Who Owns Teaching?

Jack M. Wilson
CEO UMassOnline.net

Formerly:
J. Erik Jonsson, '22 Distinguished Professor of Physics, Engineering Science, Information Technology, and Management

President and CEO, JackMWilson Inc.

Who Owns Teaching?

- **When trying to determine ownership of anything…**

- **Always apply Sutton's Theorem First……….**

…. Willy Sutton, that is.

- **When asked why he robbed banks, Wille Sutton replied:**

  "Because that is where the money is."

Applying Sutton's Theorem

- **Where is the value in teaching?**

- **Boston Globe reporter to me:**

  – "MIT has just announced that they are putting all of their courses online for free." How can UMassOnline compete with that?"

- **Wilson: "What has MIT really done?"**

What has MIT really done?

- **Did they give away access to some course materials?**
  - Yes
- **Did they give away access to their classes?**
  - No
- **Did they give away access to their faculty?**
  - No
- **Did they give away access to interaction with their students?**
  - No
- **Did they give away access to their credits?**
  - No
  - ……………………………………

Finding the value in teaching

- **Is it the content?**

- **Last year I taught a graduate course to 125 students.**
    - They each paid over $2800 for that course.
    - They could have had access to the material in a book ofr under $50.
    - They could have had access to the material on the web for free.
- **Content is NOT king. Content may be the smallest part of the value chain.**
    - Content is essentially a micro-serf.

Content
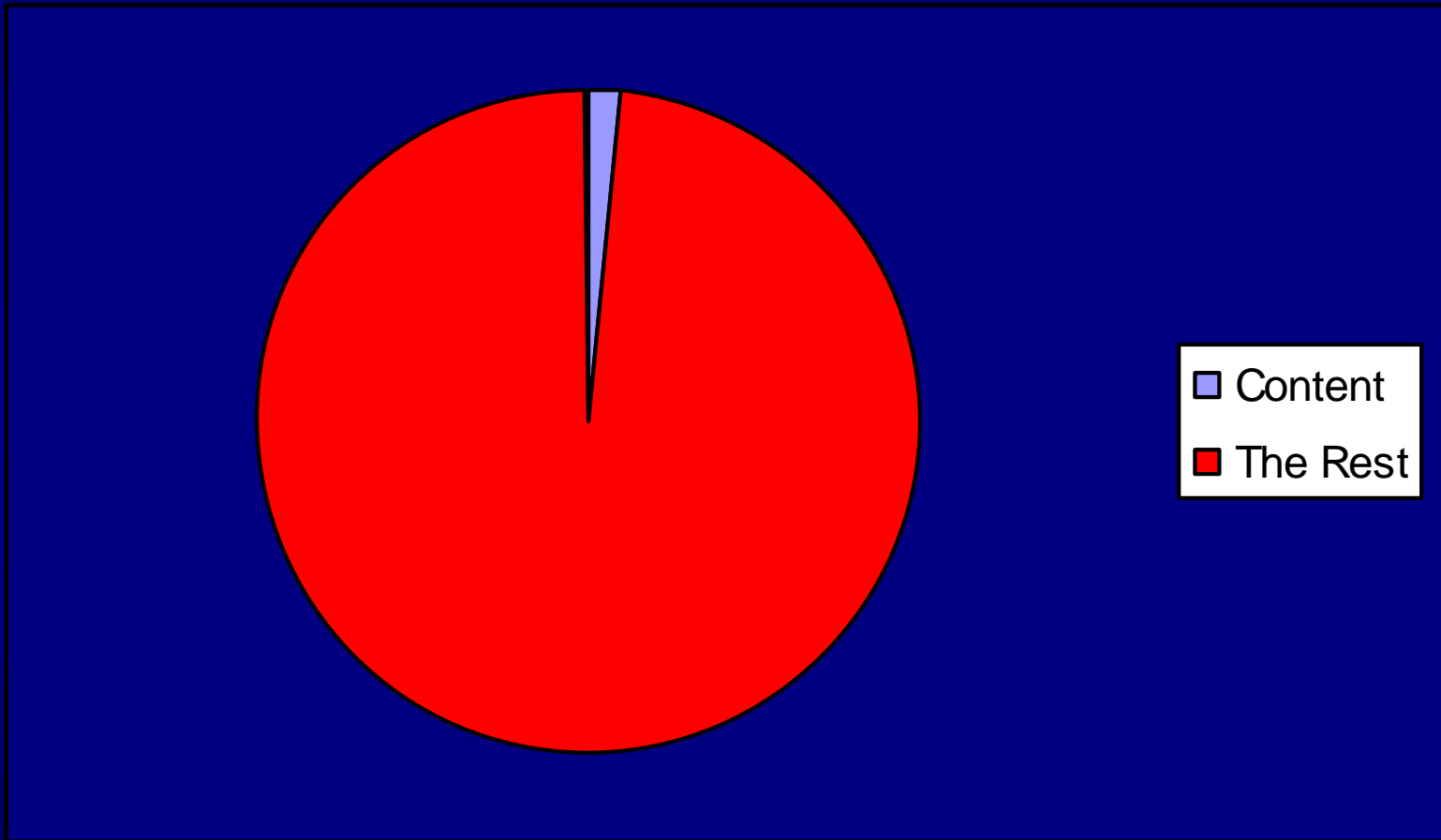
The Value Chain
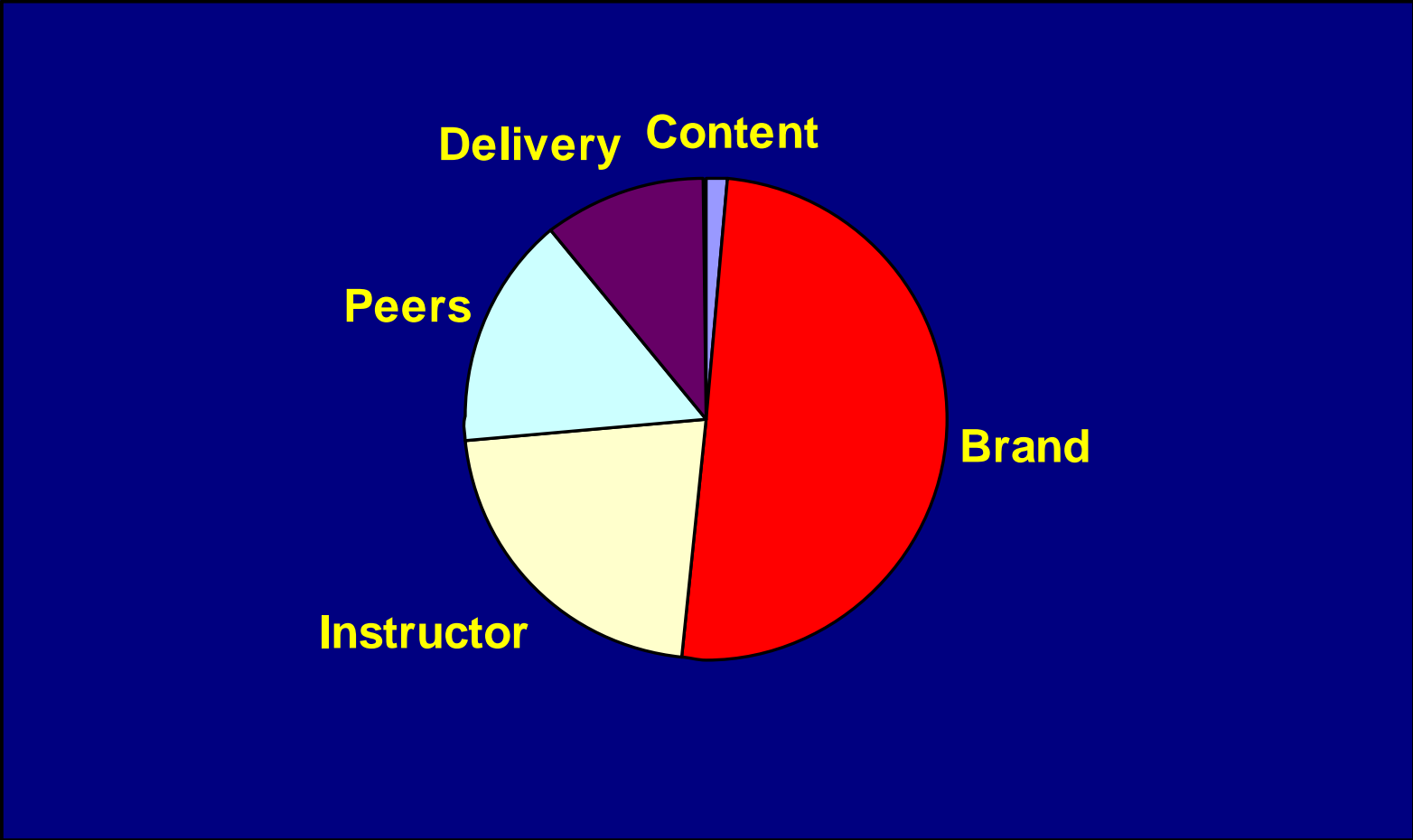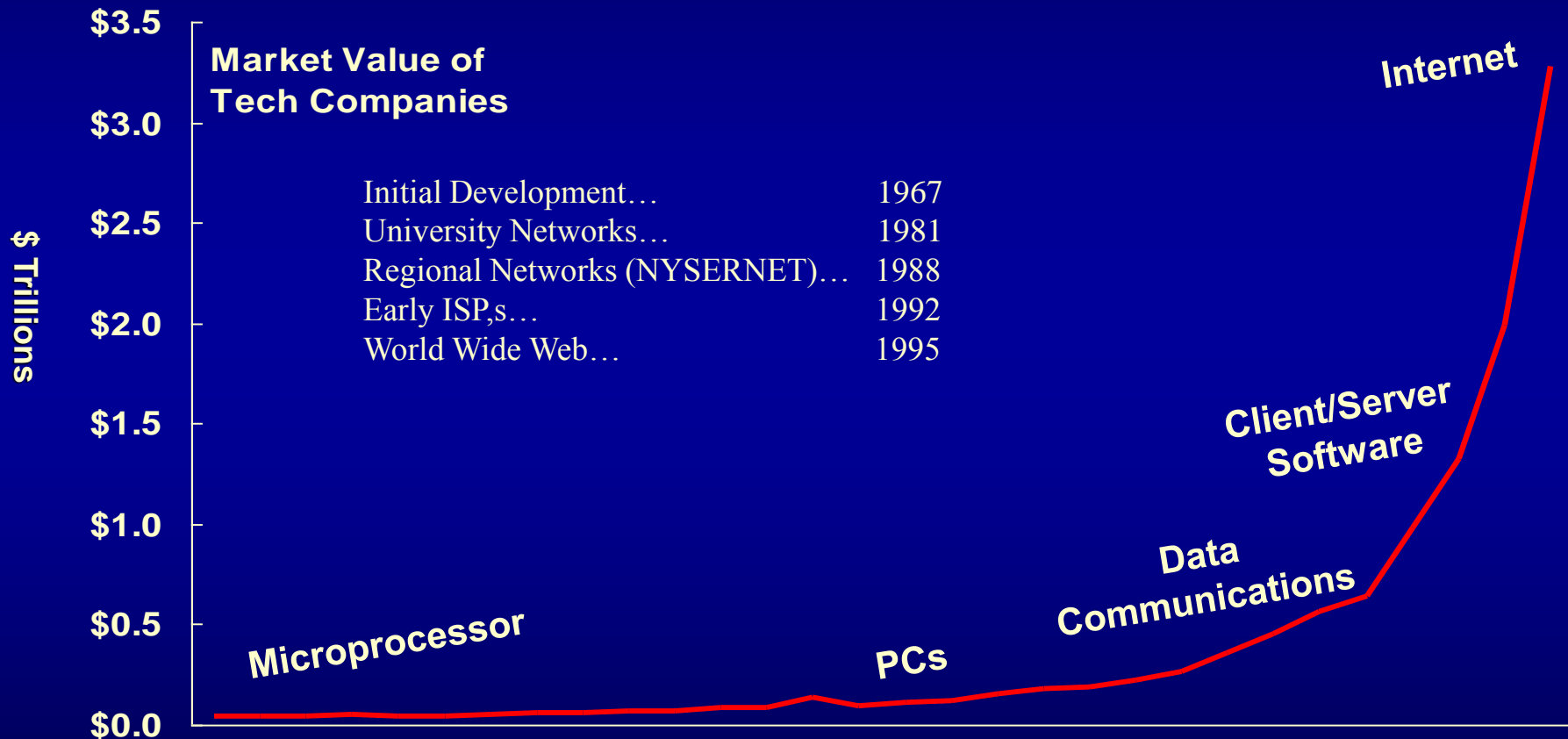
What is happening to the world?

