

Welcome To

# NEW YORK STATE

**eBusiness:**

**The hope, the hype, the power, the pain**

**Jack M. Wilson**

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Physics, Engineering Science, Information  
Technology, and Management**

**President and CEO, JackMWilson Inc.**



# 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

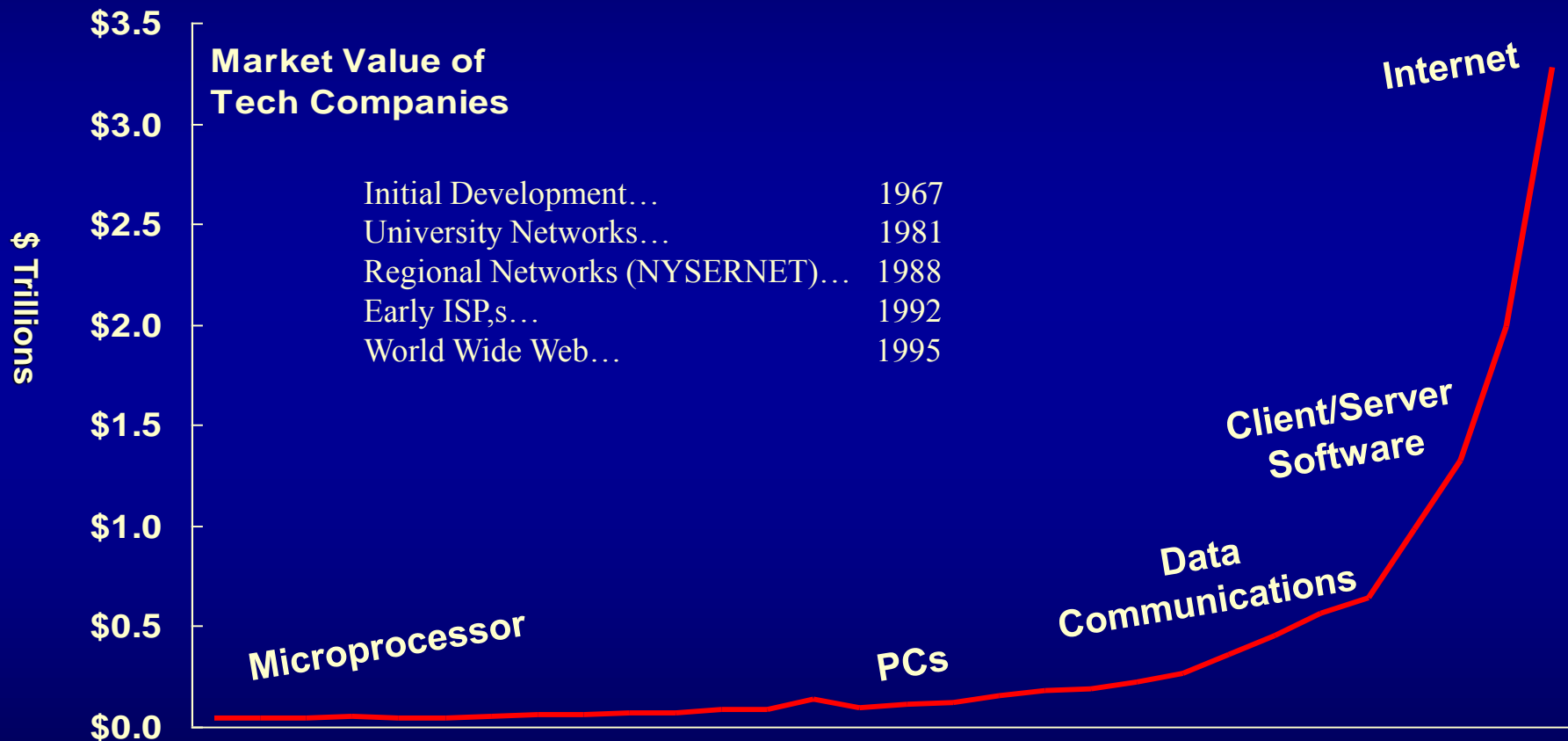


- *In the beginning there was the net. –Jack Wilson*
- *The secret of success is changing the way you think. –Jack Welch*
- *Folks, they say that if you want to be a leader, find a parade and get in front of it. –Jim Barksdale, CEO Netscape.*
- *Nobody is more surprised than me by what has happened over the last four years. –Jeff Bezos, CEO of Amazon.com [Business Week]*

# What's happening?



- Do you think the pace of change is accelerating?



Incl. Int'l Tech Companies

# 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

# Changing Corporate Landscape



- **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.



