

Trends in Communications

Change and Reality

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An Ever Increasing Demand for Broadband and Choice



Key Drivers

- Demographics Matter
- Adoption and Diversity
- Mobility and Video
- Digital Devices and Software Advances
- Internet Connectivity is Everywhere
- Advances in Interfaces, Batteries, Portability, Power
- Continuing Advances in the Ways We Communicate
- Competition and Choice



Demographics Matter

The American people are becoming...
... more southern and western
... more suburban and exurban
... more Hispanic and Asian
... more digital age than industrial age
... more millennial and aging boomer

Youth, Minorities, Young Adults More Connected and Well Versed in Digital Technology – Growth in Older Population Suggests New Emphasis On Home Health Care Technologies



Adoption and Use Demonstrates Diversity in Market



	Caucasian	Black	Hispanic
Send or receive text messages	40%	47%	59%
Take a picture	15%	22%	41%
Play a game	7%	12%	16%
Send or receive email	13%	16%	21%
Access the Internet	12%	21%	23%
Record a video	2%	7%	8%
Play music	8%	23%	14%
Send or receive instant messages	8%	22%	14%
Get a map or directions	3%	4%	5%
Watch video	2%	3%	5%
Done at least one of these	50%	58%	70%

Source: Pew Internet & American Life Project, "Wireless Internet Use", July 2009.

Note: Ages 18 and over



Huge Growth in Mobile – Two-Thirds Will Be Video

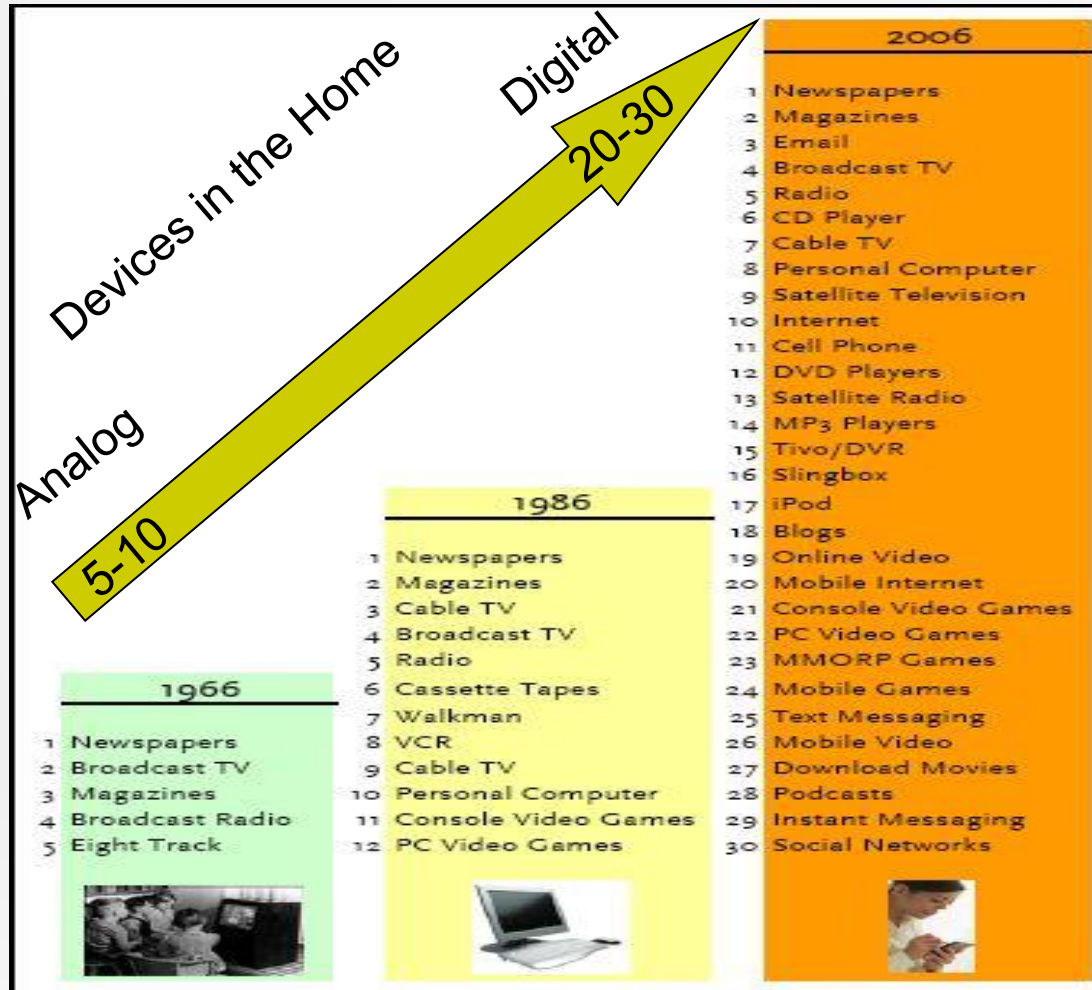
BY 2015, U.S. MOBILE DATA TRAFFIC WILL REACH AN ANNUAL RUN RATE OF 915 PETABYTES PER MONTH.