- **A few questions that we hope to answer:**
  - Why has your life been so crazy for last few years?
  - Why is your CEO feeling uneasy?
  - What is happening to the stock market?
  - What is the Internet Tsunami?
  - How can you survive it?
  - How can you profit from it?

In the beginning

- *In the beginning there was the net. –Jack Wilson*

- *The secret of success is changing the way you think. –Jack Welch*

- *Folks, they say that if you want to be a leader, find a parade and get in front of it. –Jim Barksdale, CEO Netscape.*

- *Nobody is more surprised than me by what has happened over the last four years. –Jeff Bezos, CEO of Amazon.com [Business Week]*

The Power: What's happening?

- **Do you think the pace of change is accelerating?**

Market Value of Tech Companies — $ Trillions

Initial Development…	1967
University Networks…	1981
Regional Networks (NYSERNET)…	1988
Early ISP,s…	1992
World Wide Web…	1995

Chart labels: Microprocessor, PCs, Data Communications, Client/Server Software, Internet

Incl. Int'l Tech Companies
Source: Securities Data Company

Changing the Face of Industry!

Top 40 US-Traded Tech. Comp.			
4/9/1999 Market Value ($B)		4/9/1999 Market Value ($B)	
* Microsoft	469.7	* TSMC	32.1
Intel	204.8	* SAP	31.1
* Cisco Systems	189.7	* Amazon.com	30.1
IBM	167.5	EDS	26.1
* America Online	159.2	* Auto. Data Processing	25.9
* Lucent Tech.	158.6	Applied Materials	23.8
* Dell	105.8	* eBay Inc.	23.0
Nokia	80.4	* Tellabs	21.4
Hewlett-Packard	69.0	* Ascend Communications	20.6
* EMC	66.1	* At Home Corp.	20.3
* Sun Microsystems	53.2	* Computer Associates	18.9
Motorola	49.5	* First Data Corp.	18.2
Northern Telecom	49.0	* STMicroelectronics	16.1
Ericsson	45.5	* Micron Technology	11.3
Texas Instruments	42.1	* Priceline.com	11.1
* Compaq	40.9	* Gateway 2000	10.9
* Yahoo!	40.8	* E*Trade Group	10.8
Siemens	40.6	Computer Sciences Corp.	9.3
Xerox	39.0	* Linear Technology	8.7
* Oracle	37.8	* 3Com	7.8
* IPO since 1980		Source: Frank Quattrone Credit Suisse First Boston	

- **Would you rather be red than dead?**
  - Twenty seven (27) of the top 40 US Technology based companies are those that have done an IPO since 1980! (Shown in red)
  - New companies are rapidly challenging and displacing established enterprises.

  - Let's have a look at the Dow "Blue Chips" as they existed in the summer of 1999.

The Pain: What happened to the Blue Chips?

- **Yep, in the summer of 1999, the 10 largest non-Dow stocks were larger than the 10 largest Dow Stocks!**
- **This forced the Dow to be revised to include many of these companies.**

Dow Largest	Market Value	Founded	Non-Dow Largest	Market Value	Founded
GE	389	1892	Microsoft	483	1981
IBM	223	1911	Intel	269	1968
Wal-mart	211	1969	Cisco	220	1984
Exxon	195	1882	Lucent	202	1995
Merck	162	1934	Pfizer	154	1942
Citigroup	161	1968	AIG	153	1967
AT&T	159	1885	MCI WorldCom	146	1983
Coca-Cola	152	1919	Bristol Myers Squibb	145	1933
Johnson&Johnson	140	1887	Dell Computer	122	1987
Proctor&Gamble	133	1905	Bank of America	111	1968
	192.5			200.5	

The Power: Why we are running so hard?

- The Internet's pace of adoption eclipses all other technologies that preceded it.

    - Radio was in existence **38 years** before 50 million people tuned in;

    - TV took **13 years** to reach that benchmark.

    - The Internet passed that in **4 years**, once it was opened to the general public.

Internet Tsunami- A Reprise

- In 1994, **3 million** people were connected to the Internet. By the end of 1997, more than **100 million** people were using the Internet.

- Internet Traffic is doubling every **100 days**.

- registered domain names grew from **26,000** in July 1993 to **1.3 million** in July 1997.

- Over same period, the number of hosts expanded from under **1.8 million** to **19.5 million**.

Internet Tsunami - What next?

- Consumer electronics companies, media giants, phone companies, computer companies, software firms, satellite builders, cell phone businesses, Internet service providers, television cable companies are **aggressively investing** to **build** out the Internet.

- Within the next five years, the vast majority of Americans should be able to interact with the Internet from their television sets, or watch television on their PCs, and make telephone calls from both devices

The Pain

- **Last year witnessed an unprecedented destruction of wealth in gargantuan proportions.**

- **The market value of the Nasdaq alone declined by $1.6 *trillion* -- about eight times larger than the decline of the entire GDP during the Great Depression**

  - -- yet for the most part people shrugged.

- **1.   "Crash Economics;" Fortune; by Erick Schonfeld, January 05, 2001.**
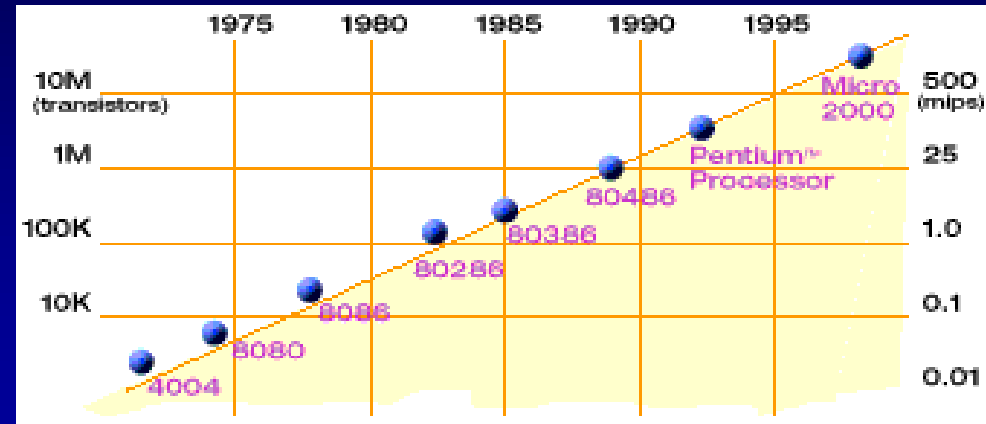
Do you feel like you are herding cats?

Drivers for Change

Computing

Communication

Cognition

Growing Region
of Convergence
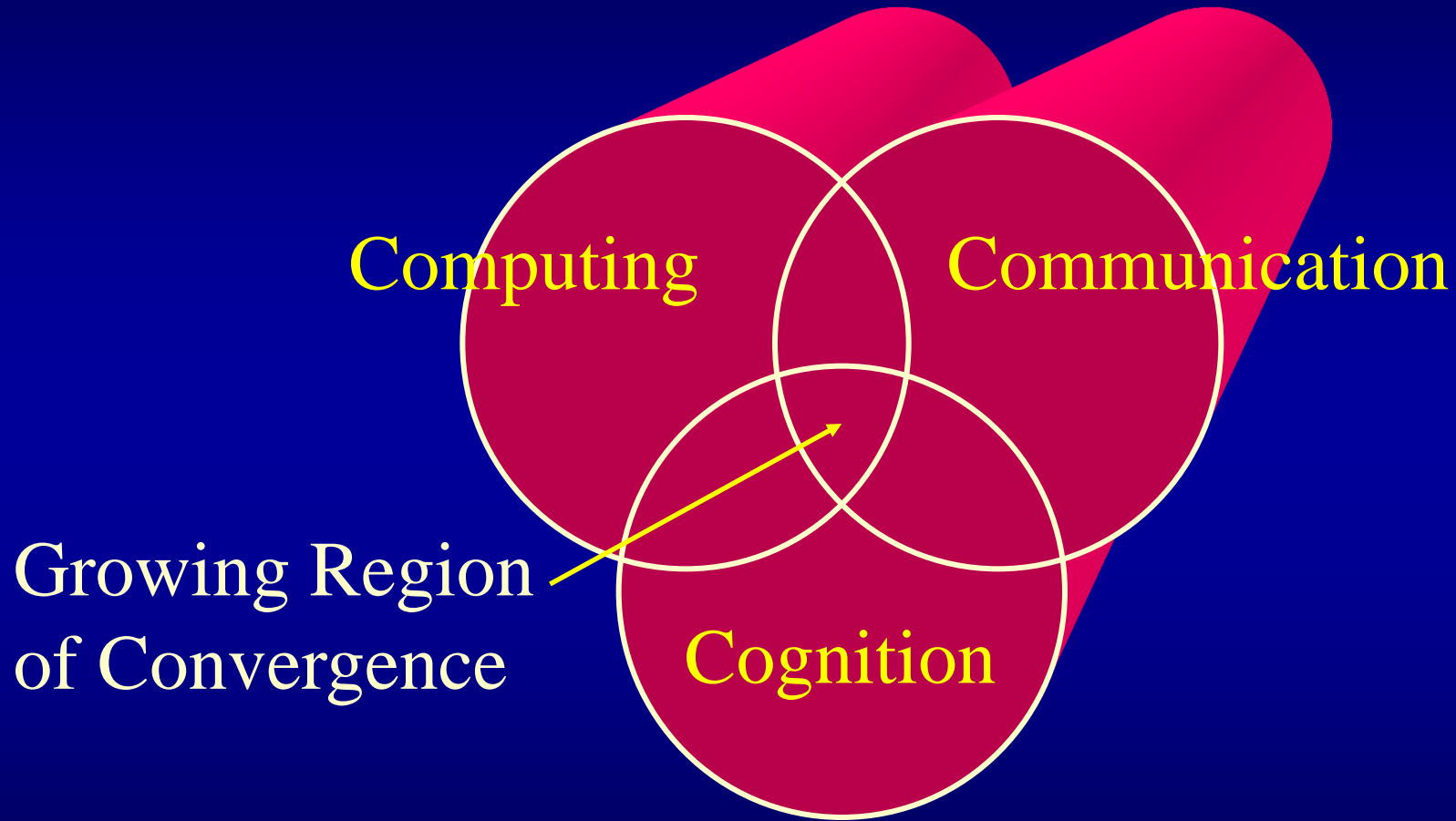
Wilson's Favorite Laws

- **Moore's Law:**
  CPU performance doubles every 18 months

- **Bandwidth law:**
  Bandwidth is doubling even faster!