# 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	

# 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?

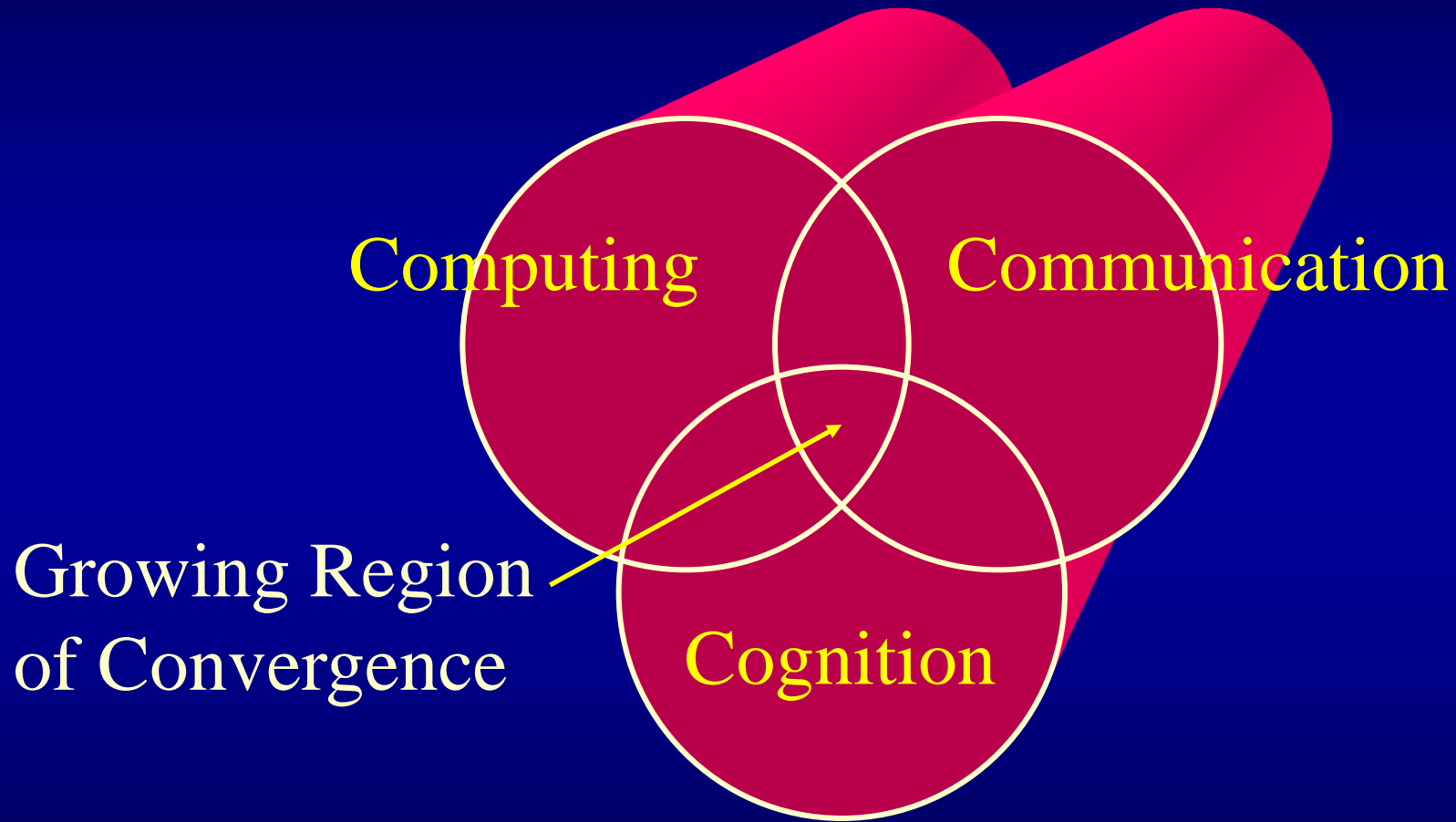


- Consumer electronics companies, media giants, phone companies, computer companies, software firms, satellite builders, cell phone businesses, Internet service providers, television cable companies are **aggressively investing to build** out the Internet.
- Within the next five years, the vast majority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

