

INNOVACIÓN Y TIC

IN-4125

CHRISTIAN NICOLAI

18 de Octubre de 2011



INNOVACIÓN

INNOVACIÓN DISRUPTIVA

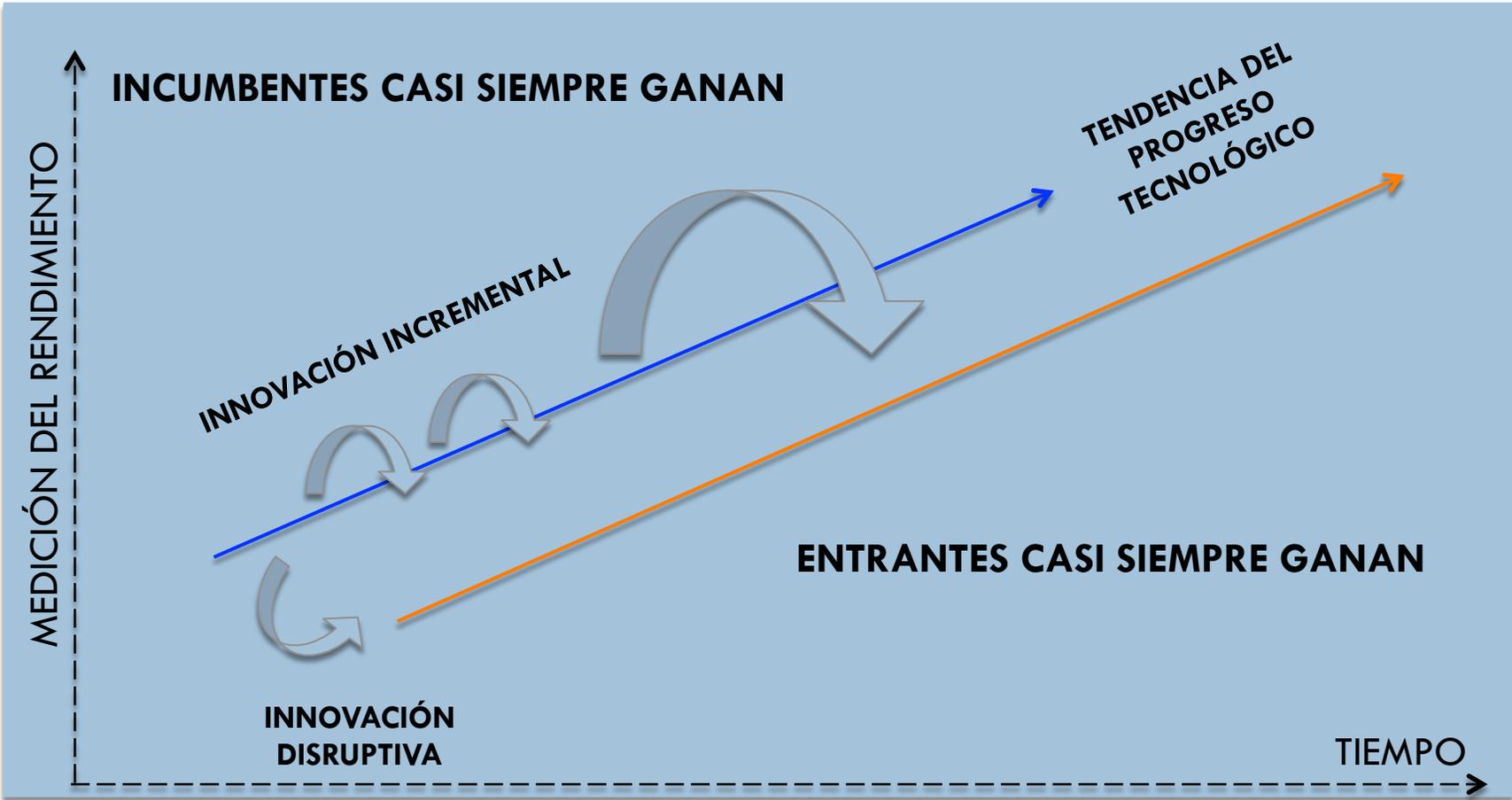
INNOVACIÓN DISRUPTIVA

Concepto acuñado por Clayton Christensen* y que describe un proceso mediante el cual un producto o servicio nace inicialmente como una aplicación simple en la base de un mercado y luego en forma persistente se mueve al tope del mercado, eventualmente desplazando a los competidores establecidos.

Una innovación disruptiva permite a un grupo de nuevos consumidores acceder a productos o servicios a los que sólo accedían consumidores con mayor poder adquisitivo o entrenamiento.

*Clayton Christensen es Robert and Jane Cizik Professor of Business Administration en la Escuela de Negocios de Harvard y autor del libro "El dilema del innovador".

INNOVACIÓN DISRUPTIVA



INNOVACIÓN DISRUPTIVA

Las empresas “innovadoras” tienden a “innovar” más rápido que las preferencias de sus clientes y muchas terminan produciendo productos o servicios que son “demasiado buenos”, “demasiado caros” o “muy inconvenientes” para muchos consumidores.

Si la respuesta es seguir sólo las innovaciones incrementales, que siguen la trayectoria histórica que les ayudó a ser exitosas, pueden inconscientemente estar abriendo la puerta a las innovaciones disruptivas.

**CENTROS
MÉDICOS**

**CONSULTA
MÉDICO**

DE QUÉ SE TRATA LA INNOVACIÓN

INNOVACIÓN

CREATIVIDAD

¿QUÉ?