- **Metcalf's Law:**
  the value of a network scales as n² where n is the number of persons connected.

Network Economics

- **Metcalf's Law:**

- **the value of a network scales as n^2 where n is the number of persons connected.**

- **Also known as**
  - **"network externalities"**

Rank	Company	Unique Visitors
		(millions)
1	AOL	53.8
2	Yahoo	42.4
3	Microsoft	40.5
4	Lycos	30.4
5	Excite@Home	27.7
6	Go Network	21.4
7	Amazon.com	16.6
8	NBC	14.9
9	About.com	12.6
10	Time Warner	12.2
11	Real.com	11.9
12	AltaVista	11.6
13	Go2Net	11.2
14	eBay	10.4
15	CNET	9.7
16	ZDNet	9.6

Media Metrix; Dec. 99

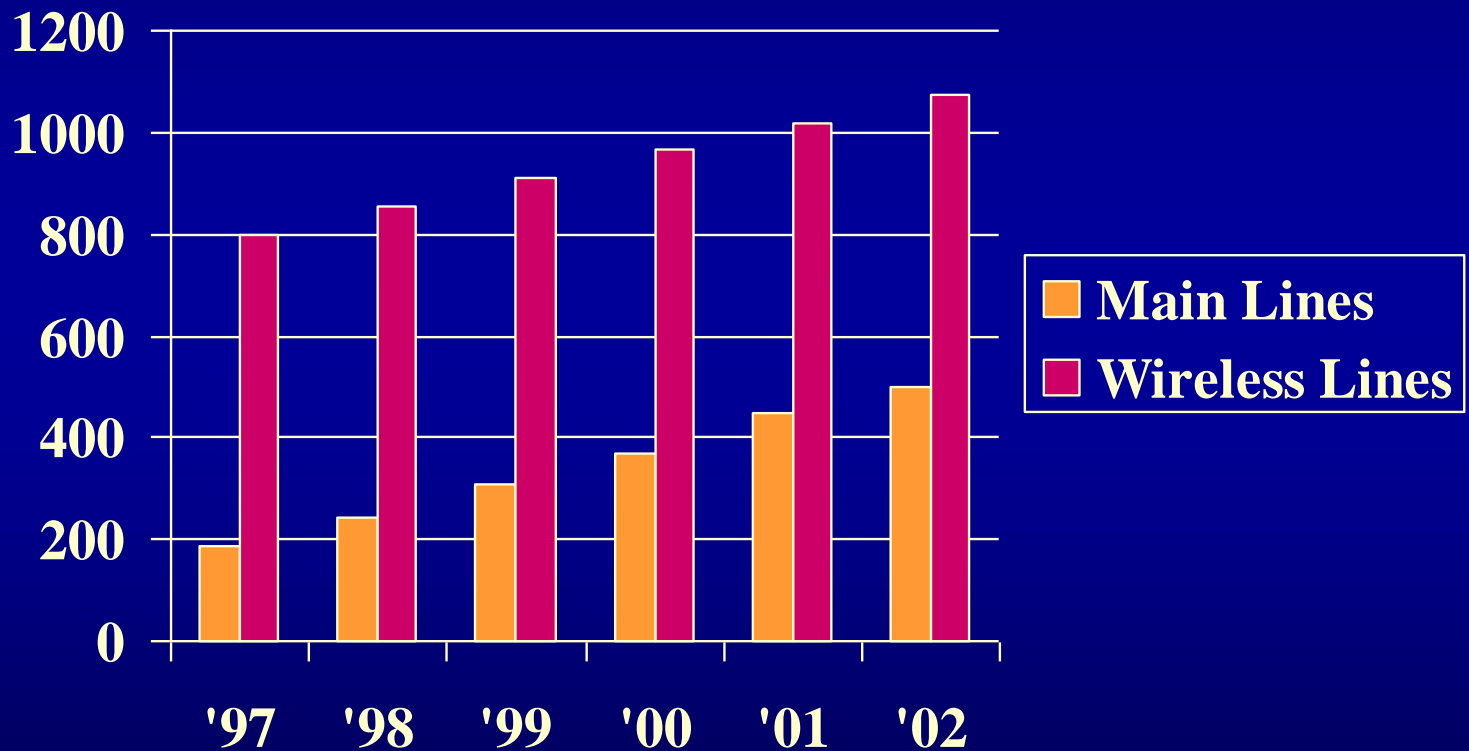# World-wide connectivity

World-wide connectivity (millions)
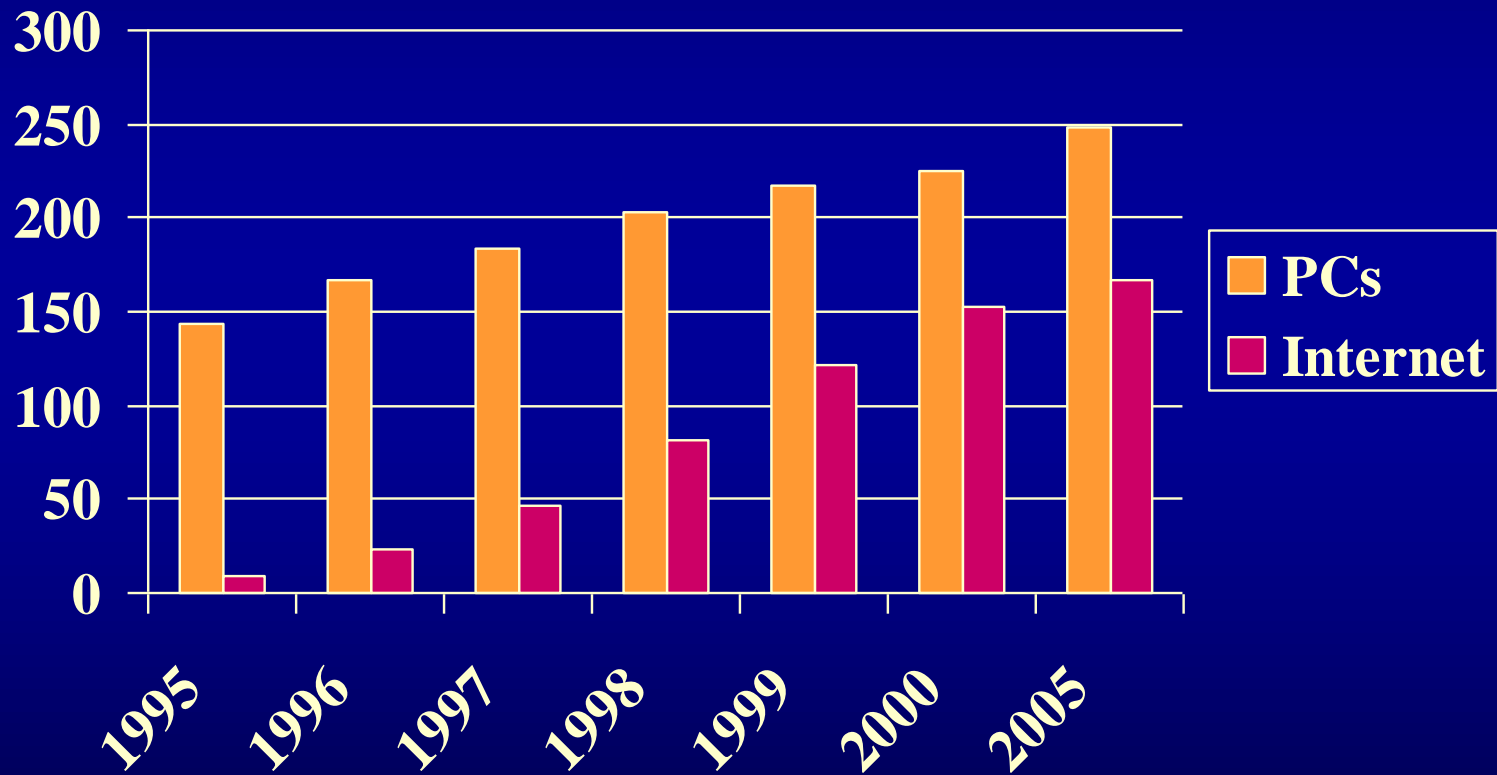
World-wide telephone lines

World-wide telephone lines (millions)

# Wireless is the future, and the US is behind!

	Cell Phone Subscribers Year-end 1999 In millions
Vodafone Group	49.2
China Mobile	34.0
NTT DoCoMo	29.0
Verizon	19.8
France Telecom	19.7
Deutsche Telekom/T Mobile Int.	18.6
SBC	14.9
Telecom Italia Group	14.7
AT&T and AT&T Wireless	14.0
BT/BT Wireless	13.2