**Do you feel like you are herding cats?**



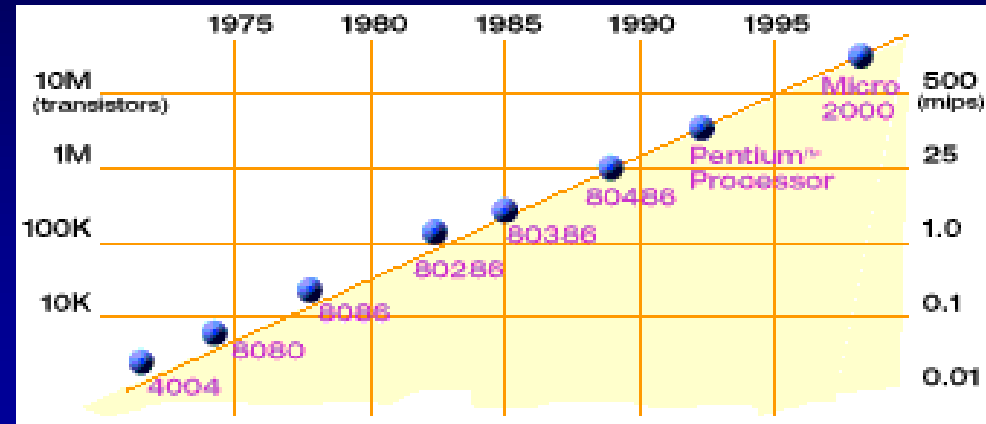
# Drivers for Change



# 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  $n^2$  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**

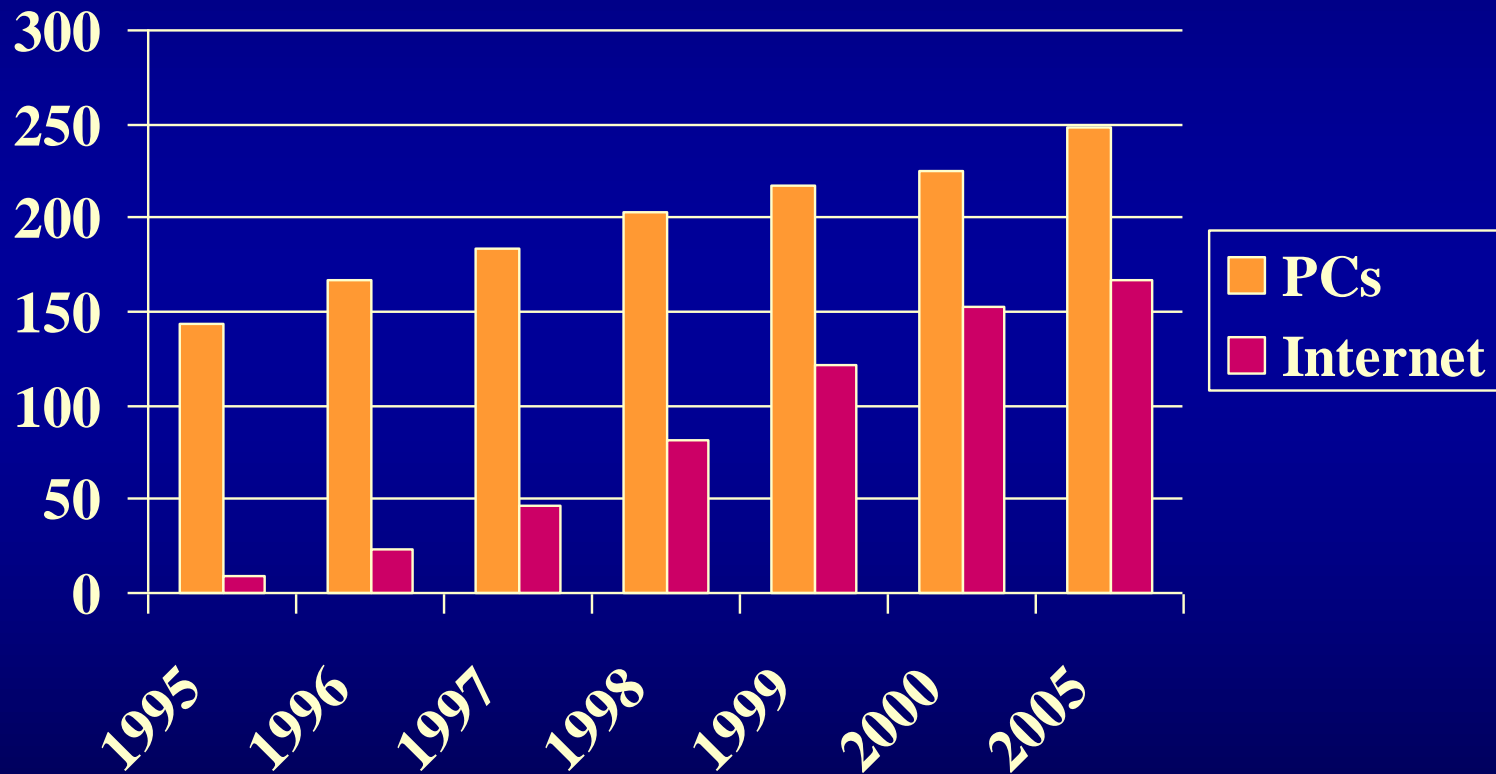
- **“network externalities”**

Rank	Company	Unique Visitors (millions)
1	AOL	53.8
2	Yahoo	42.4
3	Microsoft	40.5
4	Lycos	30.4
5	<a href="#">Excite@Home</a>	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