INVENCION

MENTALIDAD
EMPREENDEDORA

DE QUÉ SE TRATA LA INNOVACIÓN

Andrew
Hargadon:



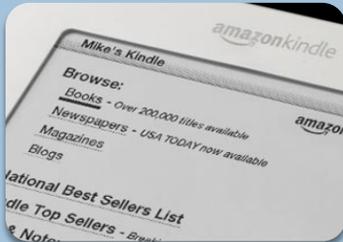
Andrew Hargadon es Charles J. Soderquist Chair in Entrepreneurship and Professor of Technology Management at the Graduate School of Management at University of California, Davis

DE QUÉ SE TRATA LA INNOVACIÓN



Google

- No fue el primer buscador



Kindle

- Siguió a una década de lectores electrónicos



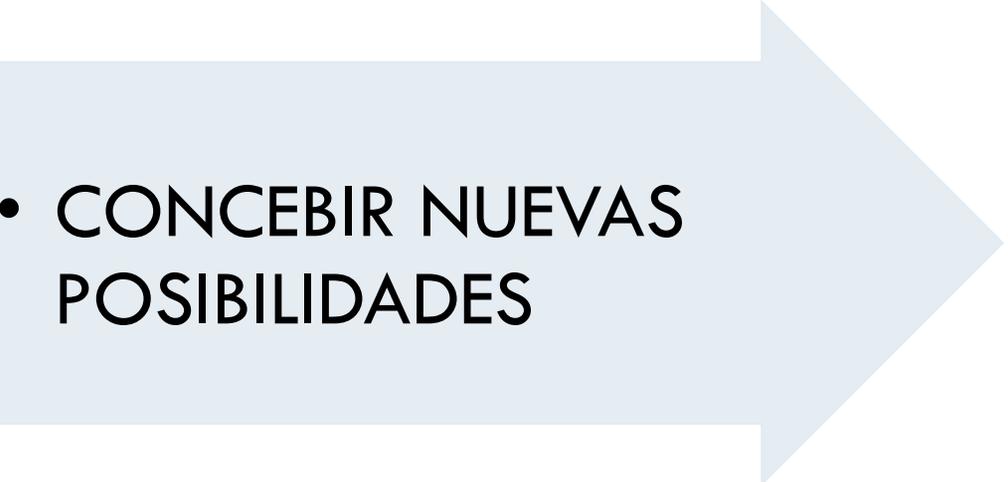
iPod

- Fue el decimotercer reproductor de MP3 en el mercado

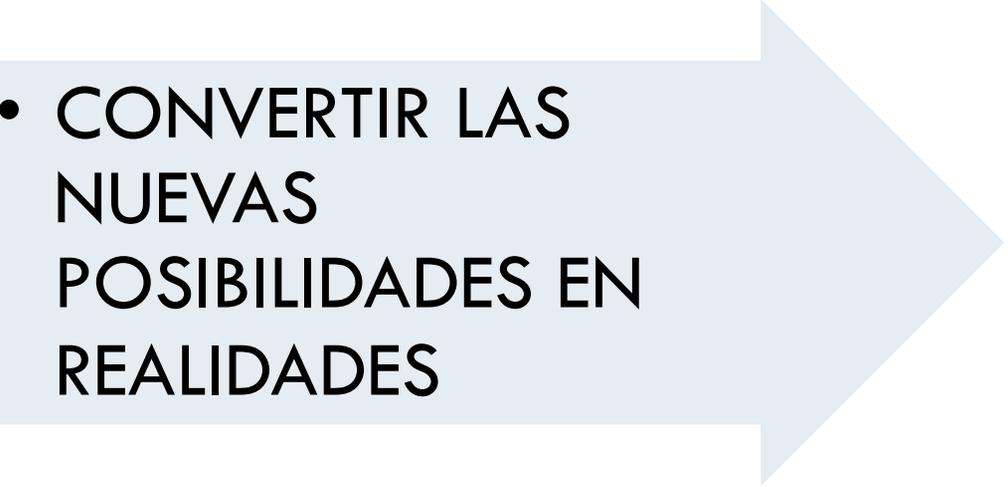
DE QUÉ SE TRATA LA INNOVACIÓN

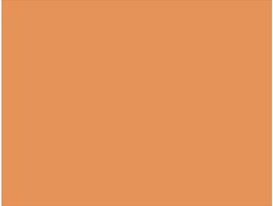


CREATIVIDAD

- CONCEBIR NUEVAS POSIBILIDADES
- 

EMPRENDIMIENTO

- CONVERTIR LAS NUEVAS POSIBILIDADES EN REALIDADES
- 



TECNOLOGÍAS DE INFORMACIÓN Y COMUNICACIONES - TIC

EMPRESAS DISRUPTIVAS

Disruptive Companies

INNOVATION ABOUNDS

What Are Disruptive Innovations?

Disruptive companies create innovations that inside the market, force change, and create new sectors of the industry. Here we examine a list of disruptive companies, and the industry effects of their innovation.

Tech

APPLE

Web

GOOGLE

Telecom

SKYPE

Disruption is their game

Games

ZYNGA

Manufacturing

TATA

Entertainment/ Retail

NETFLIX

Web/Music

PANDORA

TECH DISRUPTOR: IPAD **PRICING: \$499-\$829**

DISRUPTION: By challenging the idea of the portable computer, Apple is pushing the tablet industry and has become the leader in tablet technology.

MARKET SHARE: 68.3 PERCENT of tablet market

TABLET SALES ARE PROJECTED TO RISE:

Year	Desktop sales	Tablet sales
2008	45%	1%
2009	39%	4%
2010	32%	10%
2011	27%	17%
2012	22%	24%
2013	17%	31%
2014	12%	38%
2015	7%	45%

MARKET SHARE: Although it's more expensive than competitors, the iPad is leading the tablet pack.

MARKET SHARE: 68.3 PERCENT of tablet market

REPLACING DEVICES:

- Replacing laptops by: 19%
- Replacing e-readers by: 15%
- Replacing entertainment devices by: 10%

MARKET: A MEDIAPOST SURVEY INDICATED THE IPAD IS:

19% Replacing laptops by

15% Replacing e-readers by

10% Replacing entertainment devices by

WEB DISRUPTOR: GOOGLE APPS **PRICING: Personal users FREE**

DISRUPTION: The program is challenging conventional word processing, calendaring, and spreadsheet programs. Simply and effectively, it's changing the industry through the use of an online integrated document sharing.

BUSINESS USE: Microsoft Office still rules the roost at 80%. Google Apps is just at 8% of market share.

GOOGLE APPS IS GROWING: In its first 19 months it accrued 10 MILLION USERS. It will continue to gain users.

MARKET: Which of the following best describes your organization's current state regarding your deployment and usage of alternative productivity tool suites such as Google Apps?

- 7% Implementing or implemented
- 18% Considering implementation
- 15% Actively looking
- 14% Not interested
- 46% Not interested

MARKET: A 2011 GLOBAL DESKTOP INNOVATION ONLINE SURVEY ASKED:

Which of the following best describes your organization's current state regarding your deployment and usage of alternative productivity tool suites such as Google Apps?

7% Implementing or implemented

18% Considering implementation

15% Actively looking

14% Not interested

46% Not interested

TELECOMMUNICATION DISRUPTOR: SKYPE **PRICING: Skype-to-Skype FREE**

DISRUPTION: This low-cost telecommunication service allows customers to call and message on the same interface more conveniently and for a fraction of the price of traditional telecommunication services.