915 PETABYTES IS EQUAL TO:

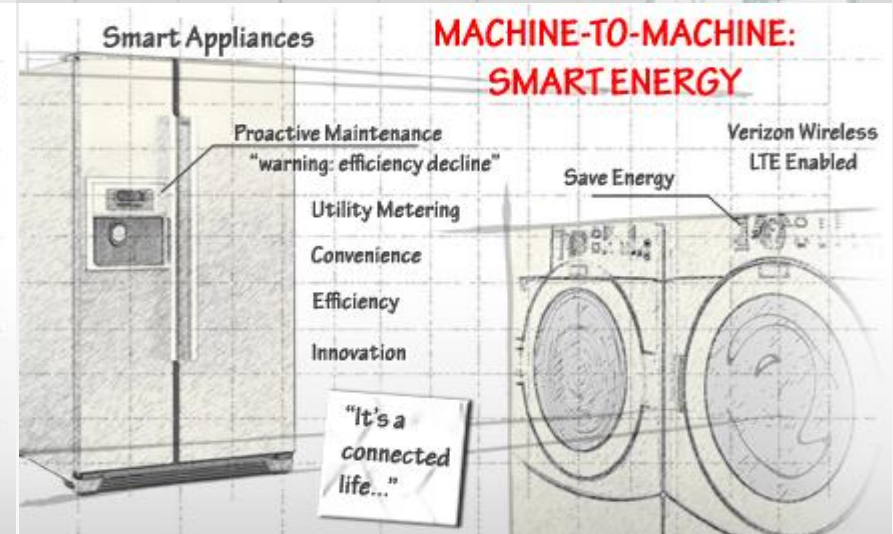
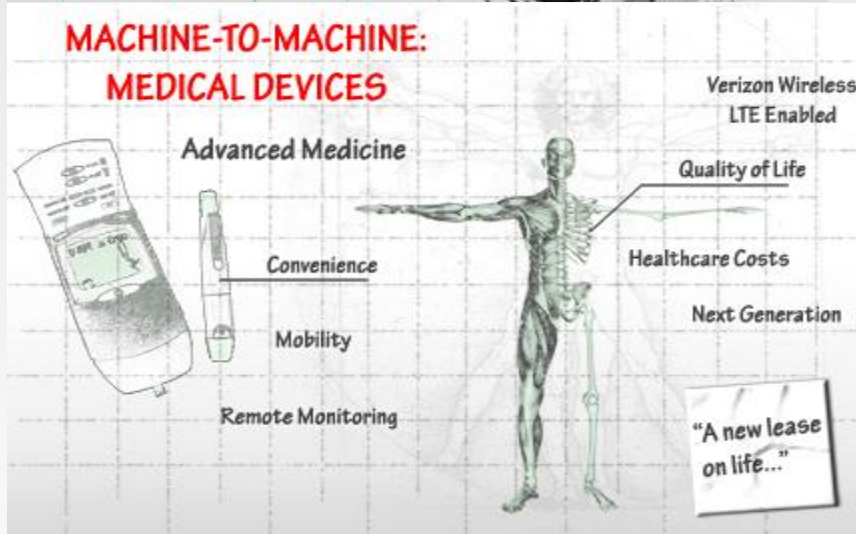
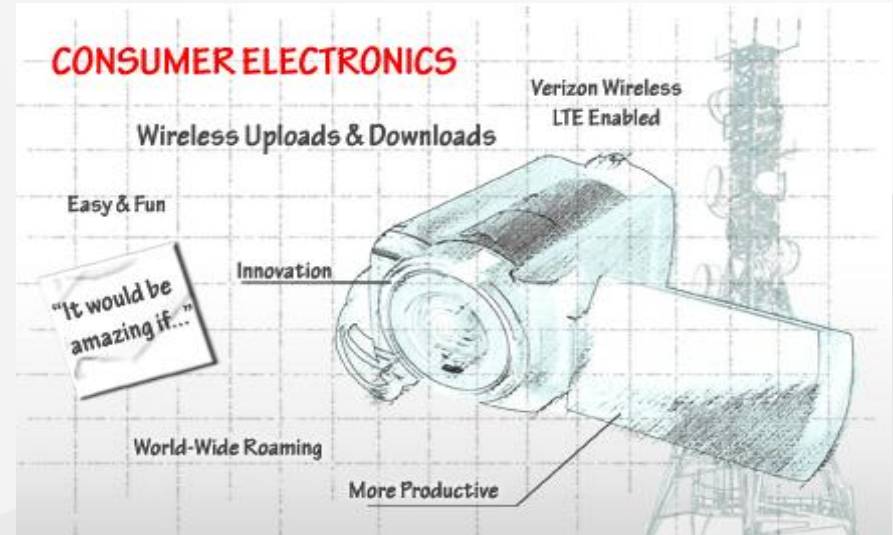
