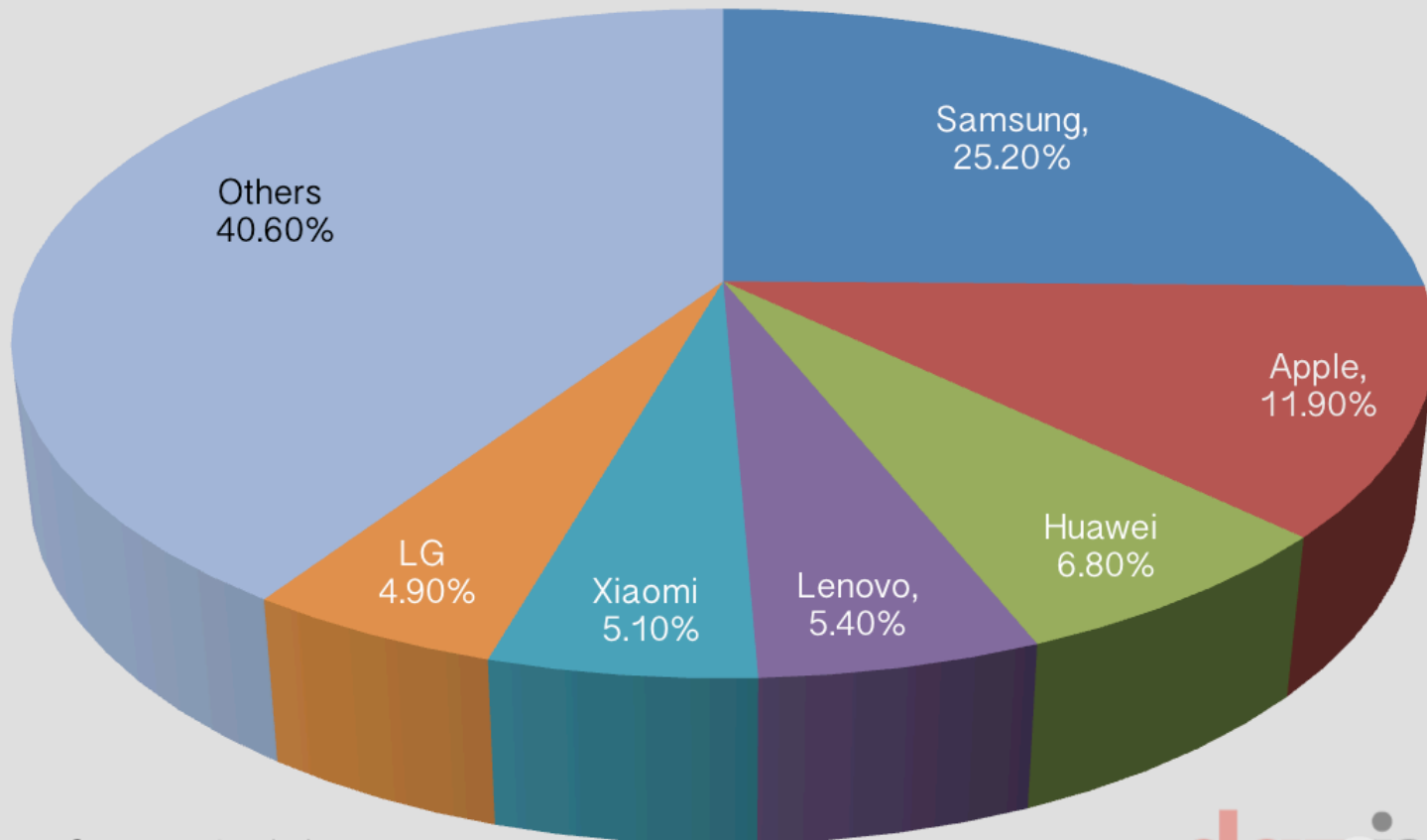
BI INTELLIGENCE



Source: Gartner



## Global Smartphone Vendor Market Share (Q2 2014)



Source: Strategy Analytics,  
July 2014

**dazinfo**.COM  
STAY AHEAD OF TECH CURVE

Global Smartphone Operating Profit (US\$, Billions)	Q4 2013	Q4 2014
Apple iOS	11.4	18.8
Android	4.8	2.4
Microsoft	0.0	0.0
BlackBerry	0.0	0.0
Others	0.0	0.0
<b>Total</b>	<b>16.2</b>	<b>21.2</b>

