

Digital everything



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Looking back at the future



“interesting toys, but no military value”

Marechal Foch, talking about airplanes in 1911



... and the telephone

“The 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”

Western Union internal memo, 1876.



Over 1.5 billion telephone lines

Over 7 billion mobiles



- Nokia was a phone company in a world that stopped buying phones.

**We now buy small computers
that also make calls.**



And these devices are changing once again



Innovation



1810

48 Years



1858

Ezra Warner of Waterbury, Connecticut patented the first can opener

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With change comes risk



- Root causes of declines in public companies' value:
 - 60% strategic risks.
 - 30% operational risks.
 - 10% financial risks.

"the assumptions on which the organization has been built and is being run no longer fit reality."

Peter Drucker



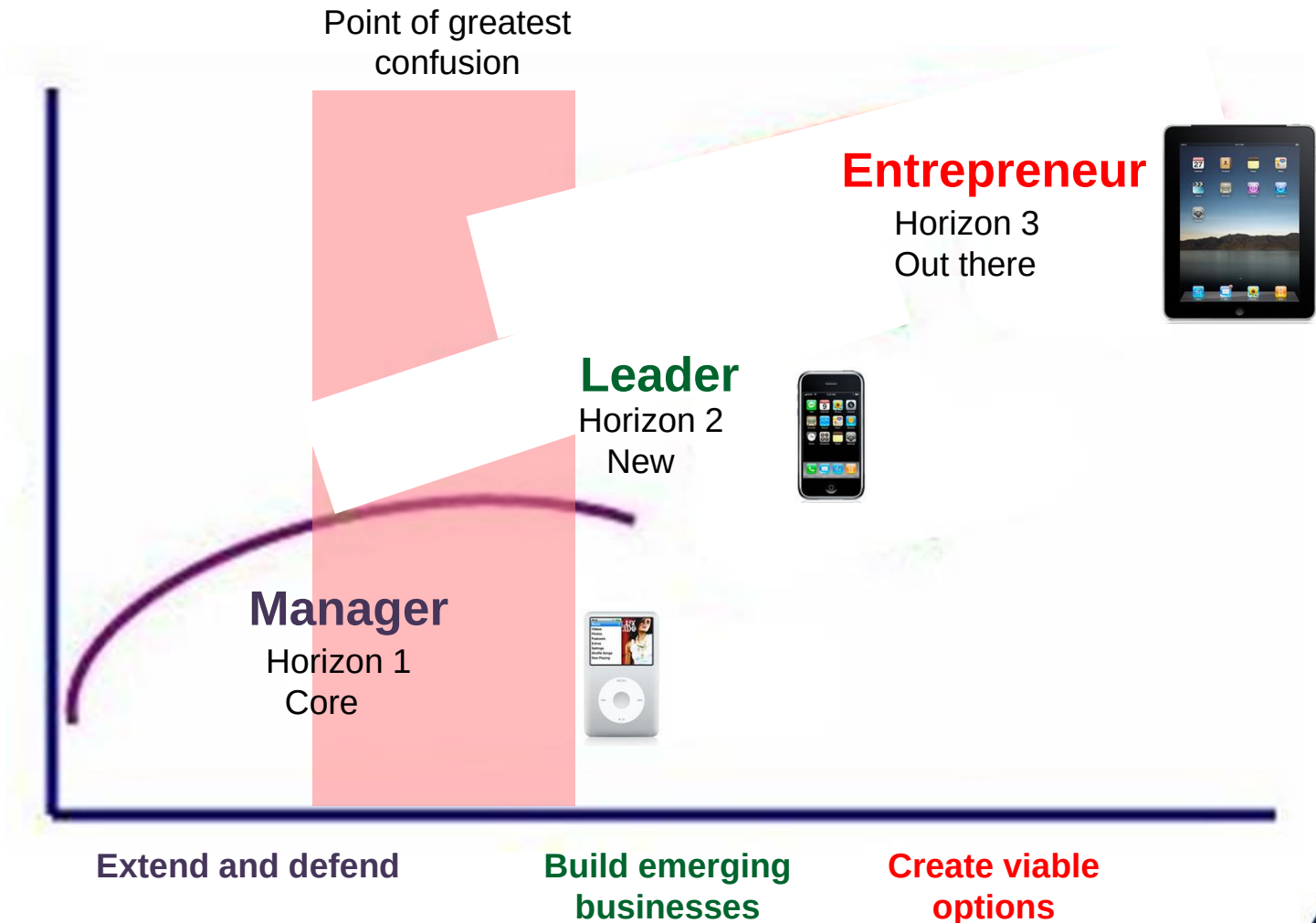
TECHNOLOGY & COMMUNICATIONS



Three Horizons



In 2008



Extend and defend

Build emerging
businesses

Create viable
options

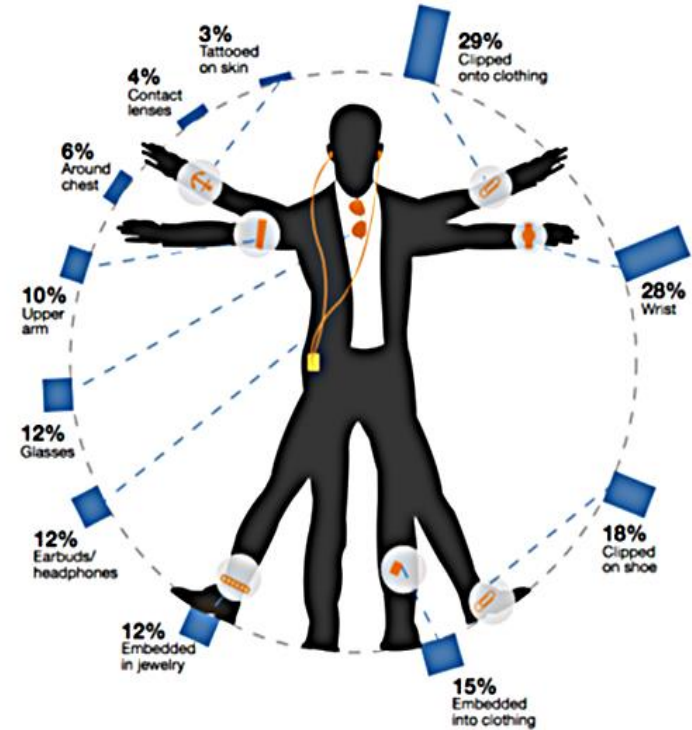
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Horizon 1

Technologies maturing now

- Mobile
- Consumerisation of I.T. (BYOD)
- Big data and analytics
- Social
- Cloud
- Internet of Things
- Telematics
- Wearables
- Augmented reality
- Avatars
- 3D printing



Horizon 2

Technologies coming within 10 years