THE THREAT TO WIRELESS OPERATORS: Many companies are trying to emulate this technology by offering integrated technology and lower prices.

700 MILLION Skype-to-Skype calls a day

30 MILLION Skype mobile-to-mobile minutes each day

2 BILLION Number of times Skype has been downloaded

THE THREAT TO WIRELESS OPERATORS: Most of their money comes from voice and text, which Skype provides for low or no cost.

SKYPE IS CONSISTENTLY GROWING:

Registered free users (in millions)

Year	Registered free users (in millions)
2007	217
2008	325
2009	474
2010	643

TECH AND GAME DISRUPTOR: ZYNGA **PRICING: FREE**

DISRUPTION: This integrated social media gaming platform doesn't require a console, challenging the use or need for gaming consoles.

232 MILLION Active monthly players

39.1% OF SOCIAL NETWORKING GAMING MARKET SHARE

ZYNGA CONTINUES TO GROW (Gross Revenue by Quarter):

Quarter	2009	2010	2011	2012
Q3	\$31,311,000	\$31,311,000	\$31,311,000	\$31,311,000
Q4	\$55,721,000	\$55,721,000	\$55,721,000	\$55,721,000
Q1	\$101,527,000	\$101,527,000	\$101,527,000	\$101,527,000
Q2	\$150,898,000	\$150,898,000	\$150,898,000	\$150,898,000
Q3	\$170,474,000	\$170,474,000	\$170,474,000	\$170,474,000
Q4	\$176,739,000	\$176,739,000	\$176,739,000	\$176,739,000
Q1	\$235,421,000	\$235,421,000	\$235,421,000	\$235,421,000

EA HAS ATTEMPTED TO TAP INTO THIS MARKET. THEY HOLD A 6.5% MARKET SHARE.

EFFECTS ON THE MARKET: Gaming console pricing is going down, and companies are finding ways to tap into this market.

DAU (Daily Active Users) of Zynga games:

Year	DAU (Daily Active Users)
2008 Q3	\$1,209,423
2008 Q4	\$1,703,103
2009 Q1	\$2,081,842
2009 Q2	\$2,612,018
2009 Q3	\$3,176,559
2009 Q4	\$3,931,910
2010 Q1	\$4,982,491
2010 Q2	\$5,457,745

MARKET: Zynga is changing the gaming industry. It is yet to be seen how disruptive this innovation will be, but it is definitely on the radar.

MANUFACTURING DISRUPTOR: TATA NANO **PRICING: \$2,000**

DISRUPTION: This manufacturer creates affordable cars, including bare car essentials for emerging countries.

THE TATA NANO HOLDS 17 PERCENT MARKET SHARE.

NANO GROWTH:

Year	UNIT SALES
November 2010	997
December 2010	1,761
January 2011	6,763
February 2011	8,243
March 2011	8,707
April 2011	10,012

MARKET: Tata offers blowout prices with bare automotive essentials. It hasn't completely disrupted the market yet, but it is gaining attention.

ENTERTAINMENT/RETAIL DISRUPTOR: NETFLIX **PRICING: Streaming/DVD Rentals \$15.98 a month**

DISRUPTION: Netflix offers technologically integrated access to all types of video entertainment. It is forcing change within the world of entertainment rentals, and pushing a need for convenience.

DISRUPTED IN-STORE ENTERTAINMENT:

Year	Blockbuster	Netflix
2002	288 billion market cap	1.42 billion market cap
2010	9.18 billion market cap	35.1 billion market cap

NETFLIX HAS BEEN CONSISTENT:

SUBSCRIPTION FOR NETFLIX'S DISRUPTIVE INNOVATION HAS BEEN CONSISTENT:

Year	Number of subscribers (in millions)
2004	2.41
2005	4.179
2006	6.314
2007	7.679
2008	9.788
2009	12.348
2010	15.9

NETFLIX INTRODUCED A NEW PRICING STRATEGY THAT DISFRANCHISED CUSTOMERS IN 2011. THEY ARE DOWN TO 24 MILLION SUBSCRIBERS (as of June 2011).

NETFLIX IS CHANGING THE LANDSCAPE OF ENTERTAINMENT RETAIL AND ITS TECHNOLOGY INTEGRATION.

WEB/MUSIC DISRUPTOR: PANDORA **PRICING: FREE with commercials**

DISRUPTION: Pandora aims to provide each user with a personalized radio experience.

MARKET: Early 2011: 100 MILLION registered users, 36 MILLION monthly active users. \$51 MILLION in revenue. Claims valuation: \$1.3 BILLION.

80 SECONDS of advertising an hour. Regular personalized radio runs 10 TO 14 MINUTES AN HOUR.

RADIO USE SEEMS TO HAVE CAPPED AND STAYS CONSISTENT, BUT INTERNET RADIO CONTINUES TO GROW.

% OF U.S. POPULATION:

Year	Radio	Internet Radio
2006	95.7%	2.2%
2007	95.7%	2.2%
2008	95.7%	2.2%
2009	95.7%	2.2%
2010	95.7%	2.2%
2011	95.7%	2.2%
2012	95.7%	2.2%