Venture Capital Funds

Rocket Fuel for Entrepreneurs

$ Billions

■ Capital Under Management
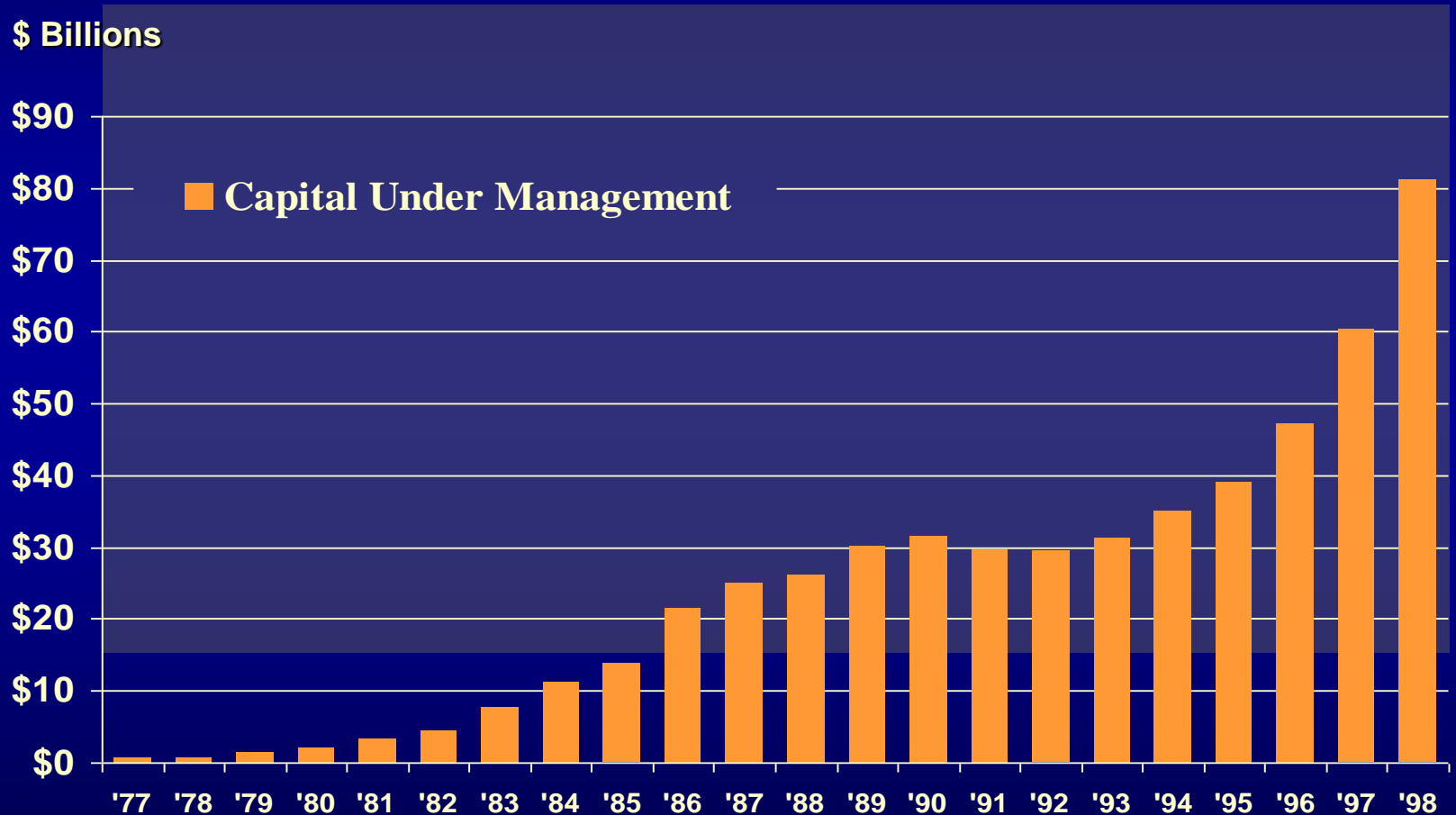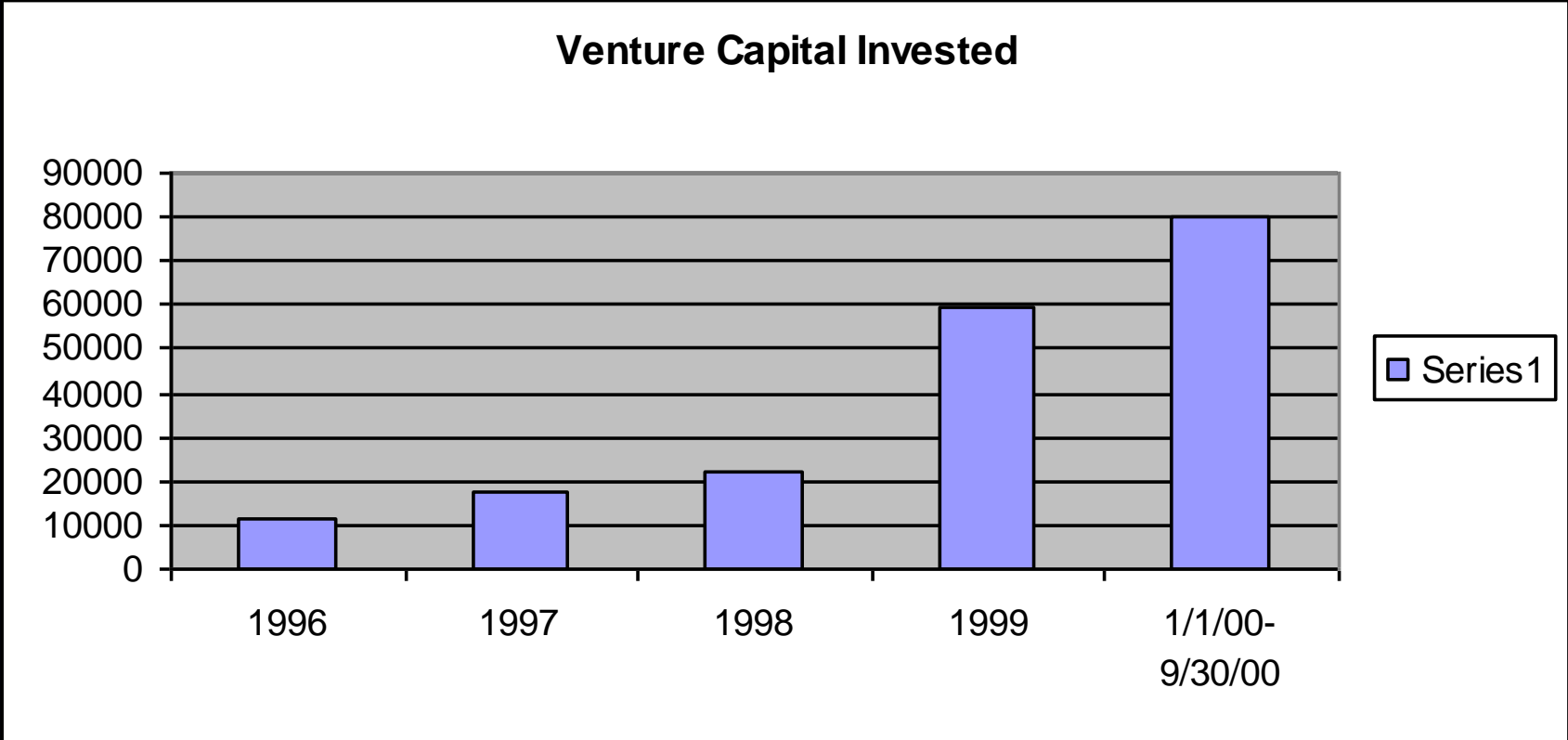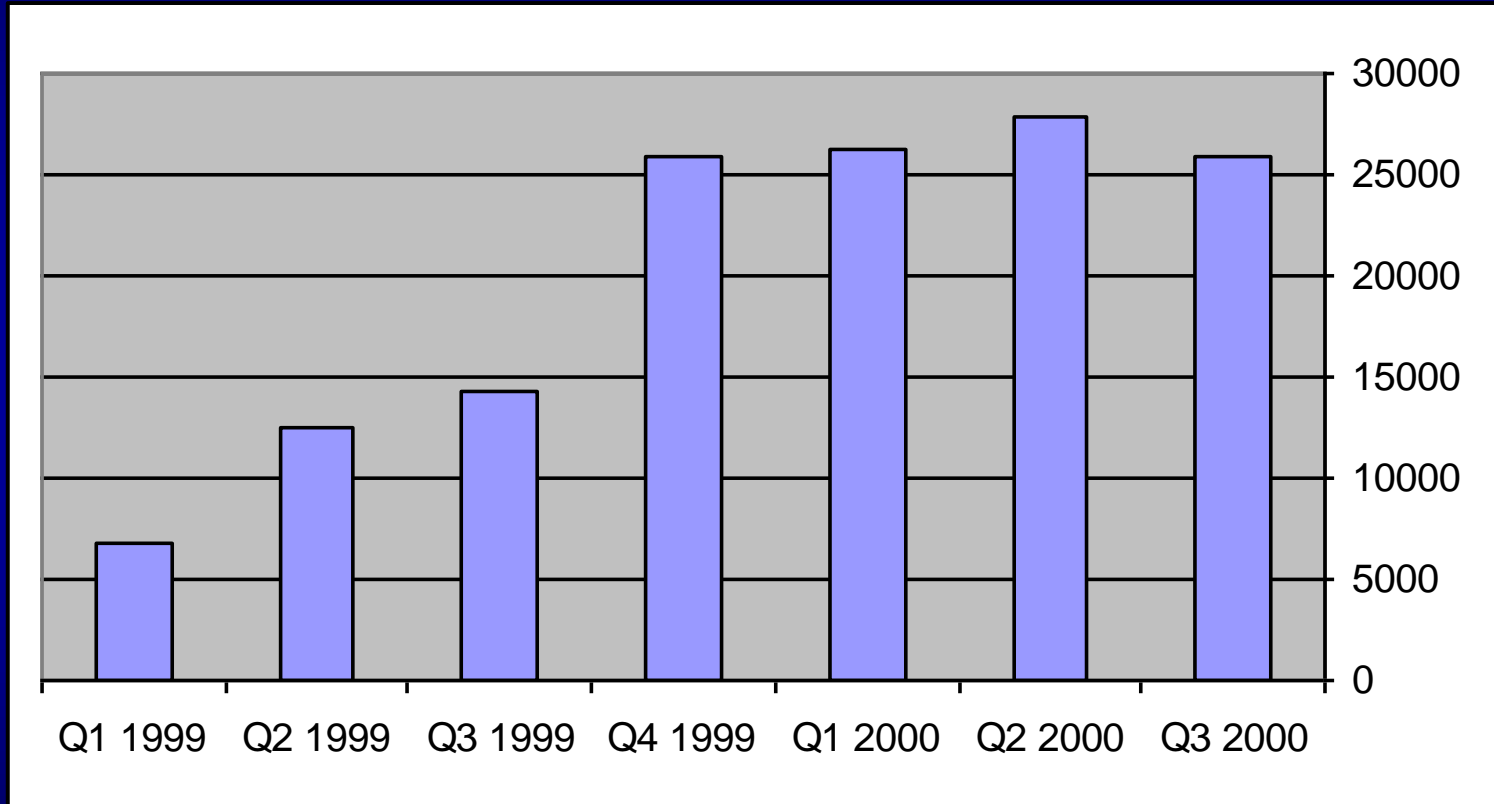
Source: Venture Economics Information Services