Global Smartphone Operating Profit Share (%)	Q4 2013	Q4 2014
Apple iOS	70.5%	88.7%
Android	29.5%	11.3%
Microsoft	0.0%	0.0%
BlackBerry	0.0%	0.0%
Others	0.0%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>

Total Growth Year-over-Year %

~

31.4%

Now on with the class...

# About yours truly

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- ▶ Associate Professor, UCLA
- ▶ Education: B.A. Economics, Cambridge, and Ph. D. Business Admin, Stanford
- ▶ Visiting positions: Columbia, Microsoft Research, Northwestern, NYU, Penn
- ▶ Associate Editor of American Economic Review, Theoretical Economics, Journal of Economic Theory
- ▶ Research: Auctions, Dynamic Pricing, Reputation



# Outline for Lecture 1

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- ▶ Purpose of course
- ▶ Logistics and teaching method
- ▶ Overview of course
- ▶ Examples of topics we'll cover



# Purpose of this Class

# This Course

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- ▶ **This course will**

- ▶ Identify the major issues facing technology and online firms.
- ▶ Analyze strategies these firms could take.
- ▶ Look at examples of real-life firms and their evolution.

- ▶ **We take a strategic approach**

- ▶ “Developing a broad formula for how a business is going to compete, what its goals should be, and what policies will be needed to carry out these goals” (Porter, *Competitive Strategy*)

# What you will learn

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- ▶ **Economic tools**
  - ▶ Portable ideas to enable you to analyze strategic problems
  - ▶ Think about key factors in an industry from first principles.
- ▶ **The key issues facing specific industries**
  - ▶ Through case studies you will learn about real-life firms
  - ▶ Learn about the fastest growing part of the economy
- ▶ **Broad skills**
  - ▶ How to think like an economist
  - ▶ How to argue and present clearly
- ▶ **Goal: train you to think rigorously, using theory and data, about new strategic situations you will encounter.**

# How I use Strategy

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- ▶ **Auction design**
  - ▶ Design procurement systems for governments and car firms.
- ▶ **Pricing policies**
  - ▶ Develop dynamic pricing algorithms for airlines.
- ▶ **Reputation**
  - ▶ Analyze how reputation provides incentives to investment.
- ▶ **This is a broad based class**
  - ▶ But choice of topics sometimes reflects my interests

# Logistics and Teaching Method

# Lectures

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## ▶ Lectures

- ▶ Cover broad theoretical concepts, discuss applications.
- ▶ Tue, Thurs 9:30-10:45 (Lecture 1), 11:00-12:15 (Lecture 2)
- ▶ You can come to either one.

## ▶ Contacting me

- ▶ Please feel free to email me – [sboard@econ.ucla.edu](mailto:sboard@econ.ucla.edu)
- ▶ Quick questions: right after class
- ▶ Longer discussions: office hours MW 1-2pm, Bunche 9353.

## ▶ Website

- ▶ Syllabus, slides, readings can be found on  
[www.econ.ucla.edu/sboard/teaching/tech\\_16/tech\\_16.html](http://www.econ.ucla.edu/sboard/teaching/tech_16/tech_16.html)

# Labs

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## ▶ Lab lecture

- ▶ In depth discussion of case studies with guests
- ▶ Friday 9:30-10:45 (Lecture 1), 11:00-12:15 (Lecture 2)
- ▶ You must go to the lab lecture in which you are enrolled.
- ▶ Attendance is **compulsory**, as is participation

## ▶ Lab section

- ▶ Used to practice presentations

## ▶ Groups

- ▶ Form group with 3 people in your lab section (TAs can match)