# World-wide connectivity



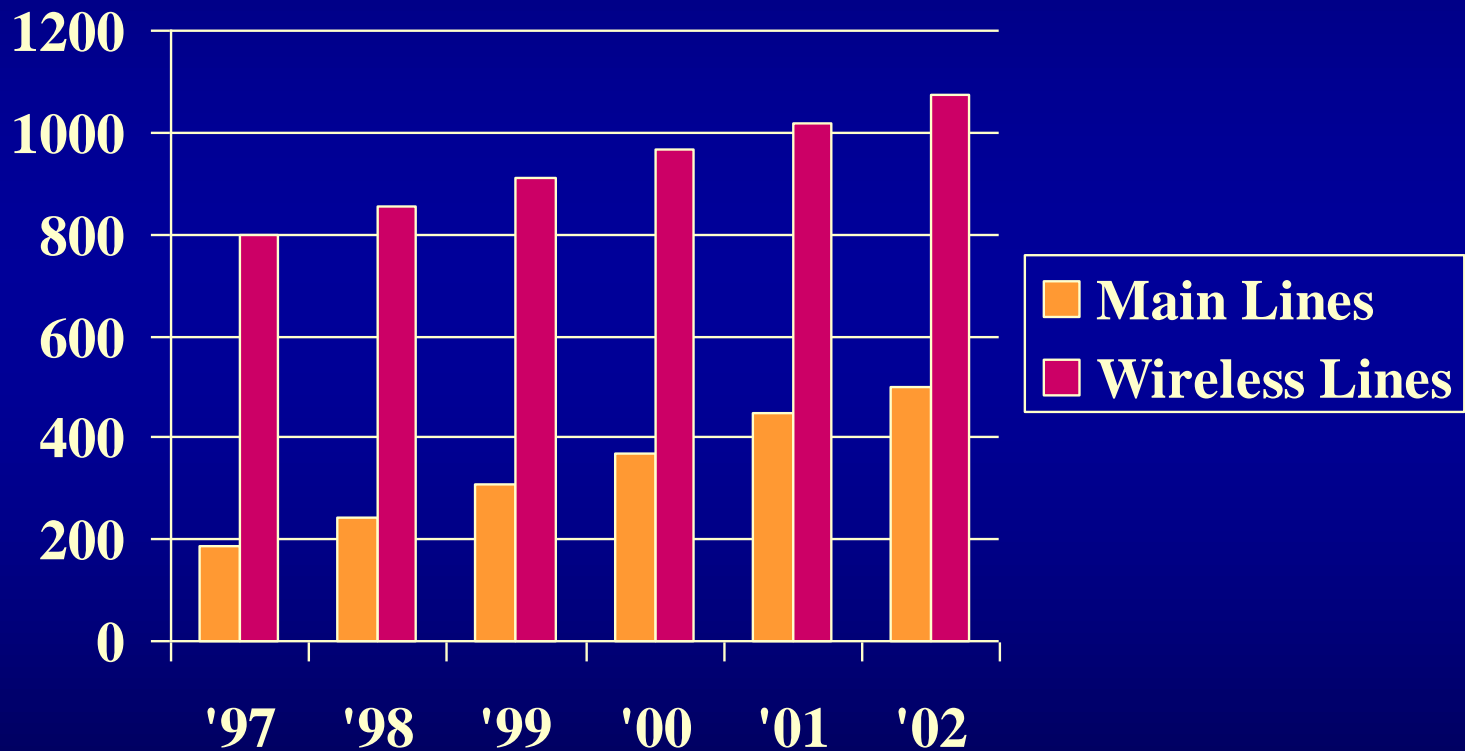
## World-wide connectivity (millions)



# World-wide telephone lines



## World-wide telephone lines (millions)





# Wireless: The future



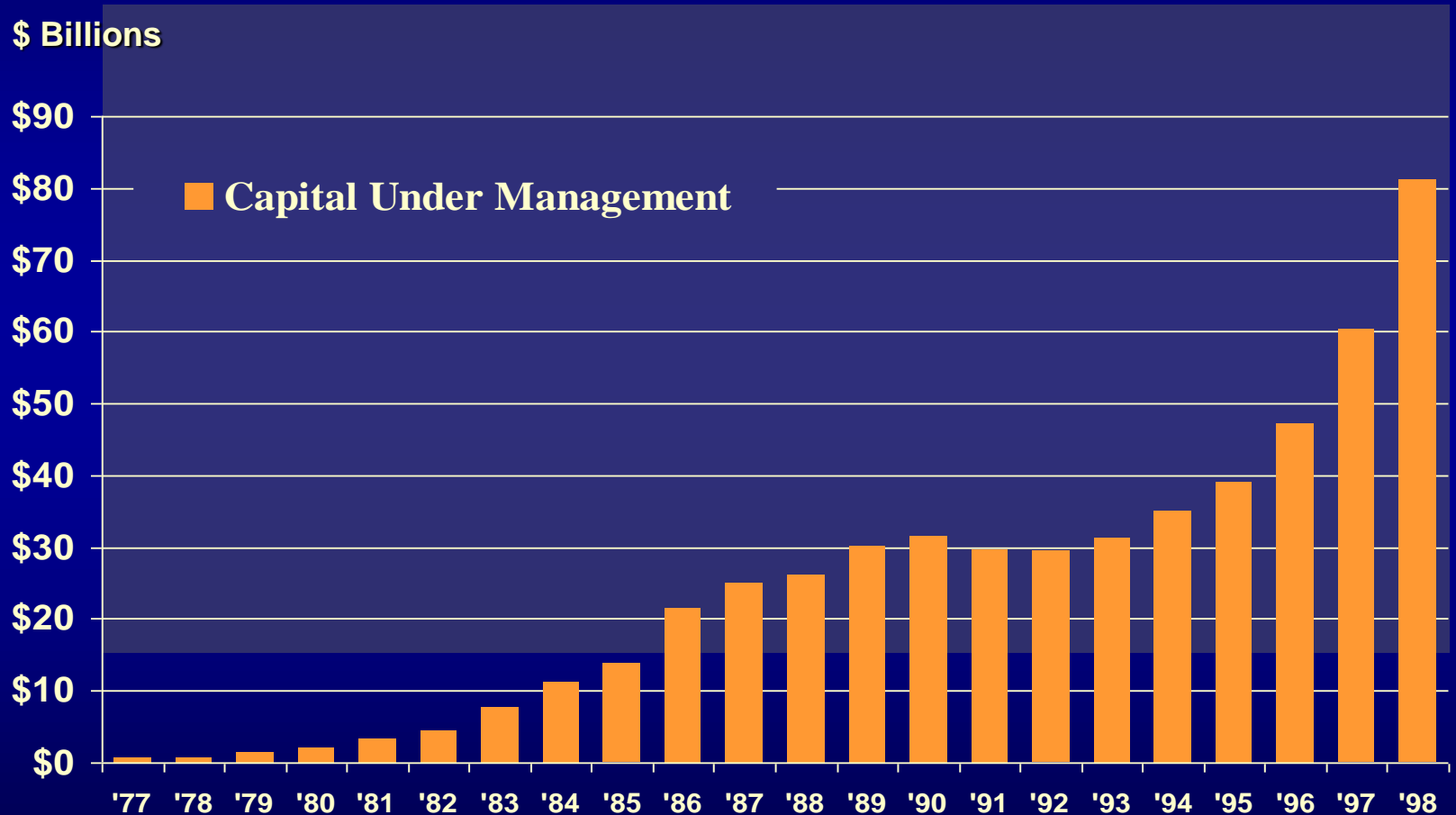
Wireless is the future, and the US is behind!