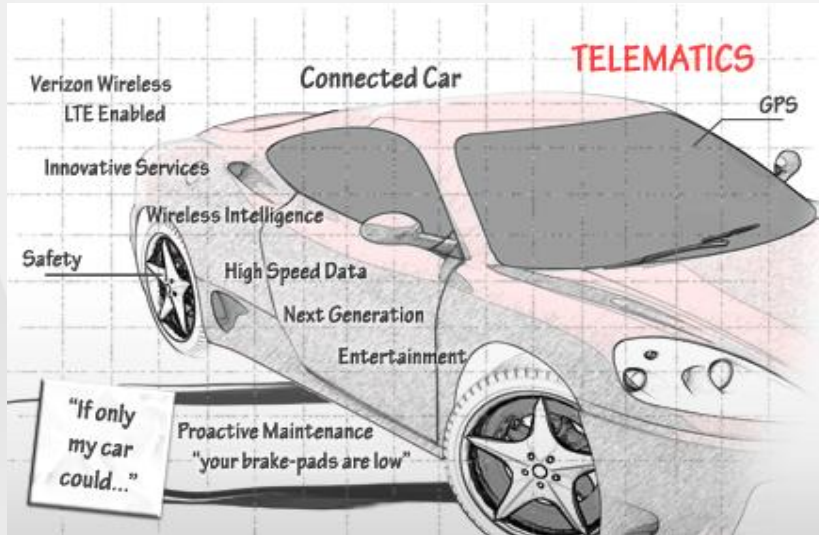
- 2X the entire U.S. Internet in 2005
- 229 million DVDs
- 6.5 quadrillion SMS text messages



