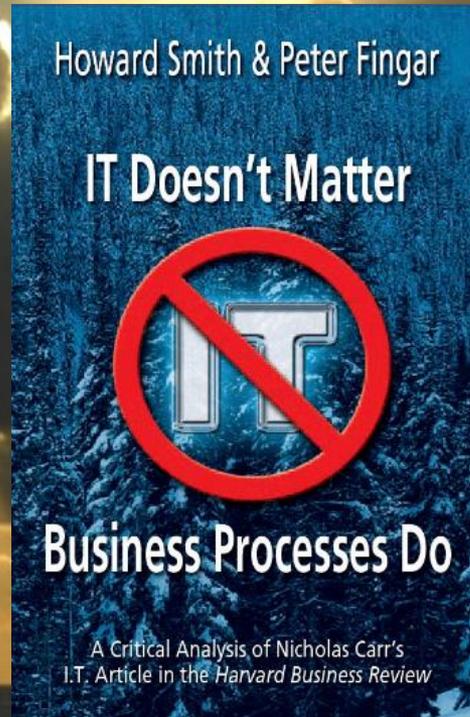
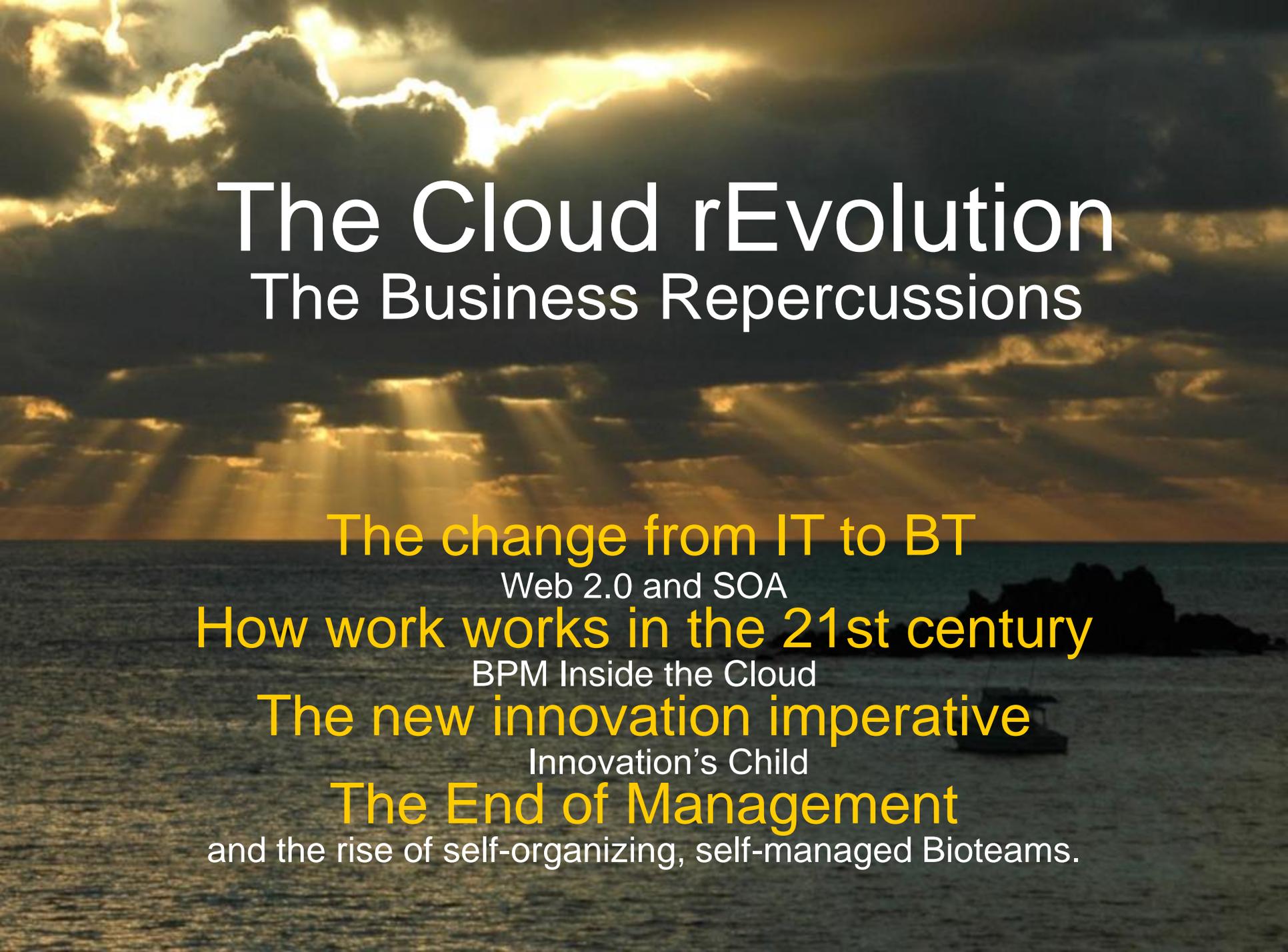