	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



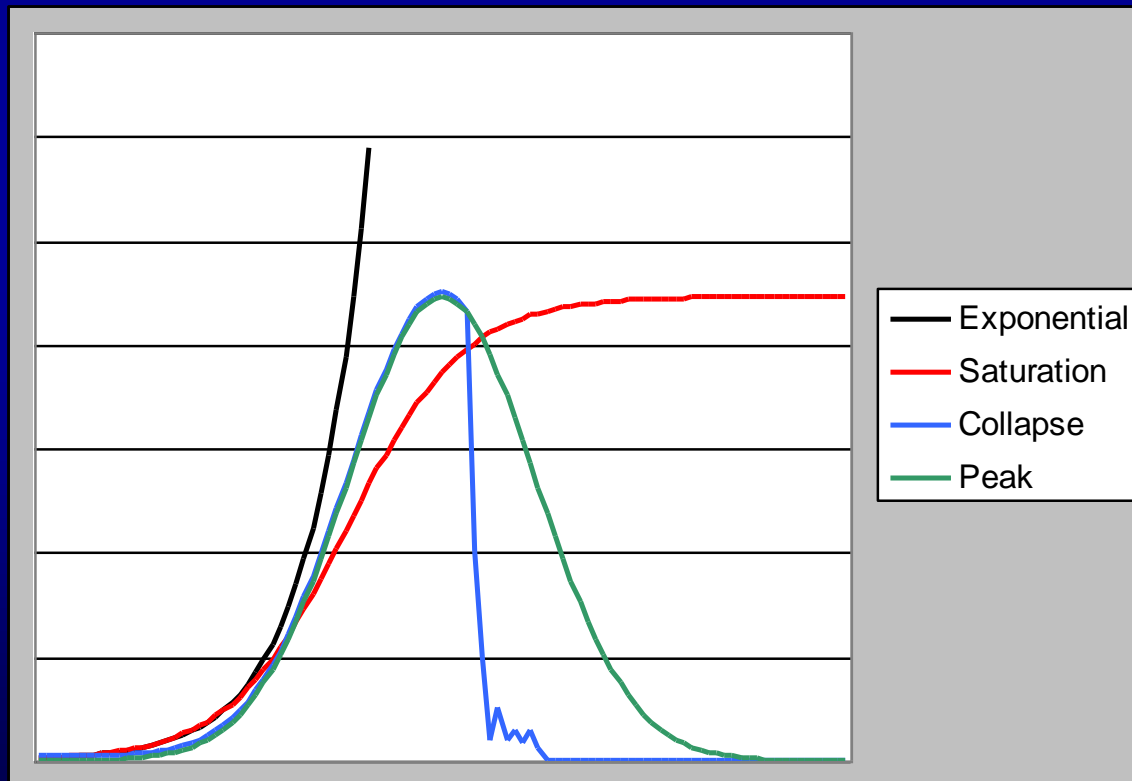
Source: Venture Economics Information Services

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# Mathematics of Exponential Growth



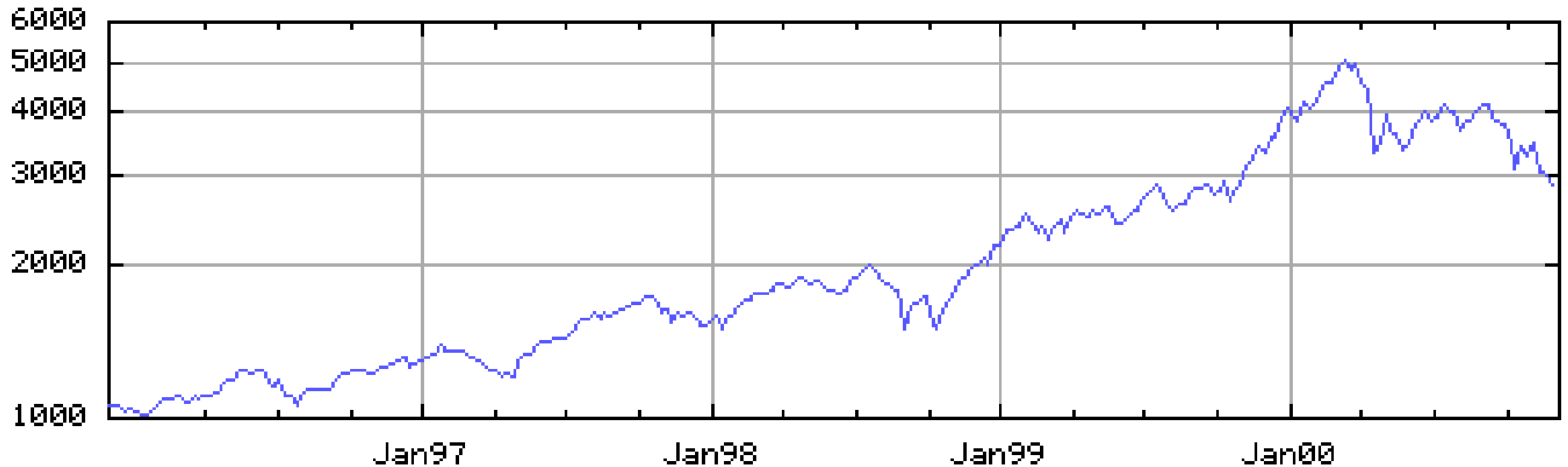
In the real world there is no such thing as exponential growth. All exponential processes eventually become combinations that include saturation, peaking, or even collapse.