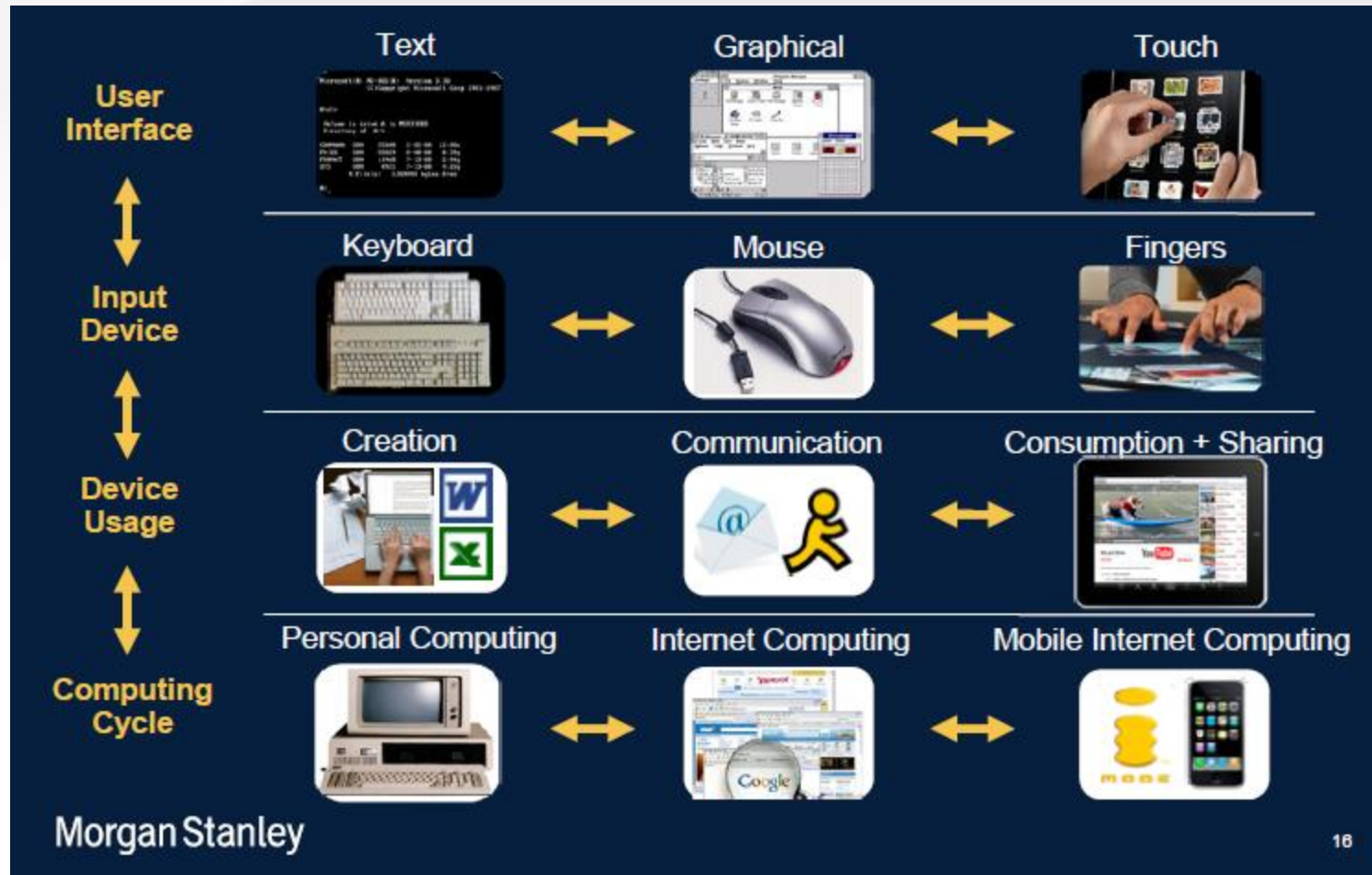
Consumers Have Myriad Applications, Devices in the Digital World of Today