*Peter Fingar*

# Cloud Computing Set to Unleash a Perfect Storm in Business



**The WOW isn't about ON-DEMAND IT,  
It's about  
ON-DEMAND BUSINESS INNOVATION**



# The Cloud rEvolution

## The Business Repercussions

**The change from IT to BT**

Web 2.0 and SOA

**How work works in the 21st century**

BPM Inside the Cloud

**The new innovation imperative**

Innovation's Child

**The End of Management**

and the rise of self-organizing, self-managed Bioteams.

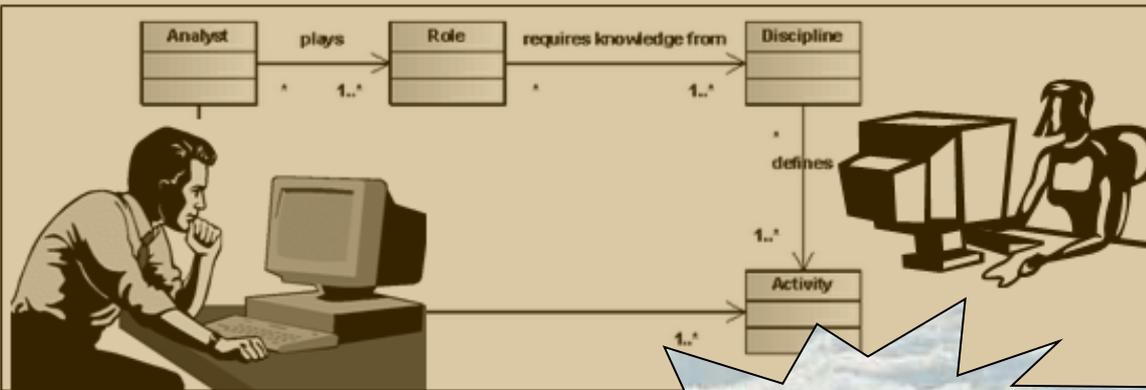
What is  
the Cloud?





## CLOUD SERVICES

Users and Producers  
of Unique Services  
e.g., Business  
Organizations

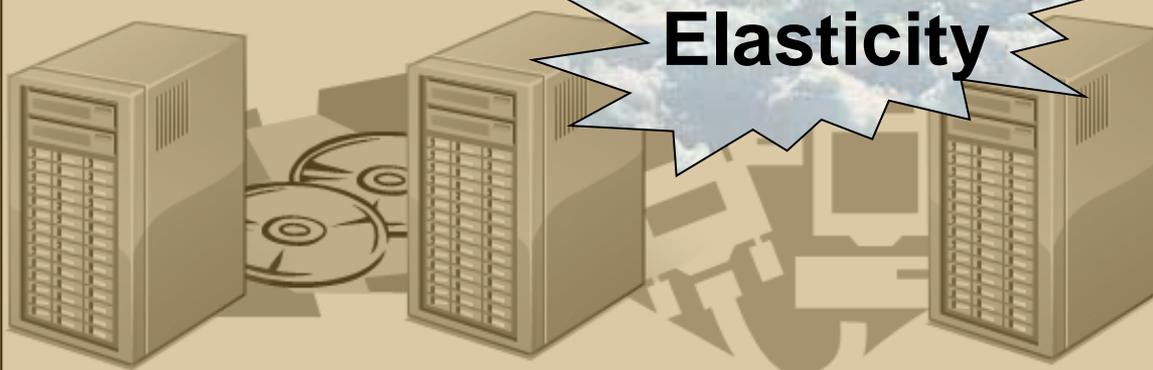


## CLOUD PLATFORM

Services for  
Developers, e.g.,  
Google App. Engine,  
Amazon's AWS, etc.