# Exponential Growth on the NASDAQ



NAS/NMS COMP SITE (NASDAQ Stock Exchange)  
as of 2-Dec-2000



Copyright 2000 Yahoo! Inc.

<http://finance.yahoo.com/>

# How to Value an Entity?



- **Assets?**
- **Earnings?**
- **Revenues?**
- **Intellectual Capital**
- **Customers?**
  - 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.

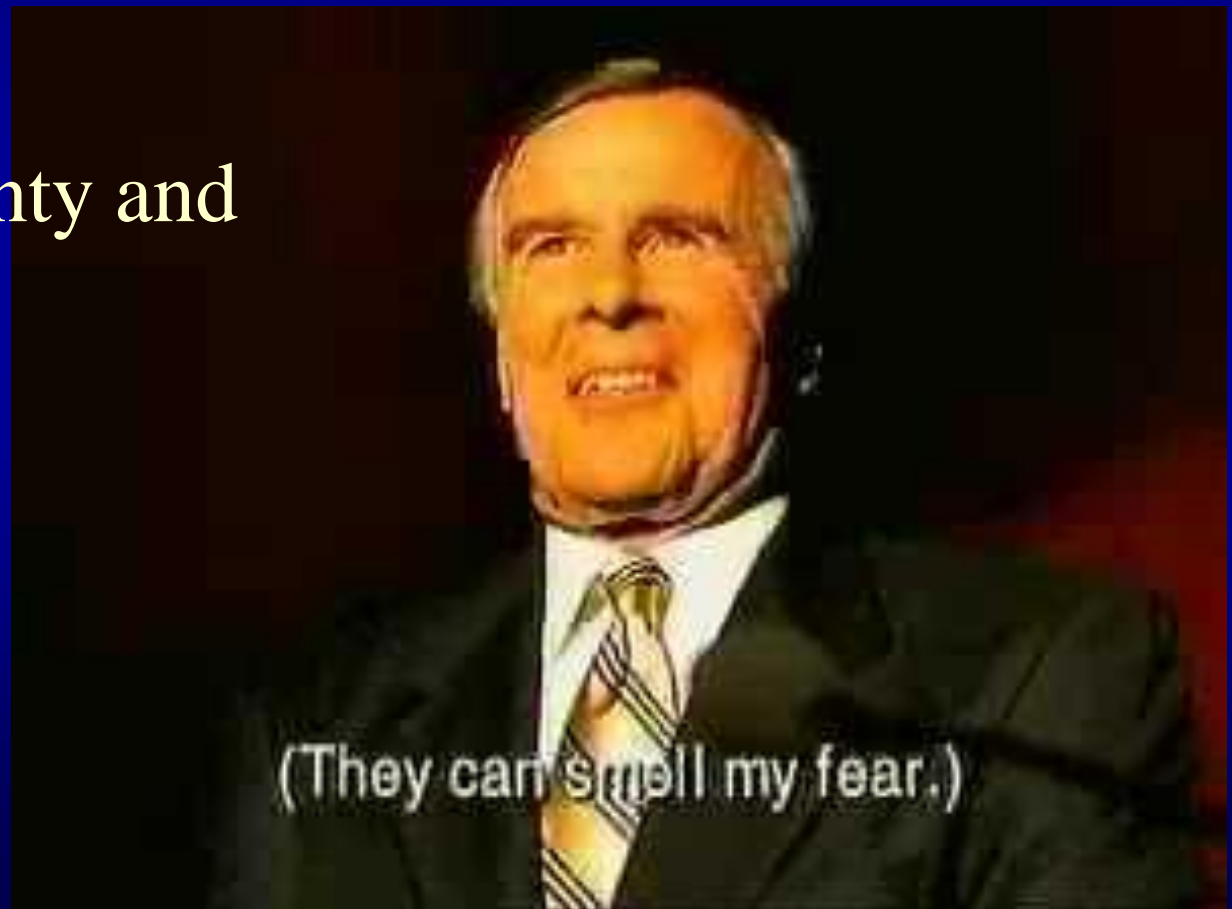