Copyright 1999-2000 by Jack M. Wilson -www.JackMWilson.com

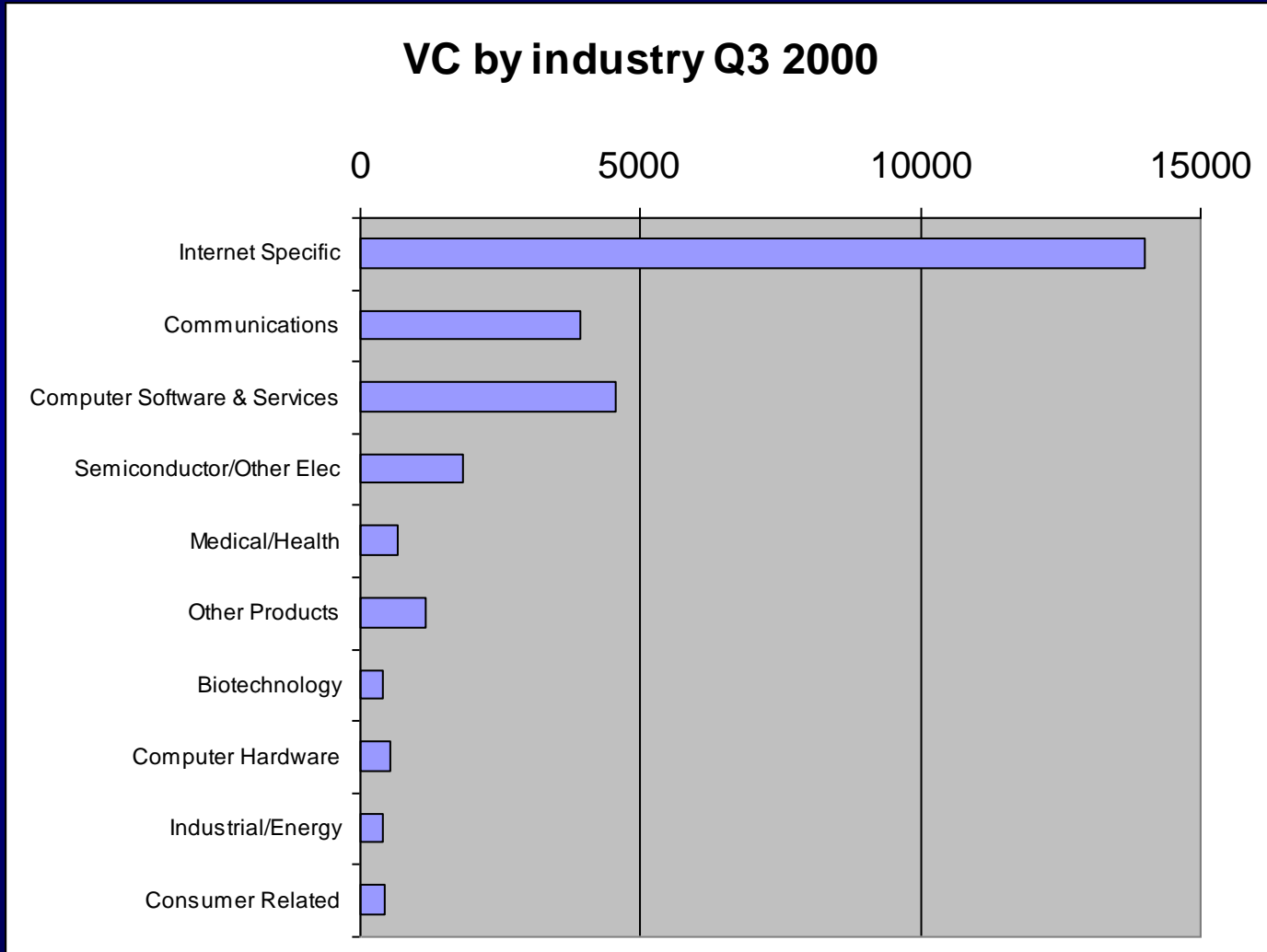# Venture Capital Invested by Year

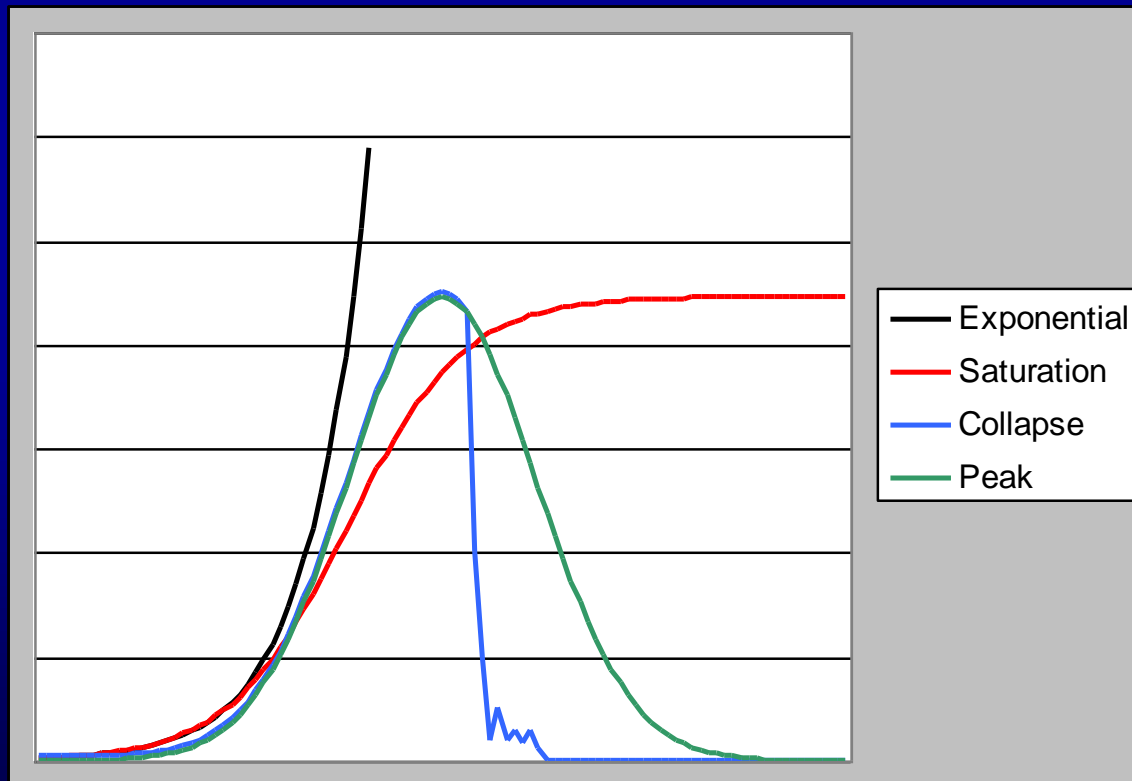# Venture Capital Invested by Quarter

Venture Capital Invested by Industry

VC by industry Q3 2000

Mathematics of Exponential Growth

In the real world there is no such thing as exponential growth. All exponential processes eventually become combinations that include saturation, peaking, or even collapse.

Exponential Growth on the NASDAQ

NAS/NMS COMPSITE (NASDAQ Stock Exchange)
as of 2-Dec-2000
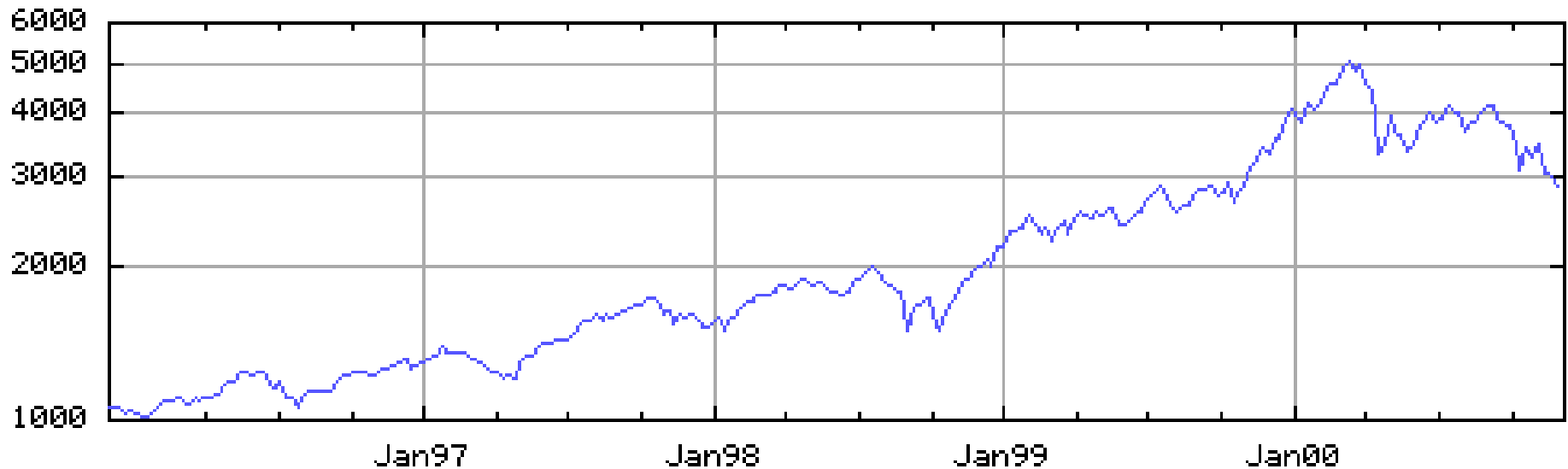
Copyright 2000 Yahoo! Inc.   http://finance.yahoo.com/

The hope, the hype, the power, the PAIN.

NAS/NMS COMPSITE (NASDAQ Stock Exchange)
as of 10-Jan-2001
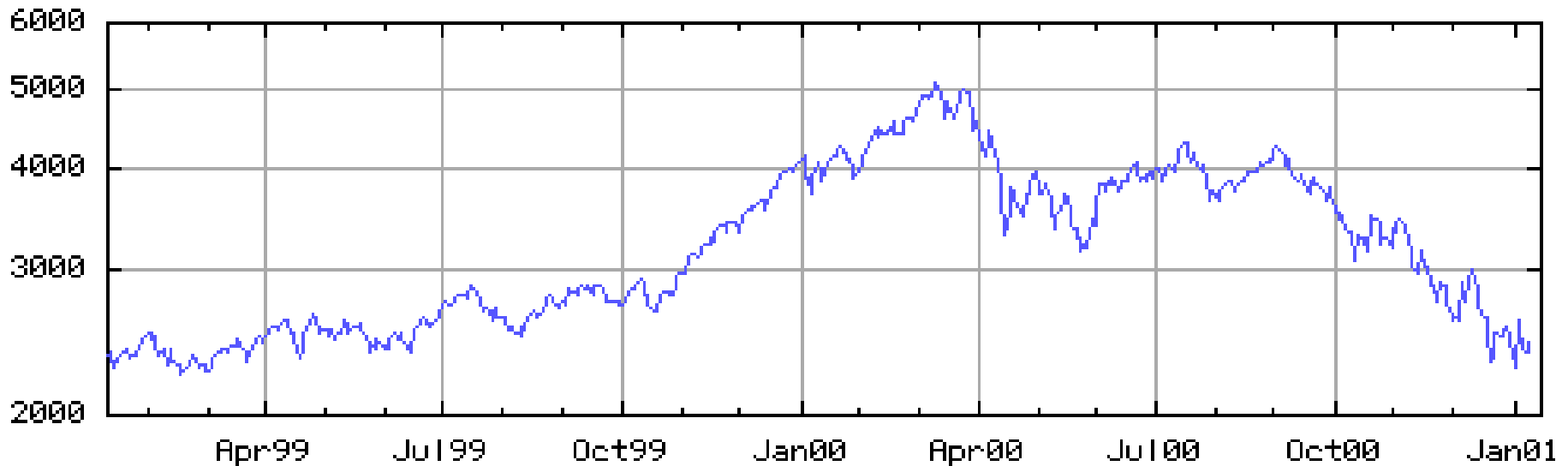
Copyright 2001 Yahoo! Inc.   http://finance.yahoo.com/

How to Value an Entity?

- **Assets?**

- **Earnings?**

- **Revenues?**

- **Intellectual Capital**

- **Customers?**

  - According to Frank Quattrone, Vice President of Credit Suisse First Boston

    - Internet Valuation is =
      $25 per eyeball pair per hour

The Finances of eBusiness

- *But how do we know when irrational exuberance has unduly escalated asset values..?, ---Alan Greenspan, chairman of the Federal Reserve Board.*

- *The Internet will provide a dramatic drop in costs, destroy old competitive advantages and remake business models. The Internet is clearly reshaping the flow of capital. -- Michael Dell, CEO Dell Computer.*

- *There is such an overvaluation of tech stocks that it's absurd. I would put our company, and I would put most companies, in that category. -- Steve Ballmer, President, Microsoft*

Tulip mania?