**Elasticity**

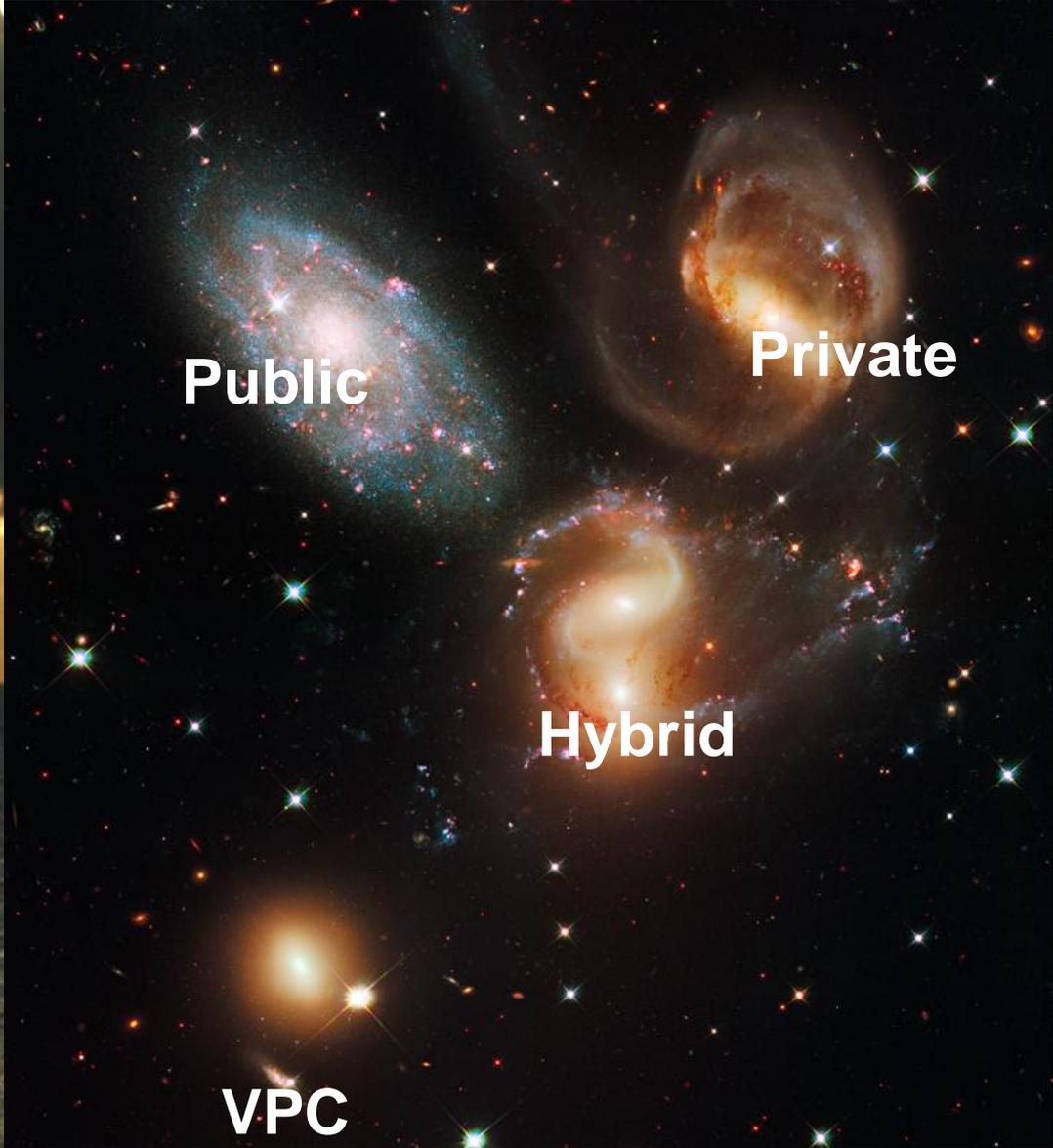


## CLOUD COMPUTING

Infrastructure: Storage,  
Networks, Servers  
... as a Service

Definition-in-Progress

<http://csrc.nist.gov/groups/SNS/cloud-computing/index.html>



**Public**

**Private**

**Hybrid**

**VPC**

Source:  
NASA Hubble  
Telescope

# What is the Cloud?

In short, it's the "Real Internet,"  
or what the Internet was  
really meant to be in the first place  
—An endless computer  
made up of networks of networks of computers.

Even shorter:

**The Cloud is *the* Computer.**

New?



**Application Service Provider (ASP)**

**Timesharing   Grid Computing   Co-Location   On-Demand**

**Virtualization   Software as a Service**

Assembly•Cobol•OOP•OOAD•Distr.Objects•SOA/WOA } CLOUD  
TheComputer•Mainframe•Mini•PC•Client/Server•Internet•Web }

Knee

A dramatic sunset or sunrise over the ocean. The sky is filled with dark, heavy clouds, with bright golden light breaking through in several places, creating rays of light. The sun is low on the horizon, casting a warm glow. In the foreground, the dark silhouette of a boat is visible on the water. In the background, dark rocks or landmasses are silhouetted against the bright sky.

# The economic and innovation implications are game changing.

In the past, information technology was about *productivity*; now it's about:

- Collaboration