# Management's Response



- **FUD**

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

**Video**

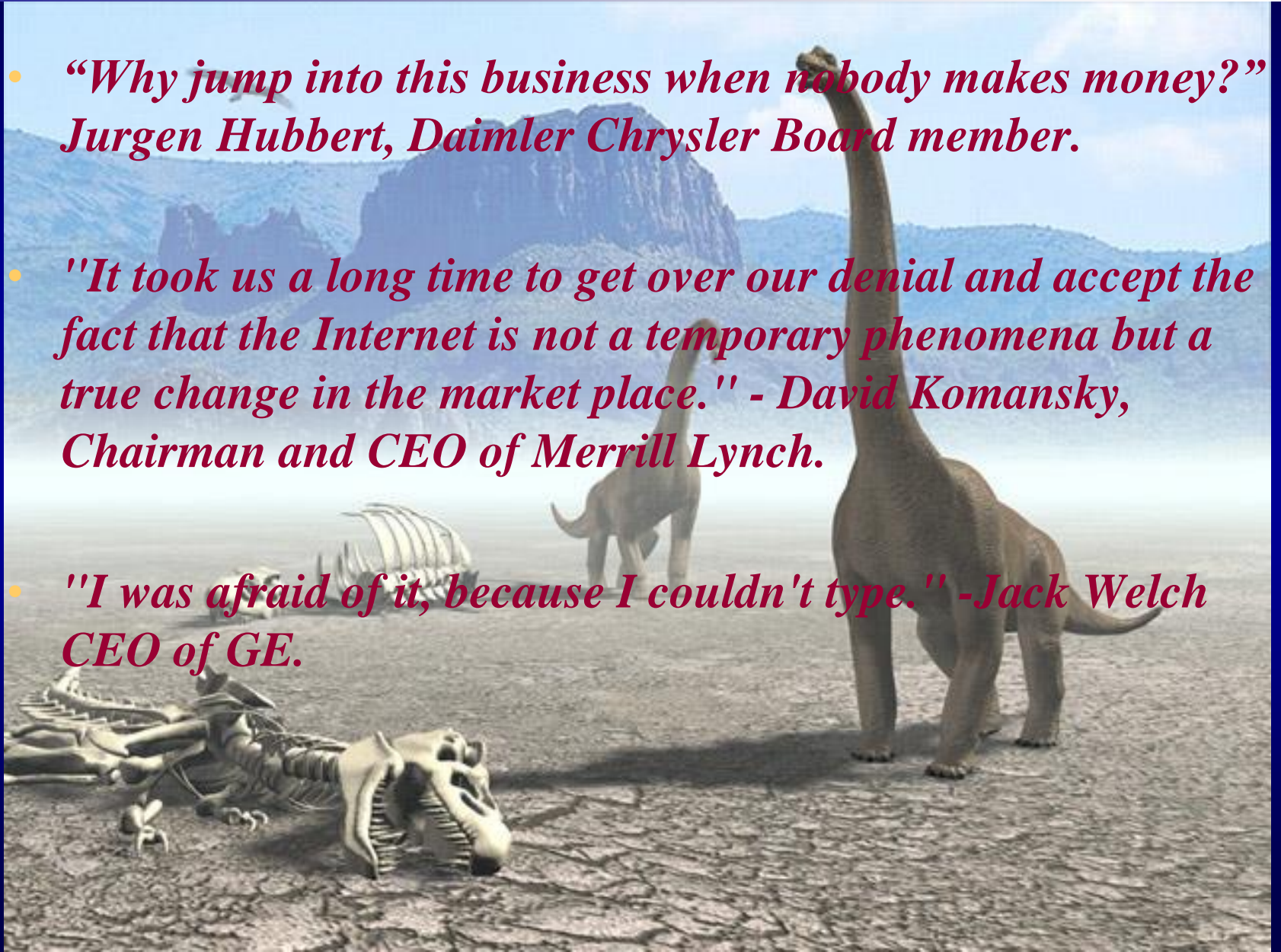




# The Dinosaur's strike back



- *“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?
- **Desperation marketing**
  - Rue Paul, Hamsters from cannons, naked man ad
- **Mass Customization (Dell)**
- **Branding**