- Holographics
- Automation
- Unmanned Autonomous Vehicles
- Instant language translation
- Cognitive computing
- Haptic technology
- Electronic nose
- Artificial intelligence
- RNA based therapeutics
- Vocal health diagnostics via smartphone
- Next generation neuropharmacology



Horizon 3

Emerging technologies of 10yrs+

- Quantum computing
- Prescriptive analytics
- Smart dust
- Programmable material
- Neuroprosthetics
- Brain-to-computer interfaces
- Brain-to-brain interfaces
- Geoengineering
- Microscale 3D printing
- Anti ageing interventions



Mobile to 2018

telephone – computer - sensor

- Mobile data traffic growth 61% cagr.
- 66% of devices – smartphones.
- Speeds increase 2.6-fold.
- 15.9 Exabyte's/month. 69% video.
- Functions:
 - Payments
 - Environment
 - Travel
 - Health & wellness
 - Context etc.



Just 33% of websites are optimised for mobile

Experian

http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/VNI-Forecast_QA.html/index.html

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Wearables 1.0



IRONMAN

Wearables 2.0



INVISIBLE MAN

The mobile consumer in context

- Where am I?
- What am I doing?
- Who's around me?
- Where am I going?
- What would help me?
 - Where
 - What
 - Who



Preventative Apps

- Monitor conditions, submit insurance claims, shortens underwriter evaluation.
- Two Japanese car insurers co-developed a smartphone app to reduce claims.
- Warns of possible accidents and to establish culpability in the event of a crash.