Thursday March 30 3:04 PM ET
Fed Will Raise U.S. Rates Until Growth Slows
By Marjorie Olster

WASHINGTON (Reuters) - Federal Reserve officials, detecting palpable strains from the searing pace of U.S. growth, made clear on Thursday they will keep raising interest rates until the economy cools off. Comments from Federal Reserve Chairman Alan Greenspan and two regional Fed presidents showed that not only does the central bank see virtually no signs its five rate hikes since mid-1999 have slowed demand, but the risks to the economy may actually be mounting.
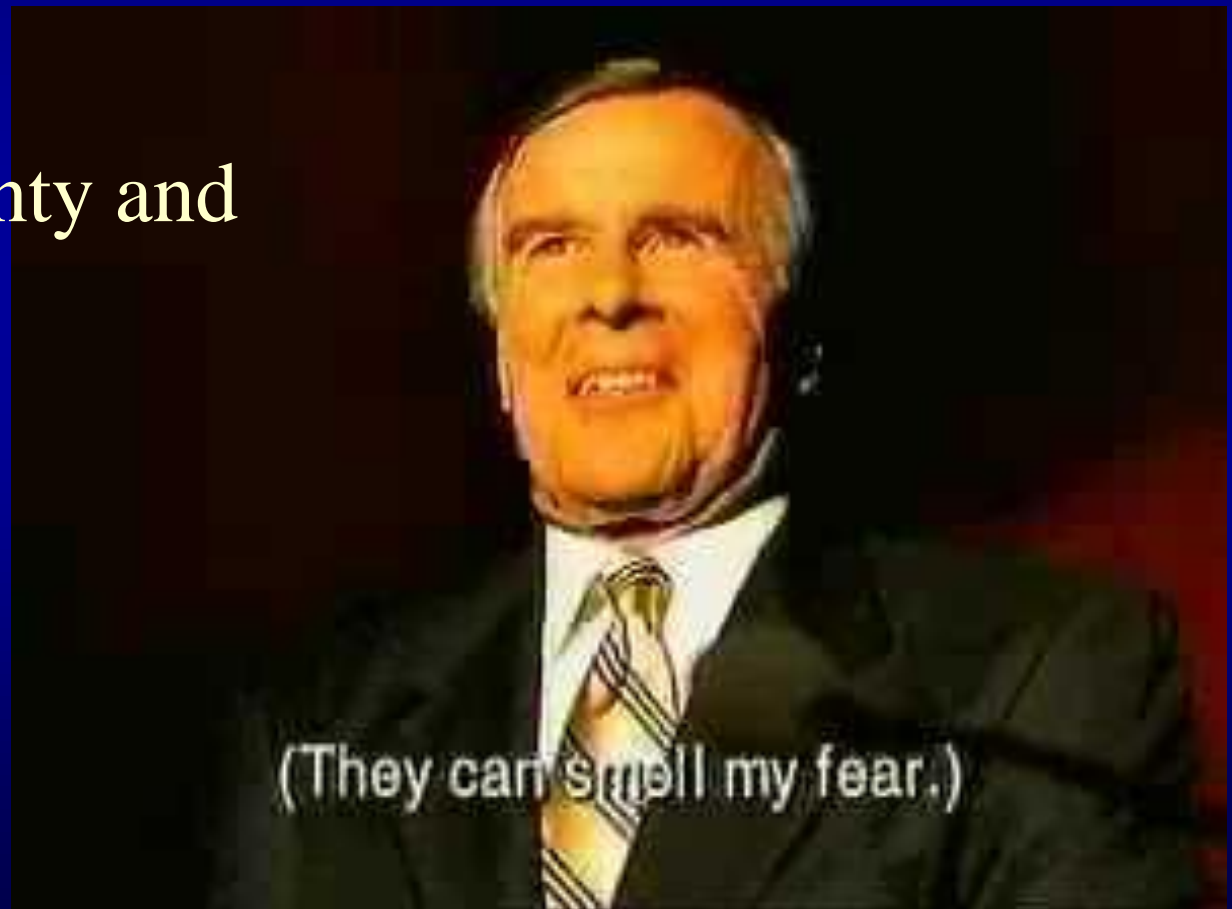
``As a central banker...I cannot help but register concerns about some recent developments,'' New York Fed President William McDonough said at an appearance in Tokyo.

Management's Response

- **FUD**

  - **F**ear
  - **U**ncertainty and
  - **D**oubt

  Video

  (They can smell my fear.)

The paradox of the Internet

- **Entrepreneurs and Executives at high technology companies face a difficult challenge.**
  - How can they keep up with the pace of technical change and the new economy business environment when they find themselves overwhelmed with work and with little time for traditional educational programs?
- **These eExecutives are ideal candidates for high quality and high flexibility learning environments.**
  - We designed a series of courses for them leading to a certificate in eBusiness at the graduate level. The courses could also form part of their program for an MBA degree, an MSIT or an MSES.

Time is precious

- **If you are an entrepreneur, you have no time to head off to the local university for graduate courses in the latest in business strategies and technologies.**
  - With the world moving in Internet time, you must find a way to learn faster and better and just in time to give your company a competitive advantage.
  - It is a daunting challenge for new and old graduates alike. How can they keep up with a system that changes dramatically every month?

What about the full time students?

- **If you are a student studying in the MBA programs at the leading American technological universities,**
  - how can you tap into the expertise and experience of those who are right in the middle of this Internet Tsunami?
  - How do you know whether the things you are learning will hold up to the test of entrepreneurial or corporate reality?

  - You need to interact with those that have been there and done that.

Putting together two unlike groups

- **In Introduction to eBusiness these two groups were interacting every day.**
  - The students in Professor Jack Wilson's graduate MBA eLearning course in eBusiness found the way.
  - The half of the students in the room with him at Rensselaer were about evenly divided between those who were employed by local industries and start-ups during the day and full time MBA students.
  - Those students at a distance were all employed by both start-ups and leading American corporations.

eExecutives eLearning

- **Every Tuesday night from August to Dec, 125 executives and potential executives met on-line to learn eBusiness.**
  - Half sitting at desks with laptops at RPI in Troy, NY
  - Half scattered throughout North America in their homes and at corporate sites including: General Electric, IBM. Ford, Sun Computer, J.P. Morgan, Lockheed Martin, Sikorsky, Carrier, Pratt and Whitney, Otis Elevator, Consolidated Edison, and Computer Sciences Corporation.
- **Some corporation's participants were also scattered.**
  - IBM: VT, MN, TX, NC, and all over NY.
  - Ford participants included Canadian as well as US installations.
- **Repeated for waiting list of 70 person in spring of 2001**
  - Approx 25 on campus and 50 off.
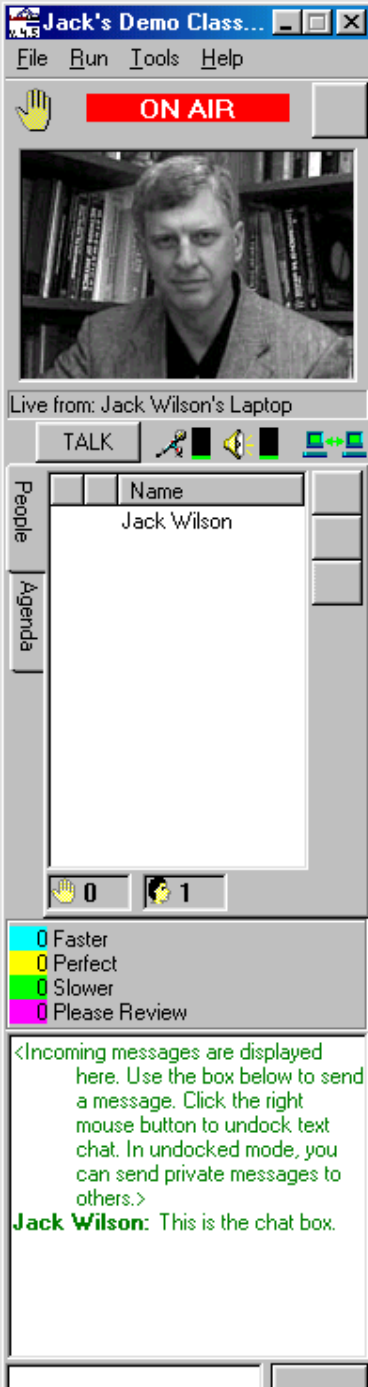
A Live On-Line Course in eBusiness

- **A one semester course in eBusiness**
- **Offered in the blended model**
  - Live session (2.0 hours per week)
    - All students (125 fall, 70 spring) used LearnLinc for
      - Application sharing and collaboration
      - Polling
      - Testing
      - Group work
    - May also be attended physically in classroom in Troy, NY (~50 fall and 25 in Spring 2001)
    - May also connect through video-conferencing (fall)
  - Asynchronous- Web based activity (1.25 hours – 6 hours) in WebCT.

LearnLinc Live-On-Line
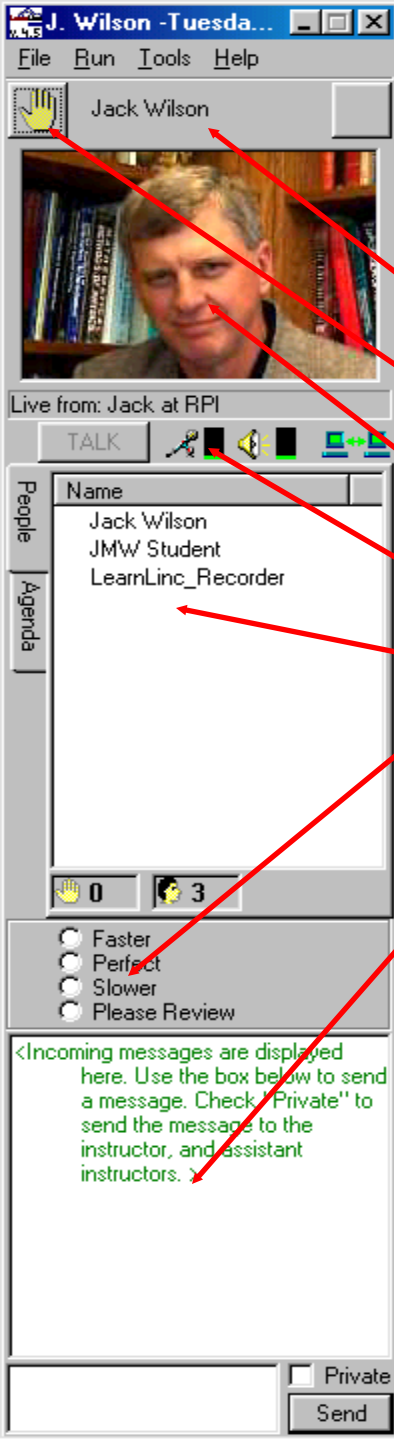
- **On- Air indicator**

- **Raise your hand**

- **Picture or video of speaker**

- **Audio and Network controls**

- **Agenda or class roll**

- **Feedback section**

  – (can be pace, agreement, T/F, Yes/No, etc.)