## ▶ The TAs are

- ▶ Zhuoran Lu – luzhr2012@gmail.com
- ▶ Xinyu Fan – fanxy@ucla.edu
- ▶ Nick Doran – ndoran88@g.ucla.edu

# Some of the Guests

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- ▶ Terry Kramer, BA UCLA Econ, MBA Harvard
  - ▶ Regional President, Vodaphone
- ▶ Steve Laub, BA UCLA Econ, JD Harvard
  - ▶ CEO, Amtel
- ▶ Neil Pardasani, BA UCLA Econ, MBA Kellogg
  - ▶ MD and Partner, BCG
- ▶ Kieran Nolan, BA UCLA Econ, MBA Pepperdine
  - ▶ VP, AT&T's Construction and Engineering
- ▶ James Min, BA UCLA Econ, MBA Chicago
  - ▶ Partner, Telos Advisors



# Cases we will cover

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- ▶ Square
- ▶ eBay vs Amazon
- ▶ Twitter
- ▶ Ford
- ▶ Zillow
- ▶ Movie Theatres

# Content

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- ▶ You are responsible for assigned readings and everything that comes up in class
  - ▶ Sometime, key points will be things I say
  - ▶ Often, they will be things your peers say
- ▶ Prerequisites
  - ▶ Econ 11 and 101
  - ▶ Interest and enthusiasm.
- ▶ Remarks
  - ▶ We will use calculus
  - ▶ You are responsible for economic logic, not for the math

# Course Evaluation

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- ▶ **The course is not about**
  - ▶ Awarding grades
  - ▶ Screening students
  - ▶ Making you prove how hard you can work
- ▶ **It is about**
  - ▶ Becoming a better economist
  - ▶ Improving your presentation/rhetorical skills
  - ▶ Learning from your classmates

# Course Evaluation

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- ▶ **30% Case write-ups (in group)**
  - ▶ Short answer questions each week.
  - ▶ 3 pages max, 1.5 spacing, font 11.
  - ▶ We will grade 4 of the 8 cases (you can drop lowest)
- ▶ **35% Final paper (in group)**
  - ▶ Mini case study of firm you pick
- ▶ **35% Final**
  - ▶ 3 hour case write up;
  - ▶ Closed book, but allowed 10 sides (5 pages) of notes
- ▶ **Lab grades: 100% participation**
  - ▶ Case discussions, participation and presentations

# Don't take this class for an “easy A”...

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**Course(s) taken: Economics: 106I**

**Posted 12/31/2015**

106T IS THE BIGGEST REGRET OF MY LIFE. 106t is not your typical class. I have always been a straight A student in both econ and mgmt classes, including some of the hardest professor like Klein. I got a B- in this 106t class and I have no idea why. My whole gpa dropped so much. The lecture material sounds very straight forward and interesting. However, it seems that this class has no exact answers to the questions and TAs grade everything. There was no rubric to follow because every answer is so different and contains so many parts for full credit. If you really want to learn from this class for interviews, you might want to consider pass/no pass.

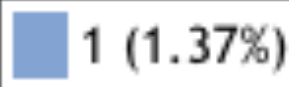




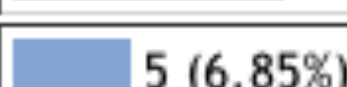
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# Here's the actual distribution

Number of grades submitted: 73

Letter Grade	Distribution
A+'s:	 1 (1.37%)
A's:	 15 (20.55%)
A-'s:	 23 (31.51%)
B+'s:	 16 (21.92%)
B's:	 11 (15.07%)
B-'s:	 5 (6.85%)
C+'s:	0 (0%)
C's:	0 (0%)

# And a more accurate review...

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Course(s) taken: Economics: 106P

Posted 05/11/2015

For: Econ 106T

Board's class was interesting and informative, and I agree with one of the previous reviewers who related it to an MBA-style seminar. Each week, we'd discuss different factors of the technology/e-commerce ecosystem, and then a case presenter would come for a (mandatory) Friday morning lab lecture and lead us in that week's case. These weren't just random people, but CEOs, high-profile financial analysts, etc. that came to speak to us, so I definitely feel that I got more out of this class (in terms of practicality and real-life value) than any of the other, more theoretical classes in the Econ department.