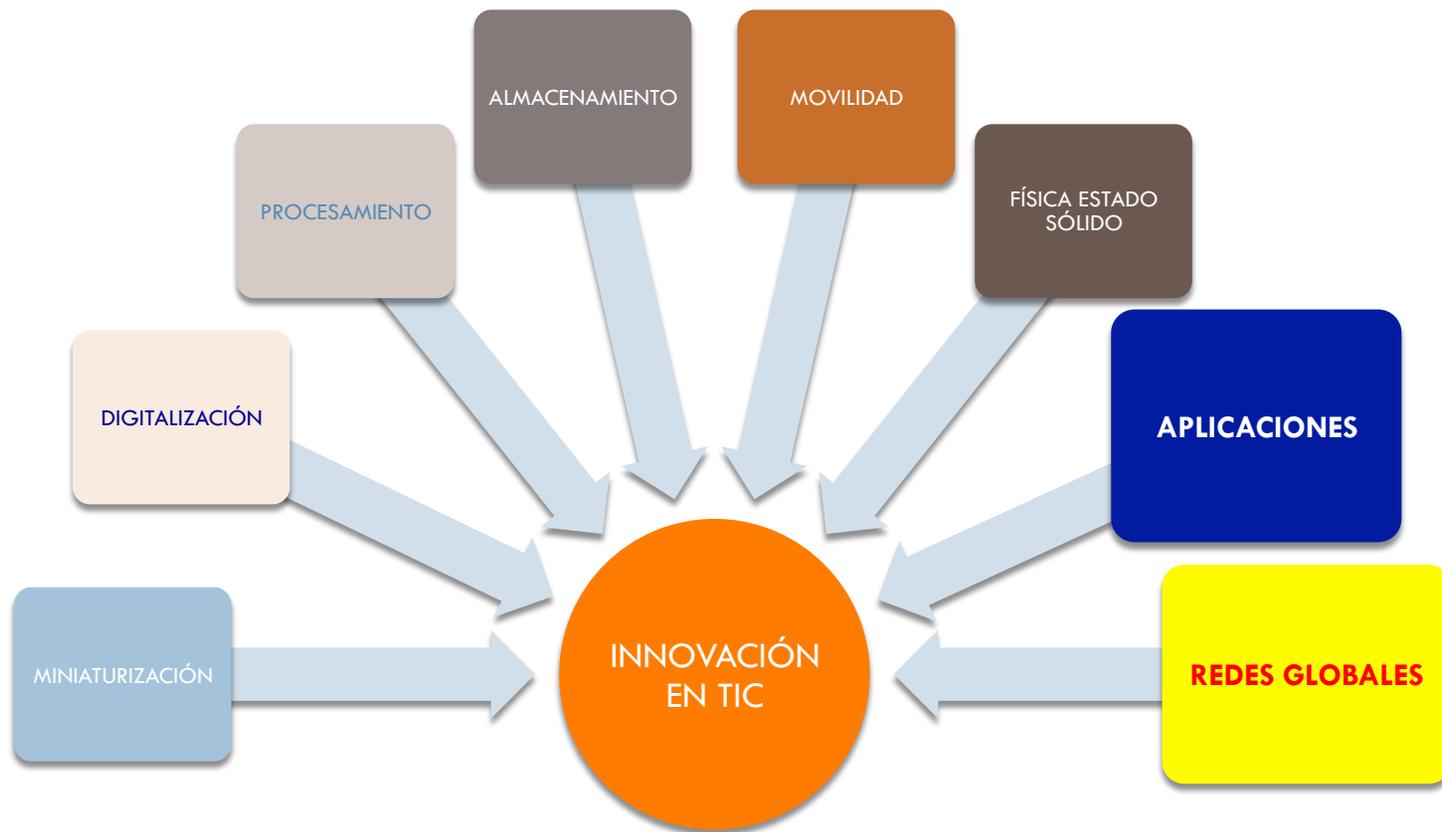
MARKET: Pandora is redefining the format of radio and pushing the industry toward personalization.

DISRUPTIVE INNOVATIONS DON'T HAVE TO RULE THE MARKET, THEY JUST HAVE TO CHANGE THE MARKET AND FORCE OTHERS FOLLOW SUIT. THE GOAL OF DISRUPTIVE COMPANIES IS TO CHALLENGE THE CONVENTIONAL MARKET AND CREATE A NEW ONE.

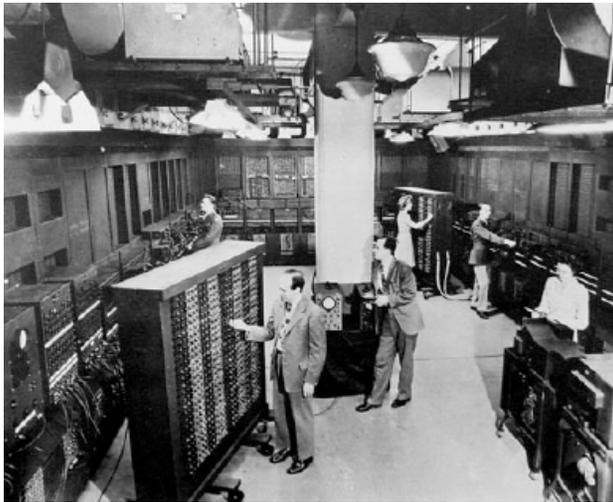
SOURCES: HARVARD BUSINESS REVIEW | CNET | CNBC | FORBES | MEDIAPOST | WSJ | MEDIALAB | IDC | MACWORLD | FT.COM | BLOOMBERG | SKYPE.JOURNAL.COM | PCWORLD | APPLE | LOOKSLODY.COM | MASHABLE.COM | IHS | THE-INNOVATION-MACHINE.COM | GOOGLE.SPOTLIGHT | VENTUREBEAT.COM | FRACCOMPANY.COM | AILET.COM | PANDORA | THEREGISTER.CO.UK | FORRESTER RESEARCH | QUANCAST | CNN MONEY | SNL KAGAN | BRIDGE RATINGS LLC | BUSINESS INSIDER | EDGAR-ONLINE.COM | NETFLIX | GLOBAL DESKTOP INNOVATION