Engaged through technology

By 2019

- 3D virtual reality displays,
- Embedded in glasses/contact lenses.
- Primary interfaces to connect with other people, computers, the Web and virtual reality. Kurzweil
- Linking our senses with other people's senses or machines.



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Hercules

Rises: 6:03 a.m. Sets: 9:25 p.m.

A large constellation representing the mythological hero

HERCULES

Sanphan restaurant

★★★★☆ 41 reviews

Thai \$\$



U.S. Capitol complex

0.7 miles

... Construction of the Capitol began in 1793. When built, it was ...

CORONA
BOREALIS

Car locator



Robbery

270 feet west
18 days ago

Gas station

550 feet

Unleaded

\$3.19



Eastern Market

580 feet

Turn right on 7th St.





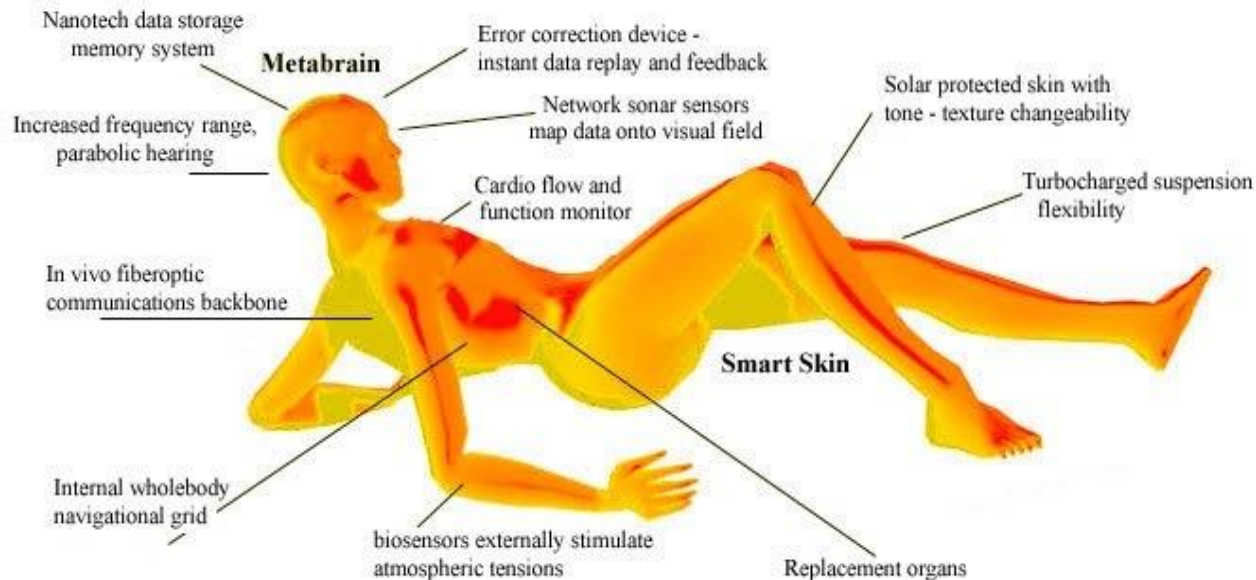
Convergence of online & offline



Internet of everything

By 2020

- One trillion sensors embedded in humans and machines.
- We will each own 50 internet connected devices.



Big data

- Every day we create 2.5 quintillion bytes of data:
 - A new Google every 4 days.
- Google: 6bn daily searches and indexing of over 50bn web pages (2013).



BIG data & predictive analytics

- **Social media** and **data analytics** are the two technologies that pose the greatest risk to current business models.
- Of 64% invested in big data:
 - Only 8% started using it.