As far as difficulty, it's definitely not the easiest of the 106 series (ahem, 106D), but it's fairly straightforward in terms of what you need to do for an A. Focus on creating a great case writeup and then study for the final after that, and you'll do fine. There is NO midterm, which is one of the things I really liked about the course.

If you're on the fence, just take the course. You'll learn a lot and something like 70% of the people taking it get As or Bs, so it's not a course you'll have to stress about.

 [Flag as inappropriate](#)

 Like x 0

 Dislike x 0

# Teaching Method

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- ▶ **Theoretical approach**
  - ▶ Start from first principles
  - ▶ Informs what issues we should be concerned with
  - ▶ *But* predictions may be ambiguous, or theory may be wrong
- ▶ **An empirical approach**
  - ▶ Look at examples and find common elements of strategic decisions
  - ▶ Embrace richness of real life problems
  - ▶ *But* lose can lost the big picture, may mistake skill for luck, hard to identify key decisions,
  - ▶ Should you just imitate successful firms?
- ▶ **The challenge**
  - ▶ Integrate the two approaches!



# Feedback

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- ▶ This is a new, evolving course.
- ▶ Your feedback and suggestions regarding the course are very welcome at any time (email, in person etc).

# Materials

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- ▶ **Highly recommended**
  - ▶ Shapiro and Varian, “Information Rules”.
- ▶ **More formal background**
  - ▶ McAfee, “Competitive Solutions”
  - ▶ Cabral, “Introduction to Industrial Organization”
- ▶ **Case studies**
  - ▶ Course pack on website.
- ▶ **Articles**
  - ▶ Links on website (let me know if they are broken)
- ▶ **Slides**
  - ▶ Posted online



## Information Rules: A Strategic Guide to the Network Economy

Carl Shapiro Hal R. Varian

087584863X / Hardcover / List Price \$ 40.0 / Harvard Business Review Press

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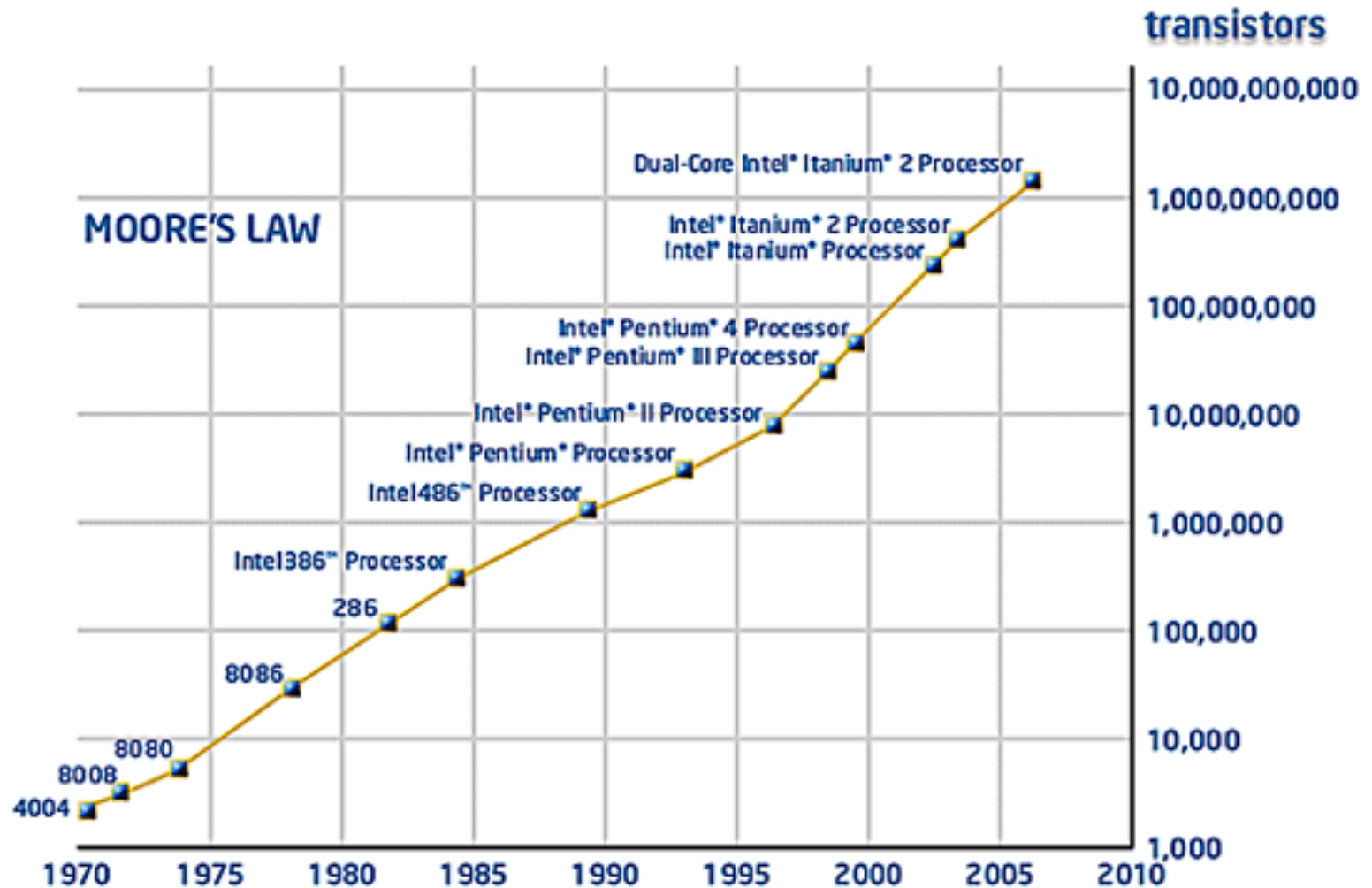