Internet of Things a Huge Presence – Mobile a Big Part of This World



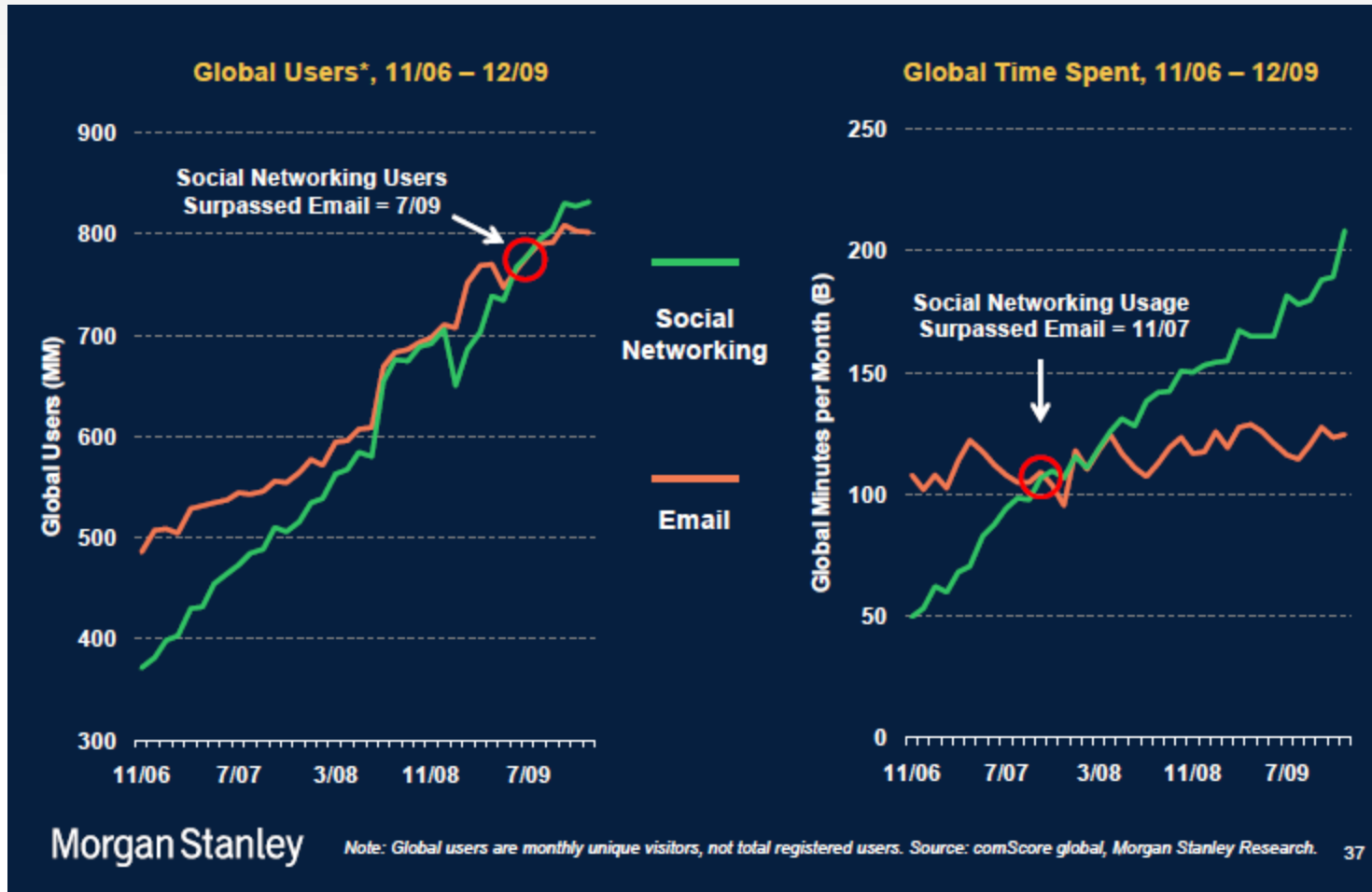
Major Advances in Interfaces, Portability



... and battery power, remote charging technologies!



How We Communicate Continues to Change



Technology and Competition Drive Major Changes in Communications and Computer Technologies

Computing Power doubles every 18 months – Moore's law

Storage Power doubles every 12 months – disk law

Communications Power doubles every 20 months with improvements in fiber optics and compression

Spectrum Power 4G technology is 20 to 40 times today's mobile data speeds



Network/Computing Evolution Has Laid the Groundwork for the Choices of Today and Tomorrow

- 10 times the number of users with each cycle
- 44 times data growth by 2020
- Access speed demand grows exponentially



Competition and Choice Are Endemic Today – No One Company Can Do It Alone

4G is a competition game-changer – bringing new choices in broadband connectivity to urban, suburban and rural America.

That's just the edge of a much bigger change in the market for Internet/broadband.

“Mix-and-match”

Means that consumers can pick the combination of product features they want: the device, a network, particular apps, an operating system.

Internet everywhere

Today, consumers access the Internet in different ways from different places throughout the course of a single day, using connections to the work and mobile on the go.