Predictive and Prescriptive analytics are 'game changers'







Brain-to-computer interfaces

- Future pilots control their aircraft by merely thinking commands.
- Scientists in Munich have now demonstrated the feasibility of flying via brain control - with astonishing accuracy.



http://iwiwire.com/app/webroot/files/4_525_1403287387.jpg

**Scientifically viable in 2020; mainstream in 2022;
financially viable in 2027**



Brain-to-brain interfaces

- Brain interfaces transmit information between people.
 - Allowing the receiving brain to perform tasks without training.



http://abcnewsradionline.com/storage/news-images/Getty_062813_brainToBrain.jpg?__SQUARESPACE_CACHEVERSION=137708814884

**Scientifically viable in 2025; mainstream in 2026;
financially viable in 2027**

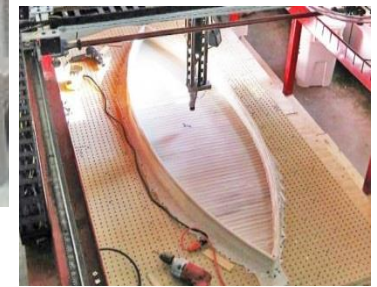
<http://www.businessinsider.com/emerging-neuro-and-cognitive-technologies-2014-4#ixzz33lgw7ppZ>



3D Printing

The next trillion £ industry

- A £2bn industry by 2018.
- Airbus - 3D printed planes by 2050.
- First “printed home” built.
- Commercial buildings will follow.
- Transform manufacturing, insurance, distribution, logistics, retailing, food, surgery.



3D Printing

- 3D to grow to a £2bn market by 2016 and £3.75bn by 2020.
- Over 20% for final products not prototypes - 50% by 2020.
- 29% of consumers will order and print their own goods by 2020.



<http://www.gnomonschool.com/blog/wp-content/uploads/new-balance-3-d-printed-shoes-1.jpg>

<http://www.3ders.org/articles/20120318-abn-amro-sees-big-future-in-3d-printing.html>
<http://www.businessweek.com/articles/2012-12-21/fords-gift-to-engineers-makerbot-3d-printers>



Unmanned Autonomous Vehicles



New co-workers?



Acroid 1



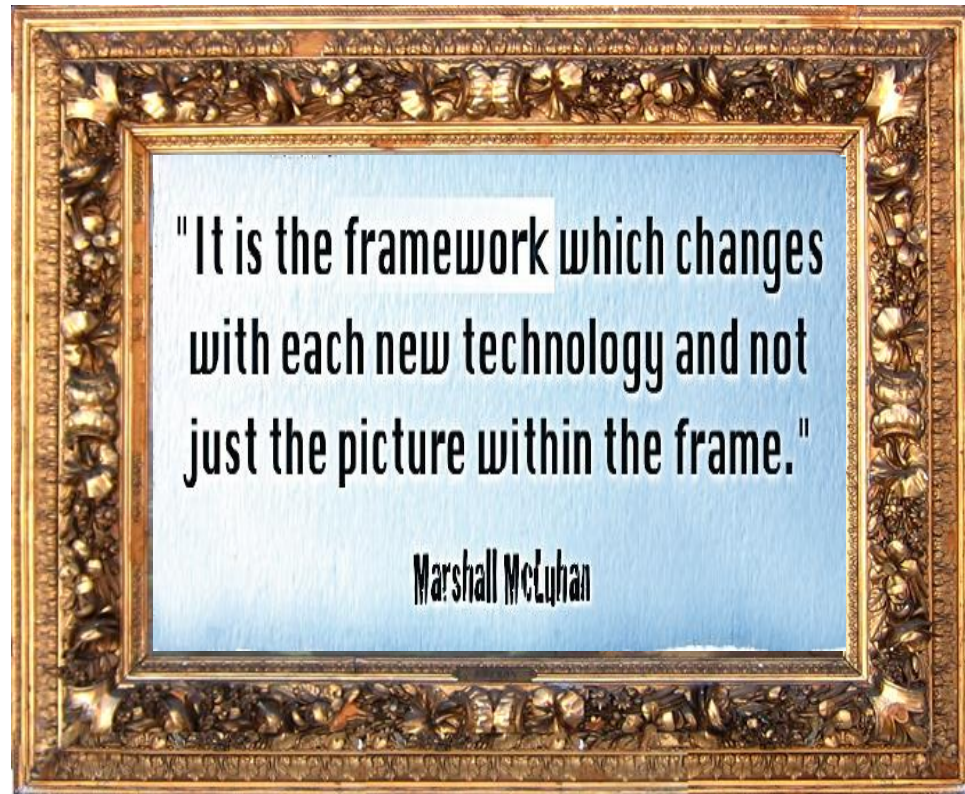
Shakira 2



Clooney 1



Film set we do things differently



Pace of change

- 40% worry that ‘...their organisations will be unable to keep up with technology change and will lose their competitive edge.’