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# Technology Changes Everything

# Technological progress...

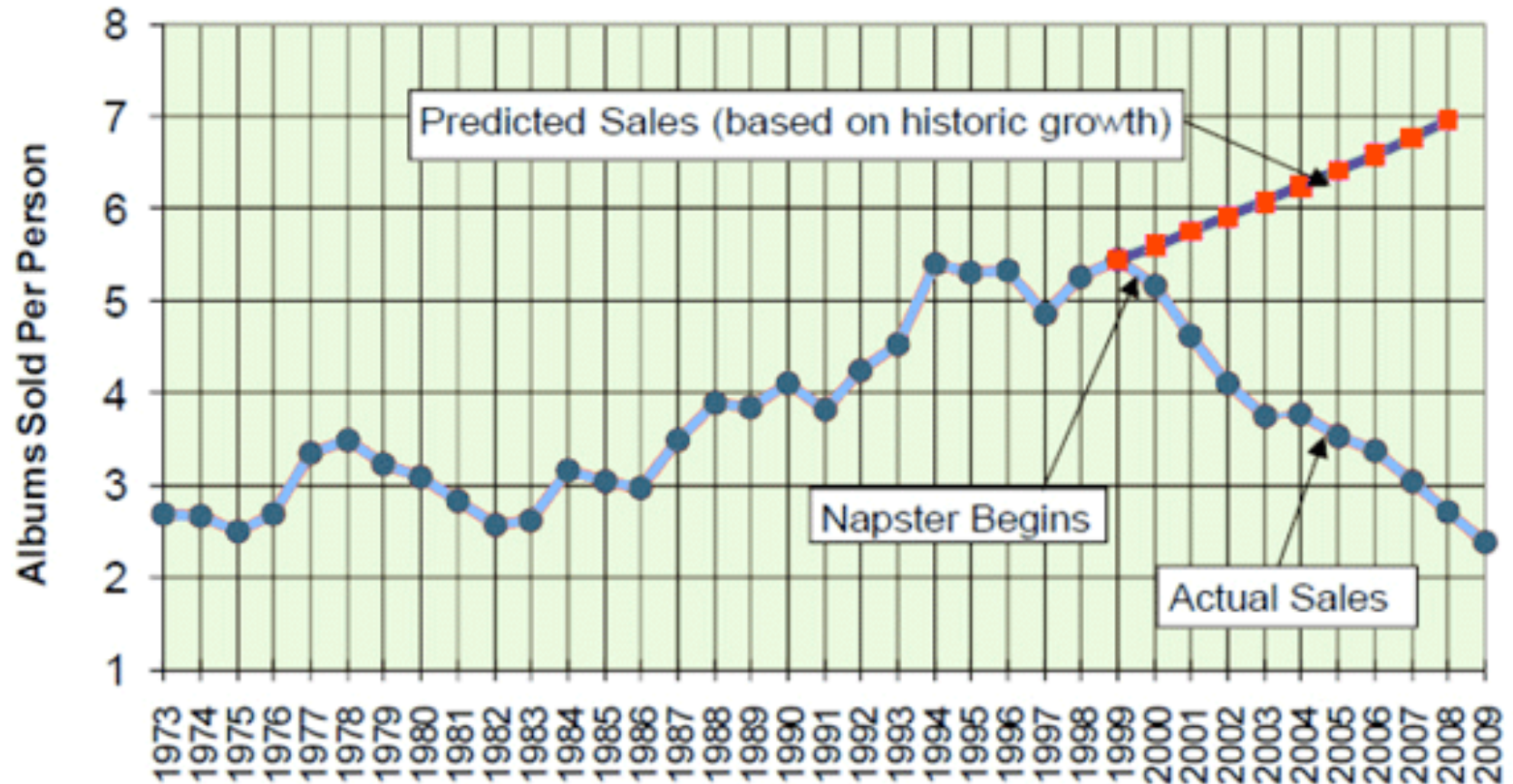