Dynamic competition for customer loyalty

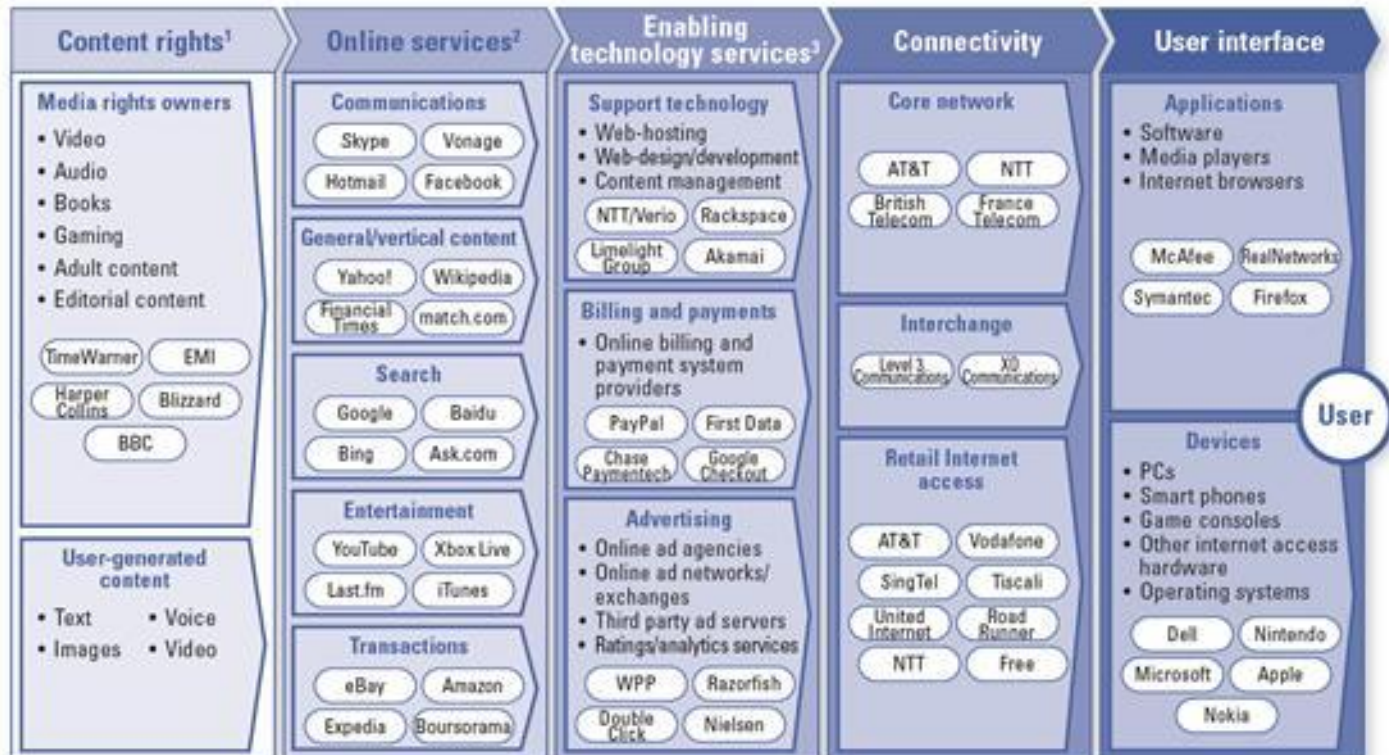
Firms offering distinct products and services are in fact competing against one another – and sometimes collaborating with one another – to generate value for consumers and to be rewarded for doing so.



Governmental policy should respect consumer choice and encourage private investment.