FOCUS

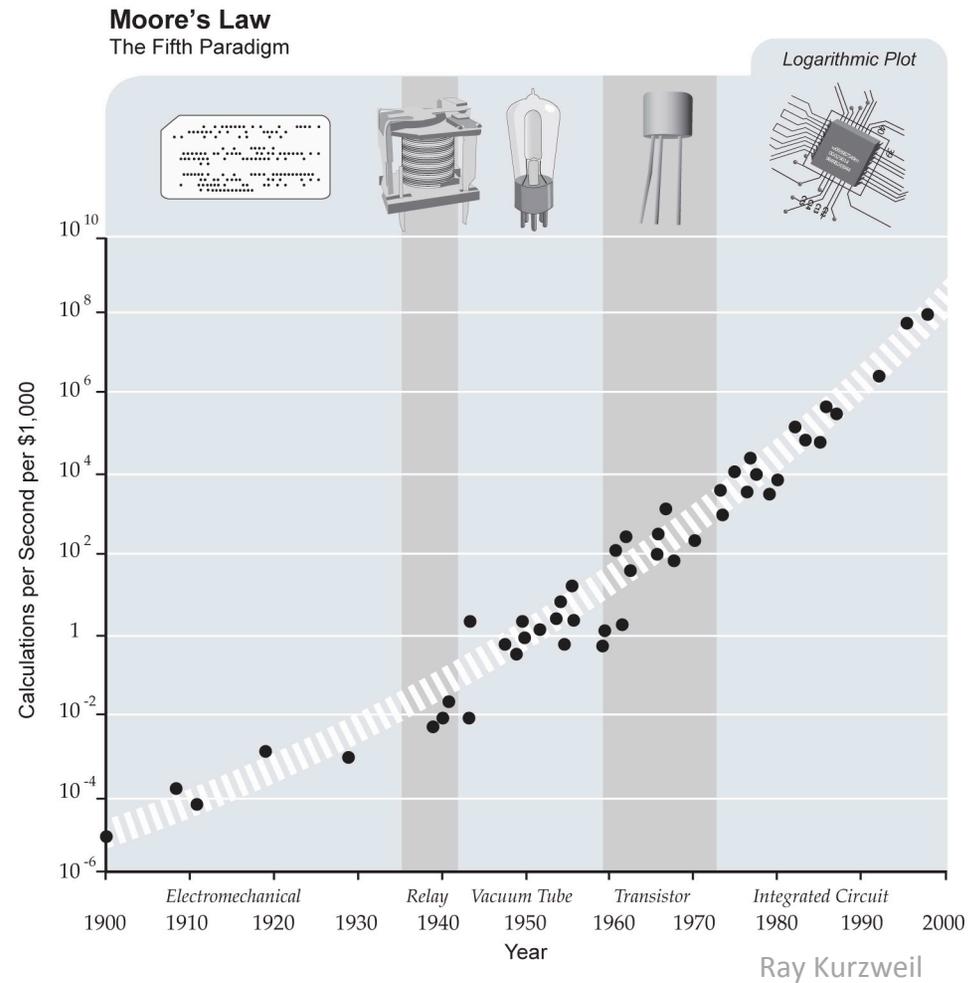
DRIVERS TECNOLÓGICOS EN TIC



DRIVERS TECNOLÓGICOS EN TIC



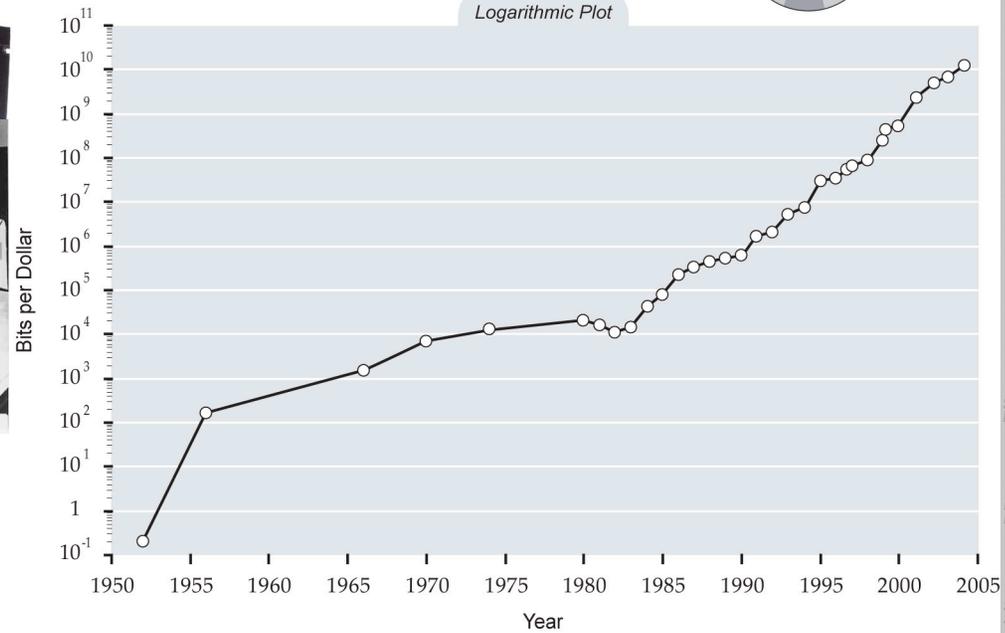
La ley de Moore
señala que cada 18
meses la capacidad
de procesamiento de
las CPU se duplica



DRIVERS TECNOLÓGICOS EN TIC



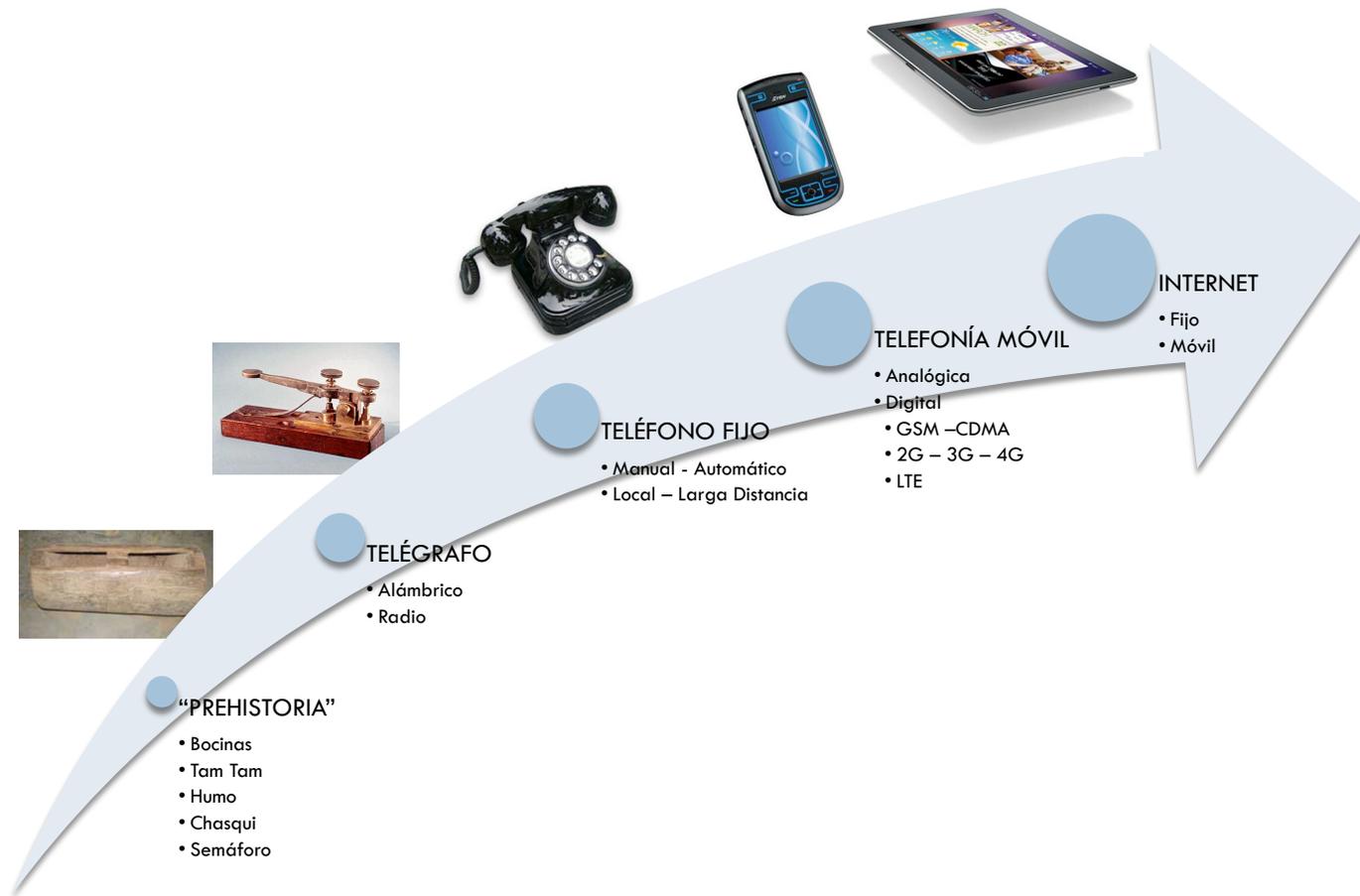
Magnetic Data Storage
(Bits Per Dollar, constant 2000 dollars)