# The birth of new firms...



# The end of others....

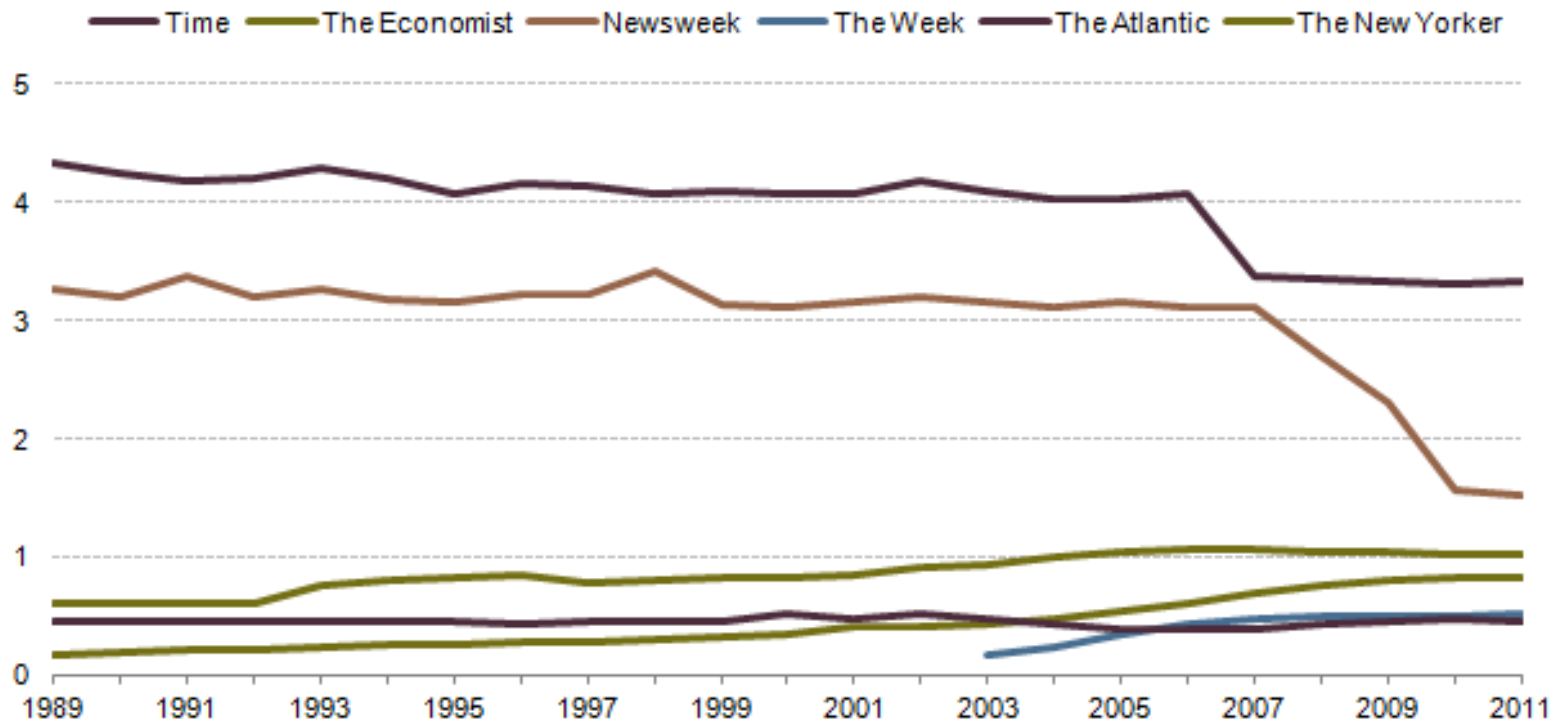
Figure 1: US Album Sales (incl dig singles)