- **Chat Window**

J. Wilson -Tuesda...

File   Run   Tools   Help

Jack Wilson

Live from: Jack at RPI

TALK

People | Agenda

Name
Jack Wilson
JMW Student
LearnLinc_Recorder

✋ 0   👤 3

○ Faster
○ Perfect
○ Slower
○ Please Review

<Incoming messages are displayed here. Use the box below to send a message. Check "Private" to send the message to the instructor, and assistant instructors. >

☐ Private

Send

ON AIR

Live from: Jack Wilson's Laptop

TALK

People | Agenda

	Name
	Jack Wilson

✋ 0   👆 1

0 Faster
0 Perfect
0 Slower
0 Please Review

<Incoming messages are displayed here. Use the box below to send a message. Click the right mouse button to undock text chat. In undocked mode, you can send private messages to others.>
Jack Wilson: This is the chat box.

Technology Enhanced Entrepreneurship Education
with the support of **The Ewing Marion Kauffman Foundation** and the
Kauffman Center for Entrepreneurial Leadership

This side of the screen could contain:

- Synchronized Web browser

- Whiteboard

- QnA

- Shared Application

Technology Enhanced Entrepreneurship Education
with the support of **The Ewing Marion Kauffman Foundation** and the
Kauffman Center for Entrepreneurial Leadership

- Extensive Website:

  - http://www.jackmwilson.com/eBusiness/Syllabus-Spring2001/

- MBA, MSIT, MS

- miniLectures,

- Discussion,

- Student presented cases, &

- asynchronous interactions (ALN)

On-Line Testing (LearnLinc TestLinc)

Test: 2/29/2000 Employee Orientation Test

This test uses the Orientation Test Template

Testing Options

☑ Limit test to 60 minutes

☐ Random question order

Number of times student can take test: 2 ▼

Students can access this test...

☐ Starting

Month	Day	Year	Time
2 ▼	29 ▼	2000 ▼	16:24

☐ But not after

Month	Day	Year	Time
3 ▼	1 ▼	2000 ▼	16:24

Grade Posting Options

○ Don't show results
○ Show final grade only
○ Show grades by question
◉ Show grades and answers

Show results after:

Month	Day	Year	Time
2 ▼	29 ▼	2000 ▼	16:24

☐ Review grades before posting

Publish   Cancel

Student Results and Records

Test: Office 2000 Overview

Karen Ling

Question	Correct Answer(s)	Student's Answer(s)	Points Available	Points Awarded
Microsoft Office 2000 includes which of the following standard software applications?	1. Word 2000 2. Excel 2000 4. FrontPage 2000	1. Word 2000 2. Excel 2000 4. FrontPage 2000	20	20
The "desktop" is a metaphor used to represent an important part of your computer's graphical user interface (GUI).	True	True	20	20
The Microsoft Office 2000 software application that you can use for word processing is called	Microsoft Word Word	Word	20	20
. Microsoft Excel, another Office 2000 software application, is used to create	spreadsheets forms graphs	graphs		
. To create your corporate intranet site, you could use	Microsoft FrontPage FrontPage	FrontPage		

Record book

TESTLINC LearnLinc
TESTING AND ASSESSMENT

Test: Office 2000 Overview

Click a student name to review individual test results.

Student	Date/Time Completed	Duration of Test (minutes)	Total Points	Awaiting Grade	
Arman Stattic	3/2/00 9:13:37 AM	1	80	No	Delete Result
Bernice Campollini	3/2/00 9:37:12 AM	5	60	No	Delete Result
Brian Mann	3/2/00 9:22:39 AM	8	100	No	Delete Result
Jude Sages	3/2/00 9:41:10 AM	1	80	No	Delete Result
Karen Ling	3/2/00 9:38:47 AM	0	100	No	Delete Result
Pamela Fraser	3/2/00 9:29:51 AM	2	73	No	Delete Result
Rumi Platek	3/2/00 9:42:58 AM	0	100	No	Delete Result

Folder List
Virtual Campus
Help

Powered by LearnLinc

Done   View Statistics

The Dinosaur's strike back

- *"Why jump into this business when nobody makes money?" Jurgen Hubbert, Daimler Chrysler Board member.*

- *"It took us a long time to get over our denial and accept the fact that the Internet is not a temporary phenomena but a true change in the market place." - David Komansky, Chairman and CEO of Merrill Lynch.*

- *"I was afraid of it, because I couldn't type." -Jack Welch CEO of GE.*
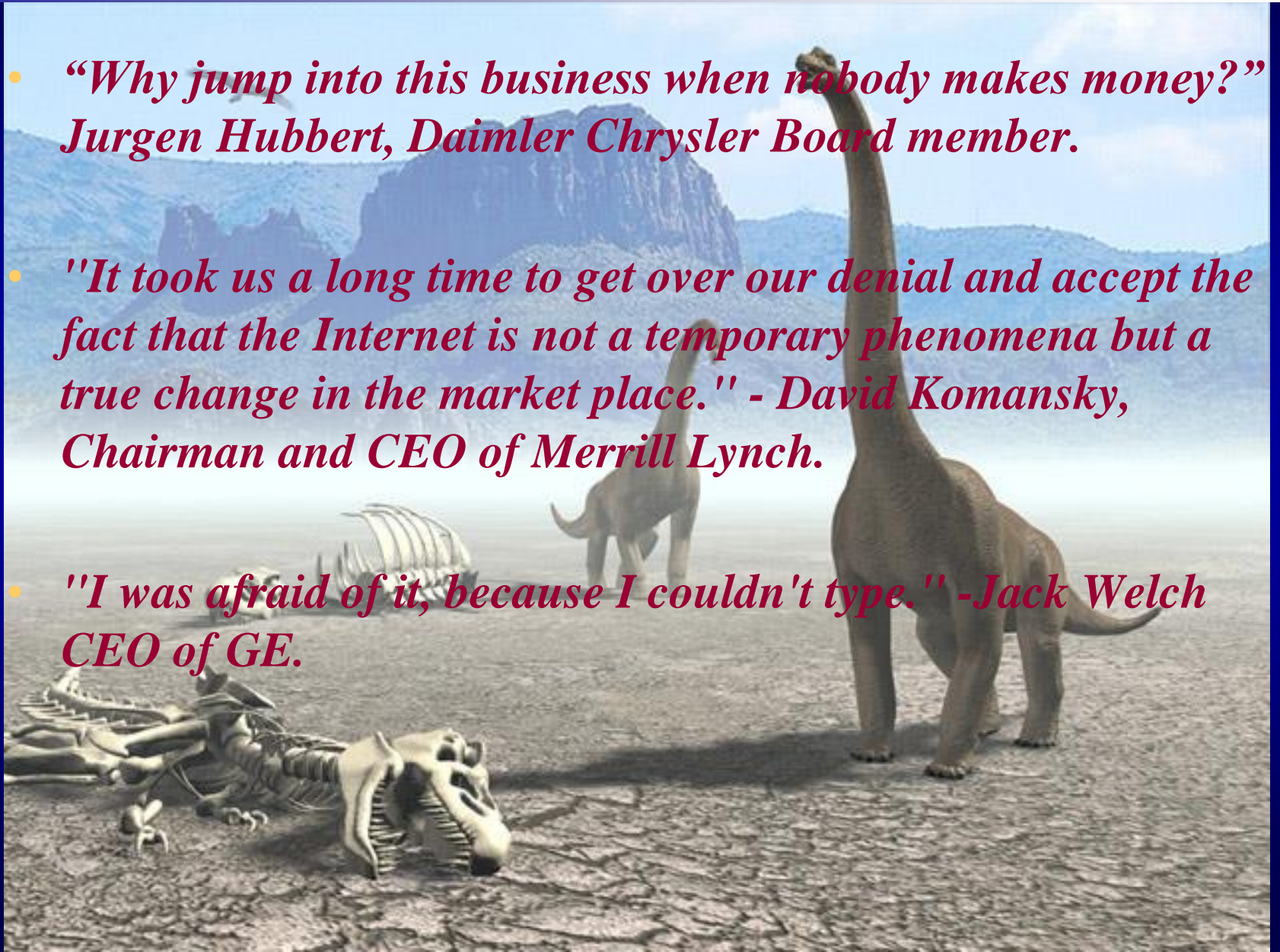
The strategies of eBusiness

Don't look back, somethin' might be gaining on you. -Satchell Paige

I'd be hard- pressed to say it's overhyped. We've set out to make Yahoo the only place anyone needs to go to get connected to anything. There's nothing in the real world to compare to that. -Timothy Koogle, Yahoo CEO

- **First Mover Advantage.**

- **Obtaining Market Lock-up,**

- **Cost of switching,**

- **Sticky Eyeballs**

- **Bricks and Clicks**

- **Winner Take All Markets**

The Matthew Effect

- "For whosoever hath, to him shall be given, and he shall have more abundance:

- but whosoever hath not, from him shall be taken away even that he hath."

- Positive Feedback and Metcalf's law

Monopolies

- **Are monopolies a characteristic of eBusinesses?**

- **How do "Winner take all markets develop?"**

- **Should they really be called**
  - "winner take most"

The Technologies of eBusiness

God may be subtle, but he is not malicious - Albert Einstein, Physicist

It's kind of funny that Moore's Law is what I'm best known for, It was just a relatively simple observation. -Gordon Moore, Founder and former CEO, Intel

- HTML
- Massive Databases
- XML
- Java
- Javascript
- etc

The data rich environment

- *Every breath you take, Every move you make, Every bond you break, Every step you take, I'll be watching you! - Sting*

-

- *A wealth of information creates a poverty of attention. Herbert Simon*
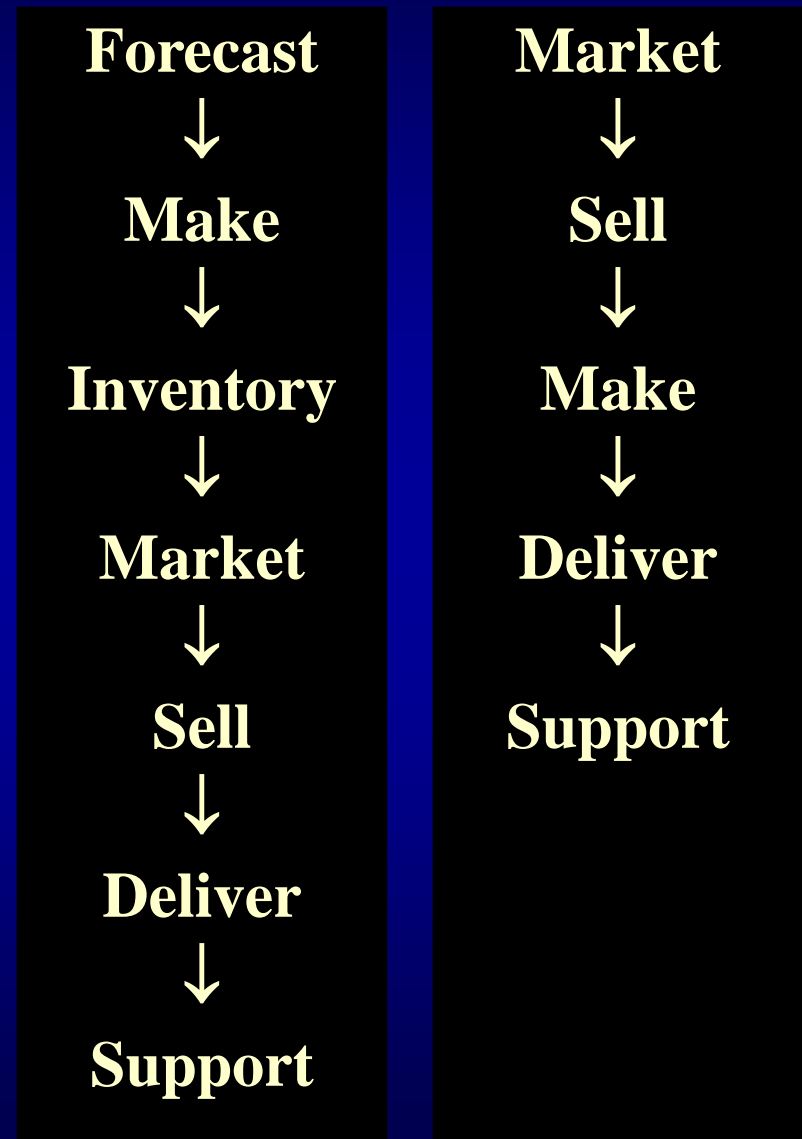
Marketing Strategies for eBusiness