http://www.visualphotos.com/photo/2x4577511/fast_moving_robot_technology_BLD017028.jpg

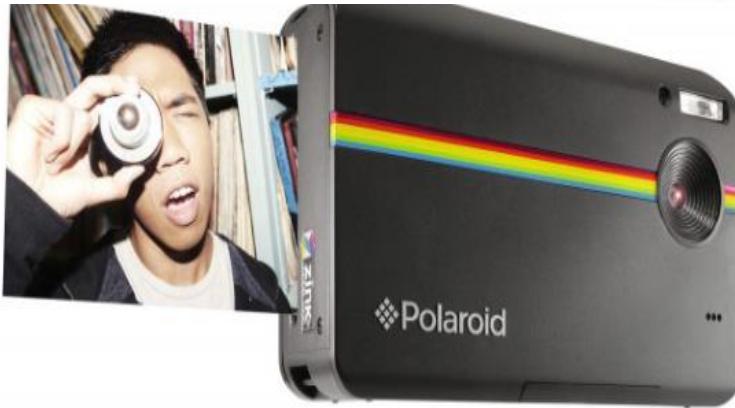
Technology is moving between 3-5 times faster than management.





'It's amazing, but kids today don't want hard copy anymore. This was the major mistake we all made.'

Gary DiCamillo in 2008,
Polaroid's CEO from 1995 to 2001



Customer centricity

- From 'inside-out' to 'outside-in.'
- A shift to a world of:
 - Web-based.
 - Decentralised.
 - Front-office-oriented.
 - Mobile.
 - Touch-screen.
 - Consumer-oriented.
 - Co-creation



<http://www.thehartofmarketing.com/wp/wp-content/uploads/2011/02/customer-centric-outside-in-reorg-harte.jpg>

Informed by data analysis.

<http://www.insurancetech.com/management-strategies/insurance-companies-embrace-emerging-tec/232200668>

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So much change

- New thinking
- New behaviours
- New partners
- New channels
- New insights
- New offers
- New technologies
- New business models
- New customer engagement