# And others...

## News Magazines Stabilize Their Overall Circulation

Average Overall Circulation in Millions



Source: Audit Bureau of Circulations, FAS-FAX report for consumer magazines

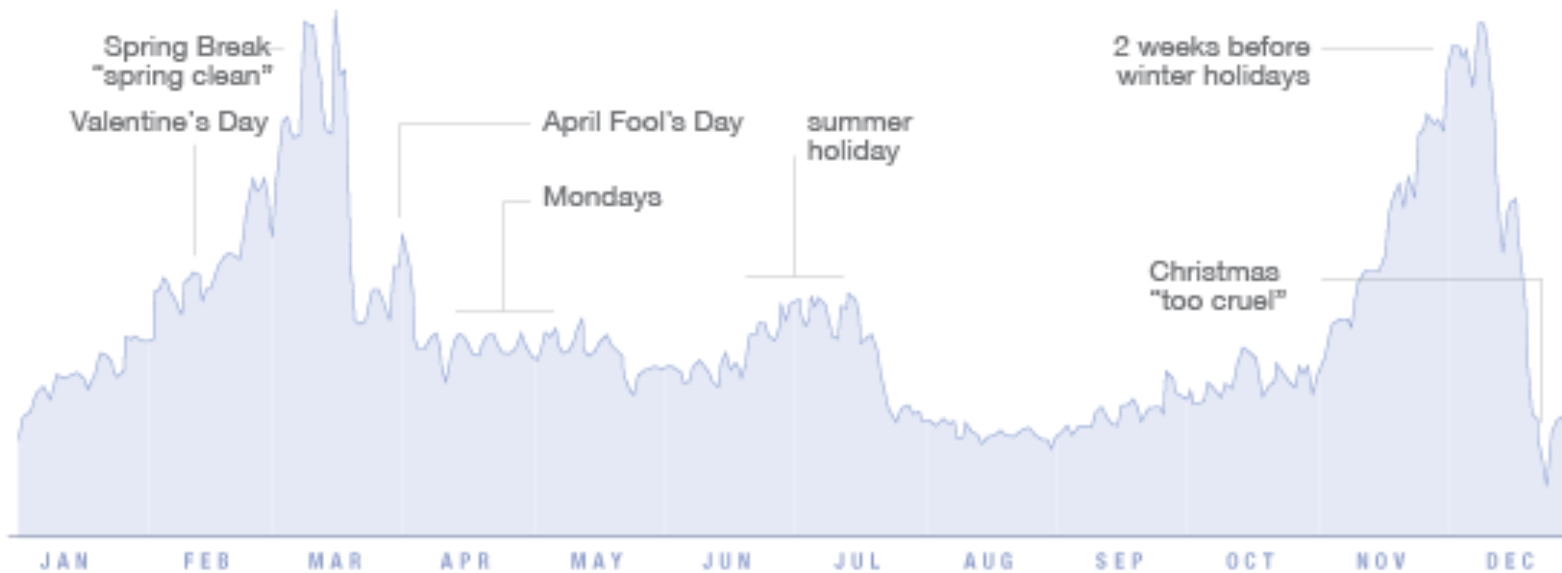
PEW RESEARCH CENTER'S PROJECT FOR EXCELLENCE IN JOURNALISM  
2012 STATE OF THE NEWS MEDIA