Ray Kurzweil



EVOLUCIÓN REDES DE COMUNICACIONES



¿UN MUNDO DE TRES PANTALLAS?



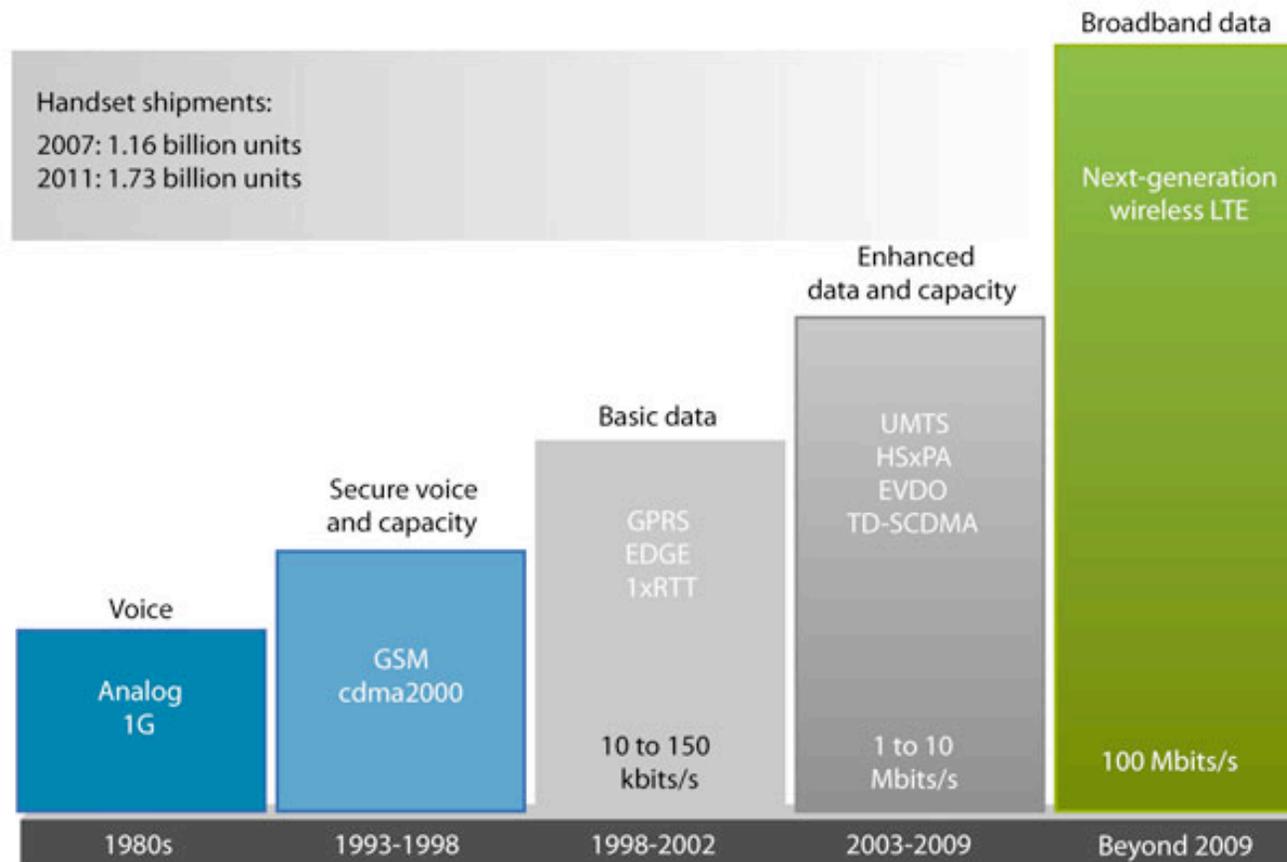
MUNDO TIC





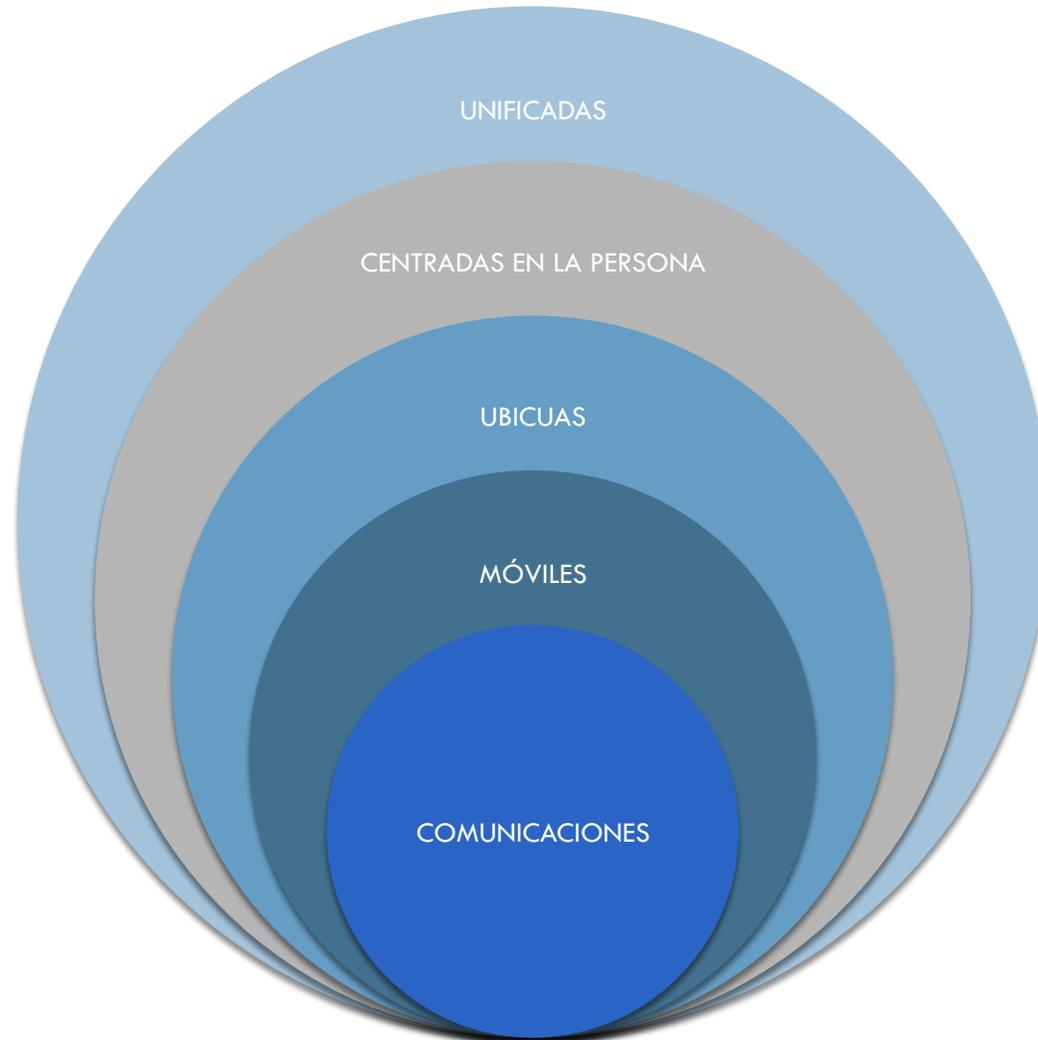
TENDENCIAS

TENDENCIAS: MÓVILES BANDA ANCHA



Cellular services have evolved from the analog first generation to today's 3G digital phones. The next step, Long-Term Evolution (LTE), promises downlink speeds of up to 100 Mbits/s and uplink speeds of up to 50 Mbits/s.