# Mass Customization



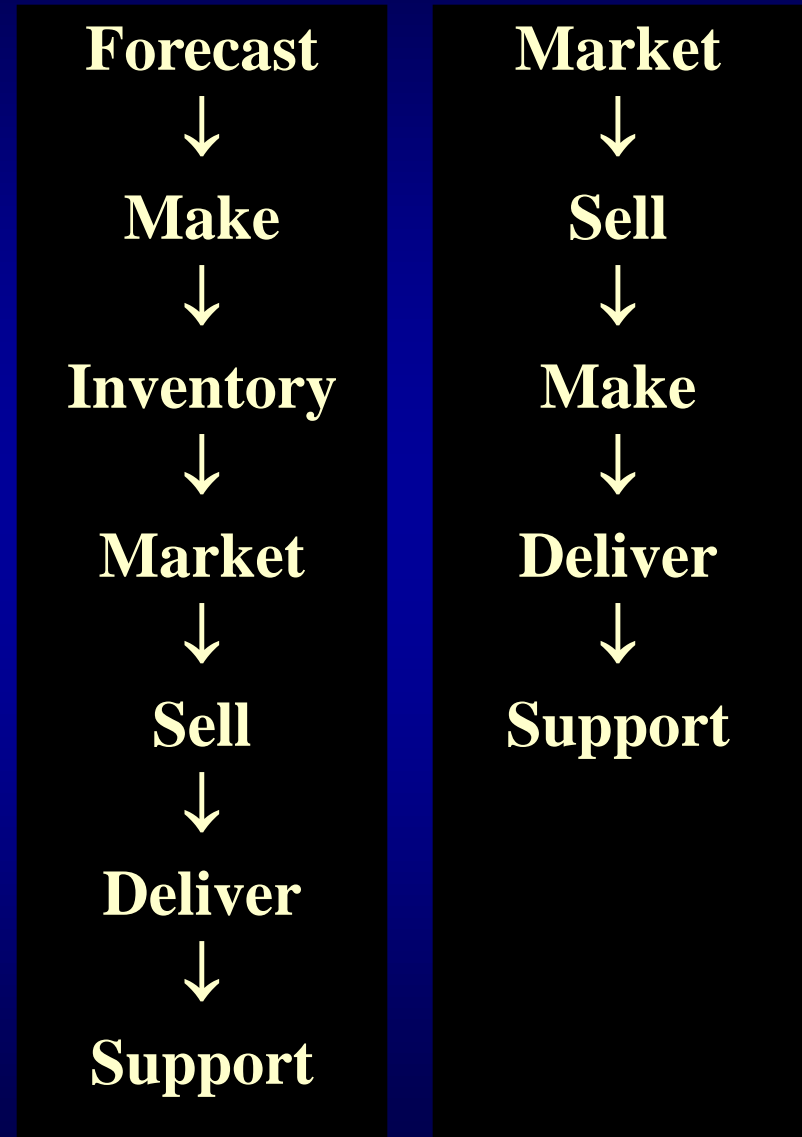
- **How do you take every customer, every voter, and every citizen and make every experience they have personalized directly to them?**
- **Once an oxymoron, mass customization is now a central tenant of the new economy.**
- **Examples:**
  - Amazon.com – book recommendations
  - Dell computer – Order 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.**



# 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
- **Example: On-line services – liquor permits, drivers licenses, traffic tickets, ..... Voting?**

# Privacy



- Every step you take.....
- DoubleClick
- There have been a number of organizations arise to monitor privacy issues on the web (EPIC [[www.epic.org](http://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](http://www.truste.com) ] or BBB On-Line [[www.BBBonline.com](http://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



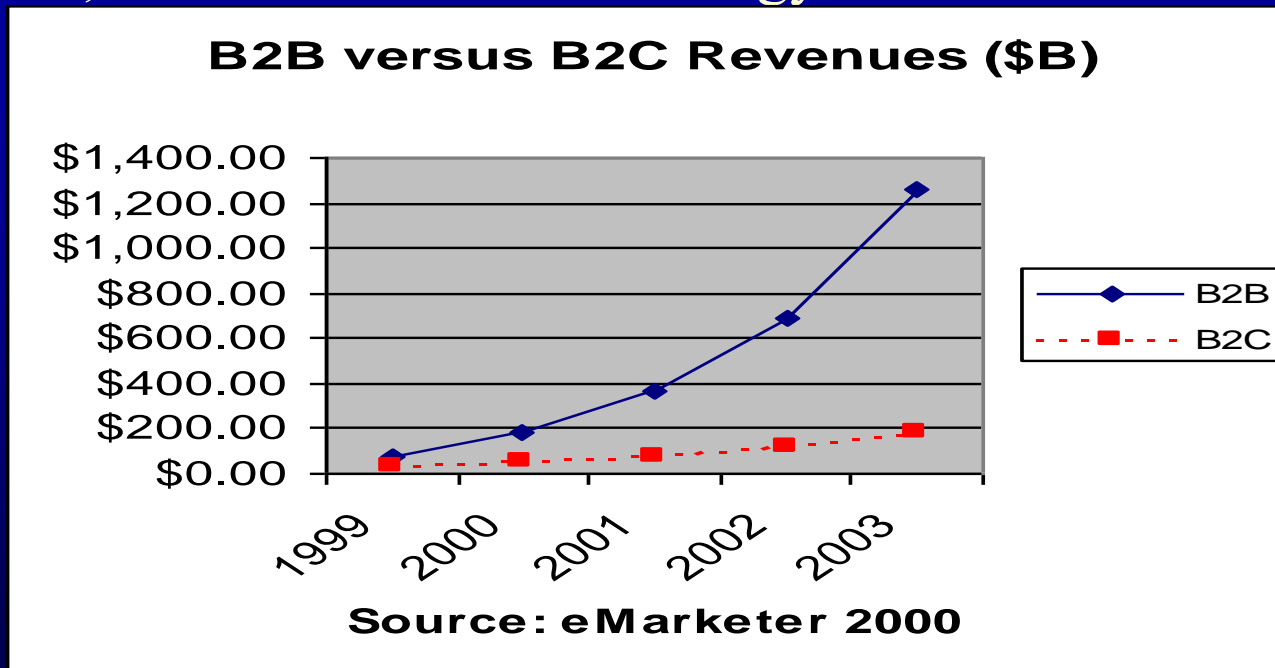
- **Personalization**
- **Search and navigation**
- **Push**
- **Collaboration and groupware**
- **Task automation and workflow**
- **Applications--many portals exist primarily to provide access to applications: for example, ASP (application service provider) portals.**
- **Infrastructure--scalability,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





# 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.)



- **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 Strategies



- 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?



Welcome To

# NEW YORK STATE

**“Don’t look back, somethin’ might be gaining on you!”**

**-Satchel Paige, baseball great.**

**Jack M. Wilson**

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**<http://www.JackMWilson.com>**

**The End**