# Availability of data...

## Peak Break-Up Times

According to Facebook status updates



David McCandless & Lee Byron  
InformationIsBeautiful.net / LeeByron.com

source: searches for "we broke up because"  
taken from the infographic ultrabook  
The Visual Miscellane um

Technology Changes Everything....  
Except Economics

# Overview

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Groundwork

**Industry Analysis**  
**Competitive Advantage**  
**Information Goods**  
**Monetization**

Sources of Competitive Advantage

**Switching Costs**  
**Network Effects**  
**Platform Markets**

Tools for Online Economies

**Dynamic Pricing**  
**Reputation Mechanisms**

# Versioning

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- ▶ Intuition suggests that firm will charge higher price if good is more expensive to make
- ▶ But firm may pay money to create bad version of product
- ▶ **Example: IBM Laserprinter**
  - ▶ IBM inserted chip to halve speed of printer.
  - ▶ Then reduced price and marketed to households.
  - ▶ Inefficient but helped discriminate. Sold “Series E” to home market without cannibalizing professional model.
- ▶ **Often seen with websites (e.g. Hulu, Salon)**
  - ▶ Have to pay or view ad to view all site.

# Lock-in and Switching Costs

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- ▶ **Why did MS pay \$400m for Hotmail in 1997?**
  - ▶ Hotmail had no source of revenue.
  - ▶ Why not lure all customers to MS email?
- ▶ **Hotmail's customers were locked in**
  - ▶ Have thousands of old messages.
  - ▶ File systems and contacts set up.
  - ▶ People know your email address.
- ▶ **Gmail minimizes switching costs when joining**
  - ▶ Import contacts and old emails.
  - ▶ Forward emails for three months.
- ▶ **...but raise switching costs when leaving?**

# Network Effects

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- ▶ **AOL Instant Messenger was launched in 1997.**
  - ▶ People had “Buddy List”.
  - ▶ Could chat with friends online.
- ▶ **Network effects very important**
  - ▶ I only want AIM if my friends have AIM.
  - ▶ Need to solve coordination problem.
  - ▶ Hard to break into market.
- ▶ **Have different instant messenger systems**
  - ▶ AIM, G-chat, Yahoo messenger, MSN messenger, Skype, ICQ.
- ▶ **Interoperability**
  - ▶ In 2006, Yahoo and MSN opened up to each other.

# Platform Markets

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- ▶ I found my apartment through Westside Rentals
  - ▶ Charges \$60 for two months membership to search.
  - ▶ Free for landlords to post.
- ▶ Example of platform market (or two-sided market)
  - ▶ Facilitate interaction between two (or more) different groups.
- ▶ Why choose this pricing?
  - ▶ Why not charge posters (like monster.com with jobs)?
- ▶ Is it vulnerable to competitors?
  - ▶ Issue: Need to have both sides of the market.

# Behavior-Based Pricing

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- ▶ Amazon knows about customers from past behavior.
  - ▶ Frequent customers buy lots of DVDs
  - ▶ Infrequent customers rarely buy DVDs
- ▶ Suppose a customer looks at “The Wire” Box Set.
  - ▶ Should Amazon charge different prices to different customers?
- ▶ Of course! They should charge more to customers with higher willingness to pay.
- ▶ But what if frequent customers find out? Will they still be frequent?
- ▶ In September 2000, Amazon was caught doing this. It resulted in a lot of publicity (Wash Post, Sept 27th).