DELIVERING IN

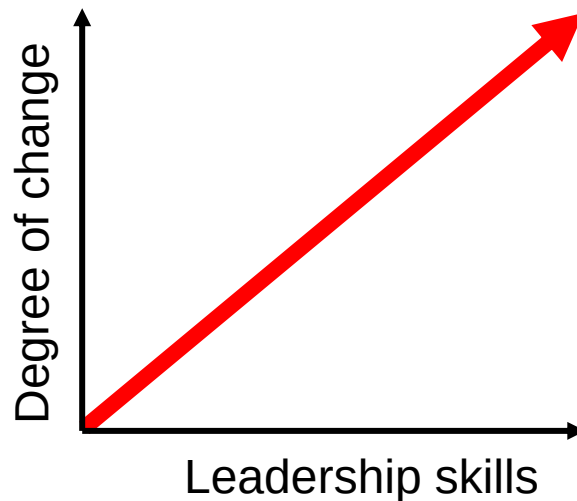


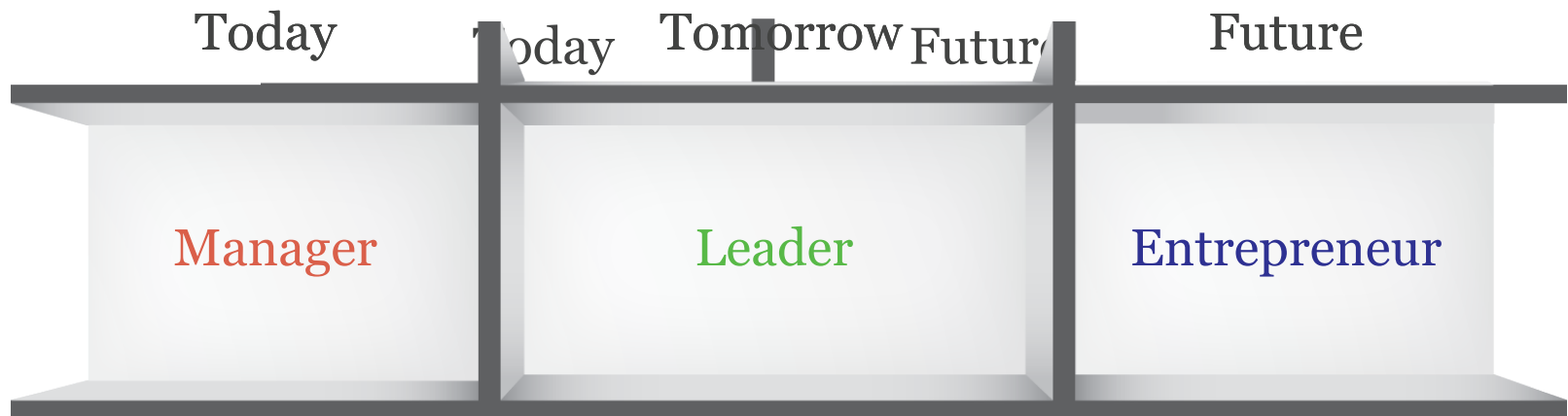
Management – Leadership balance

- No change
70-90% management, 10-30% leadership
- Change
10-30% management, 70-90% leadership



Professor John Kotter
Professor of Leadership,
Emeritus at the
Harvard Business School



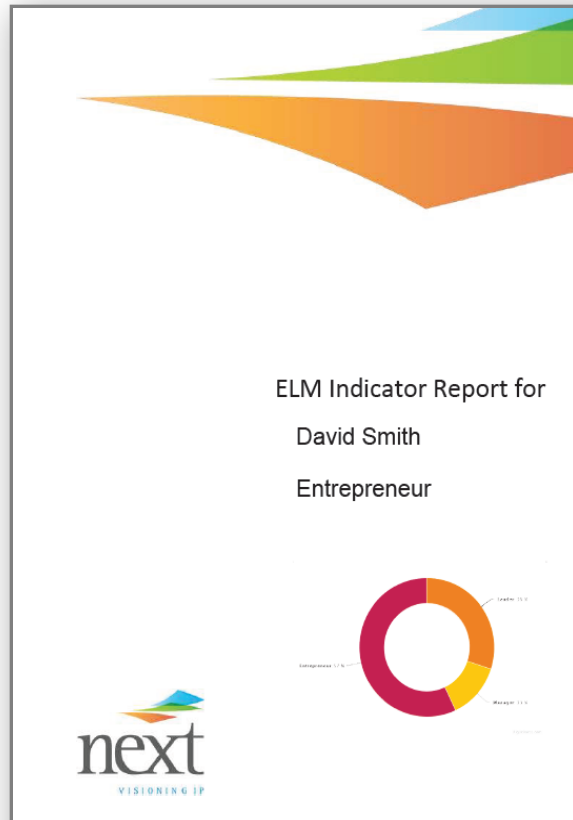


Manager, Leader and Entrepreneur

- **Managers** effectively manage capability.
 - Great at managing processes, time and resources.



elm.newworldiq.com





“If things seem under control, you’re just not going fast enough.”

Mario Andretti

Imagine it

If you want to get ahead – you need to look ahead

Thank you



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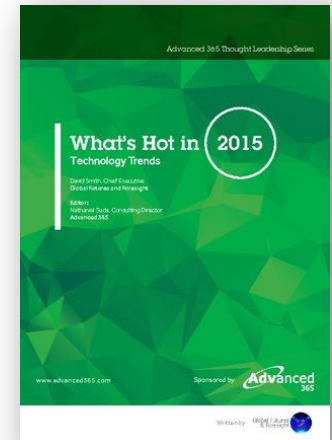
[davidsmithgff](https://twitter.com/davidsmithgff)



[gfft](https://www.youtube.com/gfft)



<http://elm.newworldiq.com>



What's Hot in Technology 2015

<http://www.thegff.com>

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