- *The notion is that you take customers and put them at the center of their own universe. –Jeff Bezos, CEO of Amazon.com*
- **Know thy customer**
- **Privacy issues**
  - Who do you trust?
- **Viral Marketing**
- **Desperation marketing**
  - Rue Paul, Hamsters from cannons, naked man ad
- **Mass Customization (Dell)**

- **Branding**

Mass Customization

- **How do you take every customer, every voter, and every citizen and make every experience they have personalized directly to them?**

- **Once an oxymoron, mass customization is now a central tenant of the new economy.**

- **Examples:**
    - Amazon.com – book recommendations
    - Dell computer – Order then buy
    - Can Ford do it? Jacques Nasser wants to!

Huge cost savings possible

- **For industries – save costs**

- **For government entities – reduce taxes.**

- **Compare the value chains:**

- **Two huge costs reduced: inventory and selling unwanted inventory.**

Forecast
↓
Make
↓
Inventory
↓
Market
↓
Sell
↓
Deliver
↓
Support

Market
↓
Sell
↓
Make
↓
Deliver
↓
Support

Business to Consumer – B2C

- **B2C**
  - Better Customer Service
  - Lower Cost

- **Example: Help Desk, Frequently asked questions, etc.**
  - Old: call – answer phone – try to find answer or person who has one!
  - New: Web FAQ, Learning Portal, Call Filtering and Direction

Privacy

- **Every step you take…..**

- **DoubleClick**
- **Cookies**
- **Opt-in or opt out privacy**
- **Disclosure of Policies**

- **There have been a number of organizations arise to monitor privacy issues on the web (EPIC [www.epic.org], or Institute for Business Technology Ethics [http://www.ethix.org/] or provide a "seal of approval" for web sites (Truste [www.truste.com] or BBB On-Line [www.BBBonline.com]).**

- **Nov. 27, 2000**

- **.......**

- **PERSUASIVE AUTHORITY.** On Nov. 15, Judge R. Stanton Wettick Jr. denied her request. In a 38-page ruling, the judge said that "a plaintiff should not be able to use the rules of discovery to obtain the identity of an anonymous publisher simply by filing a complaint which may, on its face, be without merit." Instead of giving Melvin an automatic right to find the identity of her anonymous accuser, he gave GrantStreet99 an important procedural protection. Specifically, Wettick said that John Doe defendants should have a chance to make a motion for summary judgment to prove that the defamation suit is frivolous before their identity is revealed.

  ....

Ethics

- **There are transgressions made by employees against the company such as using the internet for personal transactions including objectionable uses such as pornography and harassment.**

- **There are transgressions that companies make against employees, such as invasion of privacy.**

- **There are also transgressions of companies against consumers through**

- **invasion of privacy,**
  - unauthorized data collection,
  - price fixing, or
  - sale of personal information.

- **Lastly, there are simply the criminal uses of the internet to steal, vandalize, and assault.**

Privacy and P3P

- The World Wide Web Consortium (W3) has created a "Platform for Privacy Preferences Project" (P3P) over a three year period.

- The idea is to allow each consumer to describe his or her level of privacy need to the P3P Technology.

- Then, each time a consumer visits a web site a P3P agent will examine the privacy policy of the site as described through a standard method of tagging.

- If the site does not meet the standards set by the consumer, the P3P agent will warn the consumer.

- Some privacy advocates have criticized the standard as providing too little protection and too little recourse

Portals

- **Personalization**
- **Search and navigation**
- **Push**
- **Collaboration and groupware**
- **Task automation and workflow**
- **Applications--many portals exist primarily to provide access to applications: for example, ASP (application service provider) portals.**
- **Infrastructure--scalability, security, and availability.**
- **Integration**
- **Business, Community, and Government Portals will be everywhere.**

B2B

"All good ideas are simple. This one's real simple.... You look for something that's inefficient and ask why is it staying that way? There are lots of markets that are really, really inefficient." Jeffrey Skilling, President, Enron Corporation

"I don't want to paint this as some utopian lovefest," J. Kevin Vasconi, Covisint's chief technology officer.

B2B versus B2C Revenues ($B)

Source: eMarketer 2000
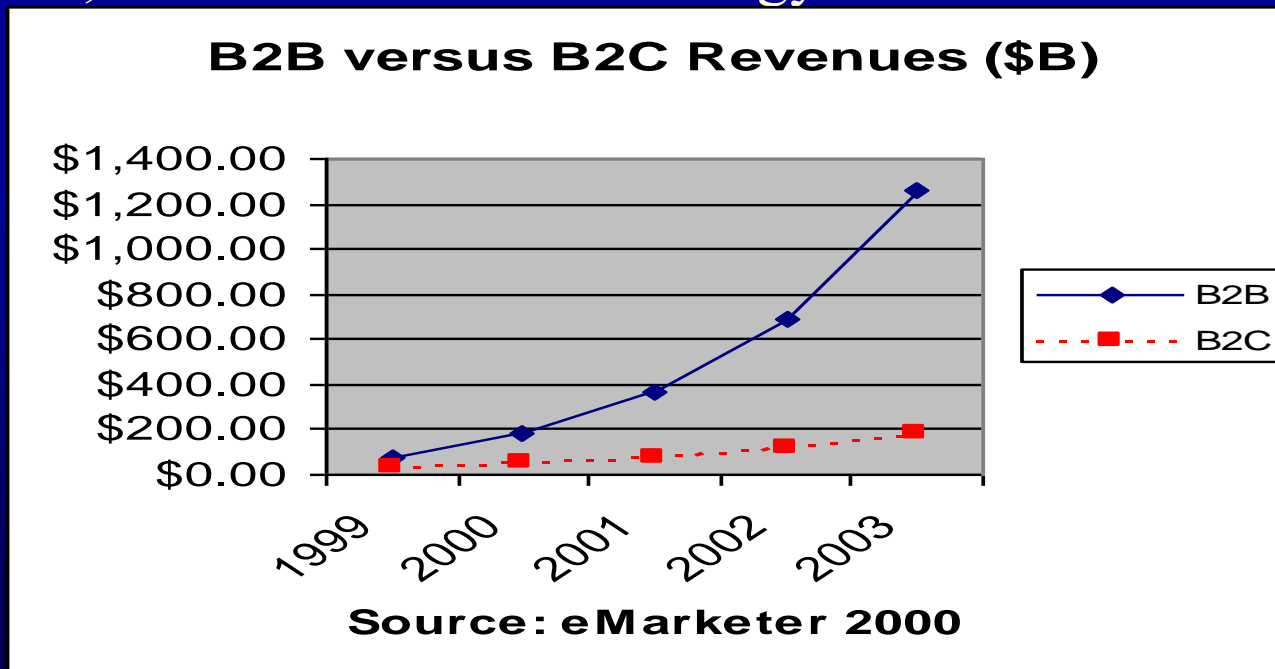
Business to Business

- **Exchanges**
  - Enron (Energy)
  - Covisint (automobile parts)
  - Chemdex (Life Sciences and Chemicals)
  - Point 2 Point (Construction Equipment)
  - Nistevo (Trucking logistics)
  - Transora.com : Consumer Goods, (49 major manufacturers, including Coca-Cola, Procter & Gamble, Unilever, Sara Lee, General Mills, Kraft, …)
  - WorldWide Retail Exchange (Albertson's, Best Buy, CVS, Kmart, J.C. Penney, Safeway, and Gap. Others from Hong Kong to the Netherlands.)

B2B

- **SAFER BET. Unlike some risky Net startups, there's good reason to believe these industry exchanges will succeed.**
  - But first….. Consolidation!

- **AMR Research projects that 29% of all commercial transactions, worth some $5.7 trillion, will flow through the Internet by 2004.**

- **Founders of these trading exchanges "bring so much transaction volume to the table, they are not going to let it fail," says Rory Jones, a PricewaterhouseCoopers partner in its e-markets practice.**

- **Issues: Price Fixing, Cartels, Anti-competitive behavior**

B2B and supply chain management

- **Ensure that you obtain the lowest price for supplies.**

- **Allow you to minimize inventory costs.**

- **Allow you to sell unused capacity.**

Branding

- As the number of indistinguishable eCommerce Companies increased

- Branding became ever more important.

- Who do you trust?

- Who will be there for you when you need it?

- Recent rash of dot coms going out of business left many a customer high and dry (and poorer!).

Pricing Straegies

- **Auctions**
- **Reverse Auctions**
- **Sale at loss**

Law and Ethics

- *... the law spoke too softly to be heard in such a noise of war -Plutarch*

- *We must update laws and regulations developed before the advent of the Internet that may have the unintended effect of impeding business-to-business and business-to-consumer online transactions. -- President William Clinton in a memo to government departments and agencies.*

- **Tax strategy**

- **Denial of Service**

- **Privacy again**

- **Patents and Intellectual Property**

The Rewards of Success:

- **Enron**
  - Their first web-trading site was not established until Nov. 29, 1999. Over the next seven months, the site handled $80 Billion in transactions. By August of 2000 that had grown to over $125 billion.
- **Charles Schwab:**
  - 600,000 secure transactions/day in June 1998, to
  - 7 million secure transactions/day In November 1999
  - 2/3 of their trades were conducted over the Web
  - Schwab managed 263 billion dollars in online assets
    - e*Trade managed 28 billion dollars
  - Schwab revenue: $4.7 million/day
  - Amazon.com: 3.8 million dollars a day

    - Source: Fortune Magazine, 11/8/99

It ain't over till its over!

- **Moore's law, the Bandwidth Law, and Metcalf's law remain true and are expected to continue to be true for another 40 years at least!**

- **These will drive faster and faster need for change.**
  – Companies will have to respond.

- **It ain't over till the fat lady sings -and she isn't even in the hall yet!**
  – Jack M. Wilson: http://lallyschool.rpi.edu/Wilson/ITE.html

Entering the Wealth Building Phase

- **The present carnage in the stock market does not signify the end of eBusiness**
  - It is the natural next step of consolidation
- **Consider the early history of the**
  - Railroads
  - Electricity
  - Radio
  - Automobile
  - Television
- **Birth -> Proliferation -> Consolidation -> Maturation**

On the job training!

- **Ever feel like you are building a plane in flight?**

"Don't look back, somethin' might be gaining on you!"

-Satchel Paige, baseball great.

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The End