TENDENCIAS: COMUNICACIONES UNIFICADAS



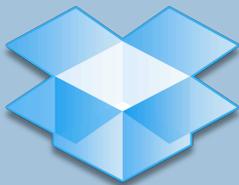
TENDENCIAS: CLOUD COMPUTING



iCloud



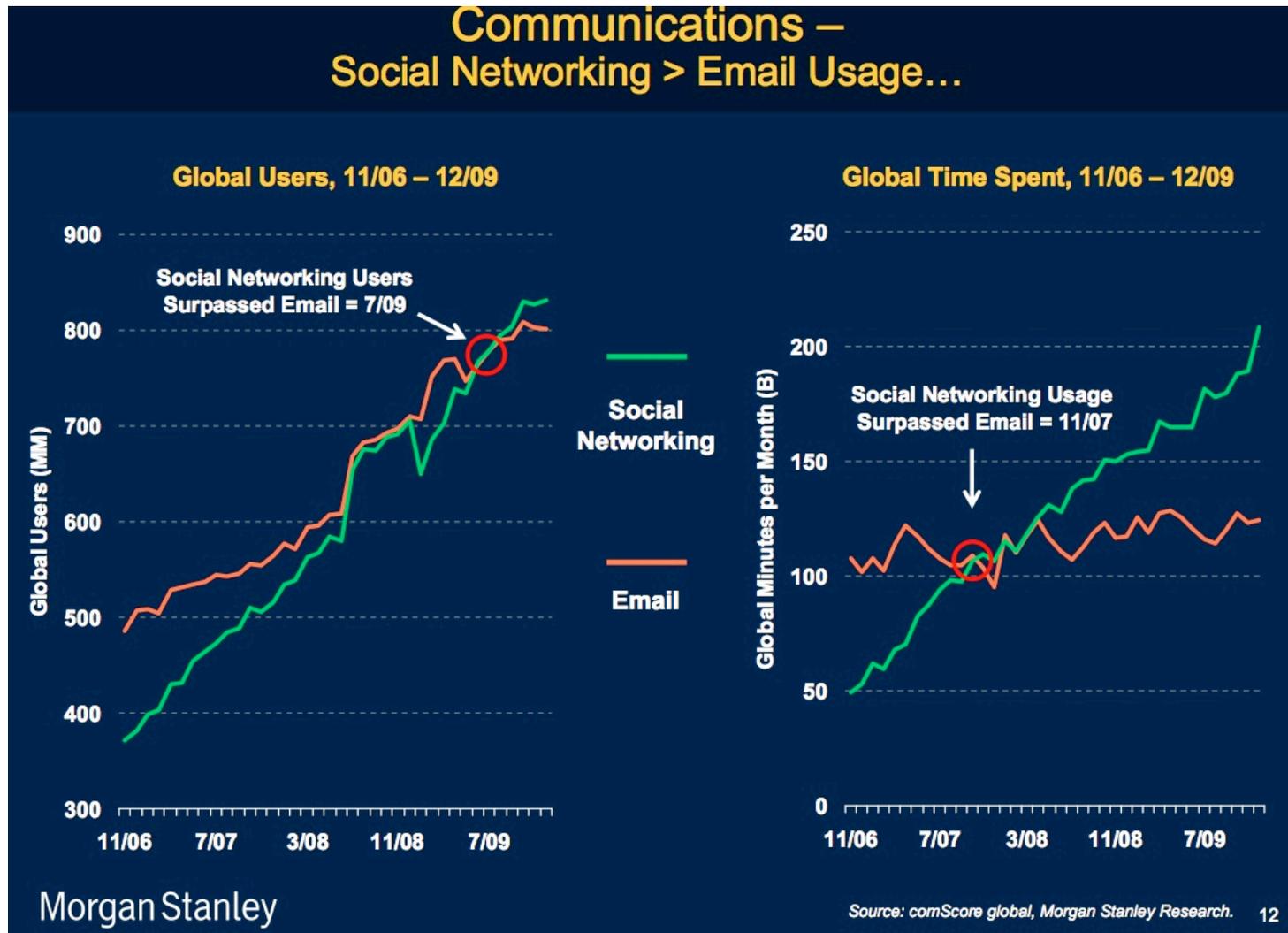
Google Apps



Dropbox



TENDENCIA: REDES SOCIALES



UNA REFLEXIÓN FINAL

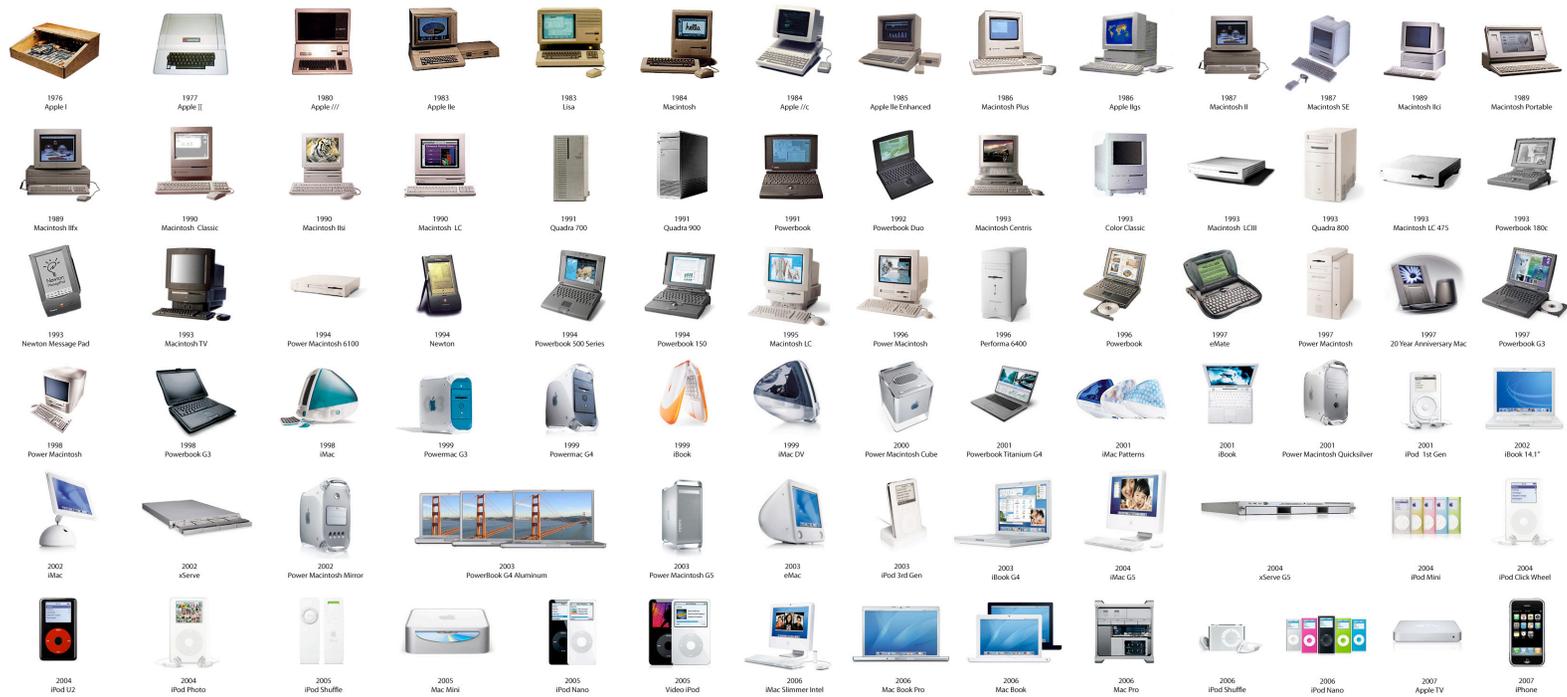
¡Por ahora!

UNA REFLEXIÓN FINAL



Apple Form Factor Evolution 1976 through 2007

This is a visual representation of most all the products Apple has launched. This image documents the ever changing form factor and industrial design of Apple's products, not every single model number or slight change made to a previous model. - Enjoy



Misc. Apple Accessories



UNA REFLEXIÓN FINAL

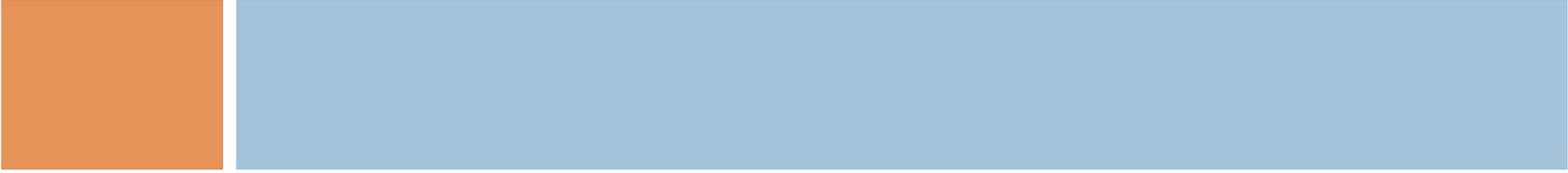
- Muéstrole sus ideas a mucha gente
- Busque en lugares y productos donde otros no se dan cuenta de lo que saben
- Dese espacio para la innovación

“Si quiere innovación rápida, tiene que coger tantas ideas como pueda fuera de su grupo o empresa y agregarles algo propio.

Apple usó esta forma para llevar su tremendamente exitoso iPod desde el concepto a su entrada comercial en sólo ocho meses.

Hargadon me dijo que Apple hizo contribuciones originales en su diseño en la carcasa y en la interface, pero virtualmente todo lo demás – componentes de audio, conversores análogo digital, memoria flash, batería, controlador FireWire y sistema de poder – fueron desarrollados en otra parte.”

Robert Sutton, “Renovating Innovation”, 2004-08-01



GRACIAS POR SU ATENCIÓN

Christian Nicolai