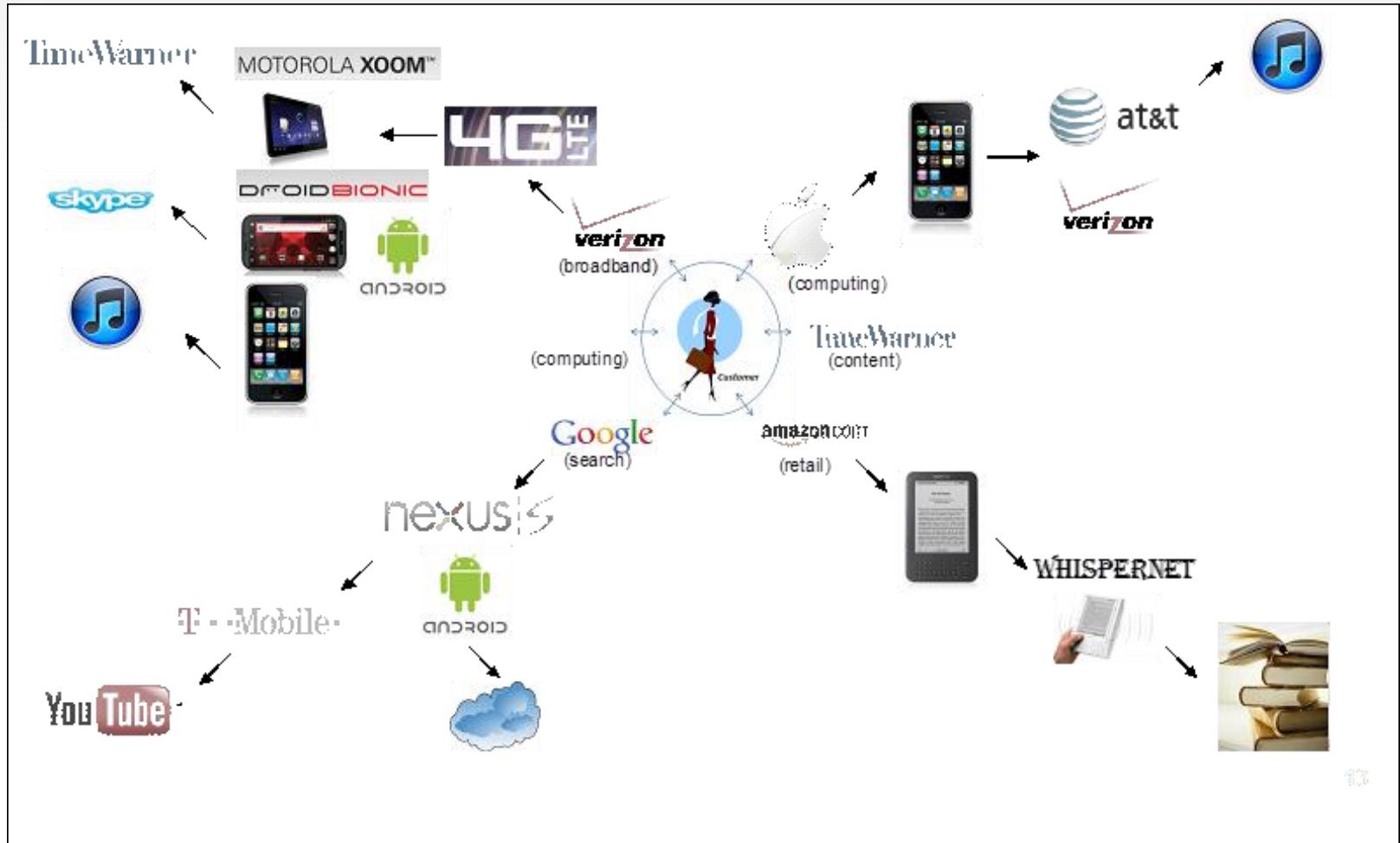
The Internet Ecosystem of Companies Collaborate and Compete Creating Innovation and Choice



Notes: ¹Content rights abbreviated to CR in subsequent value chains
²See online services categories list in methodology for details
³Enabling technology/services abbreviated to ETS in subsequent value chains

Source: A.T. Kearney analysis

And the Consumer Drives the Choices and Spurs More Innovation



Source: Jonathan Sallet, TM, 2011



What's Next? I Never Predict But Since You Asked . . .

1995-2000

- Dial-up
- Portals
- E-mail
- Consumption
- Centralization

2001-present

- Broadband
- Search
- Social Networks
- Participation
- Fragmentation

Next Up

- Mobile
- Apps/Semantic Search
- Content Networks
- Publishing
- Personalization