- A shared information base
- Collective intelligence



One shared world  
One shared computer  
One shared information base

# So What?

Cloud Computing makes it possible to create new  
“business operations platforms”  
that will allow companies to  
change their business models and  
collaborate in powerful new ways with  
their customers, suppliers and trading partners  
—stuff that simply could not be done before.

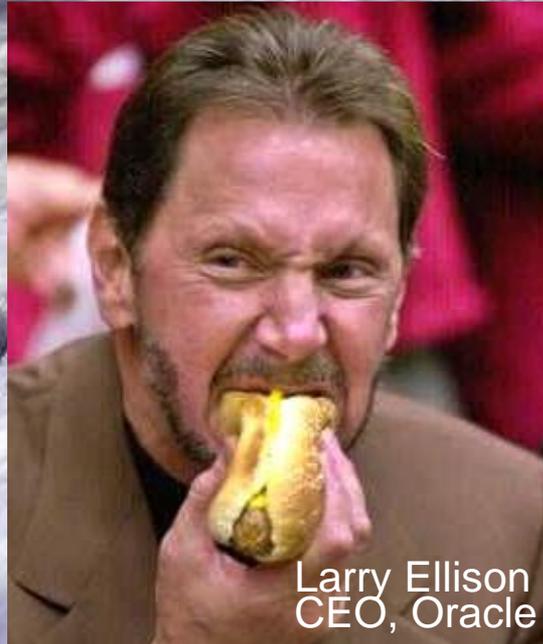


**Did you just  
say put my  
business in  
the Cloud?**

**Whoa!**



**CEO**



**“It’s complete gibberish.  
It’s insane.  
When is this idiocy going to stop?”**

Any sufficiently advanced technology is indistinguishable from magic. —Sir  
Arthur C. Clarke, Author of *2001: A Space Odyssey*

## F U D Factors



**"Only the paranoid survive."**  
—Andy Grove, INTEL



Hmm, did I tell you about the Jericho Forum?



“It’s a huge deal when GE goes outside its ‘firewall’ to innovate. You betcha, other CEOs will be asking their CIOs lots of questions about harnessing the Cloud, internally, with tightly controlled external clouds provisioned by third parties, and finally, with public clouds.”

-- Mickey North Rizza, Research Director, AMR Research



Yesterday, the Internet  
—today, the **Intercloud**.



Although many think Cloud Computing is nowhere ready for mission-critical usage...

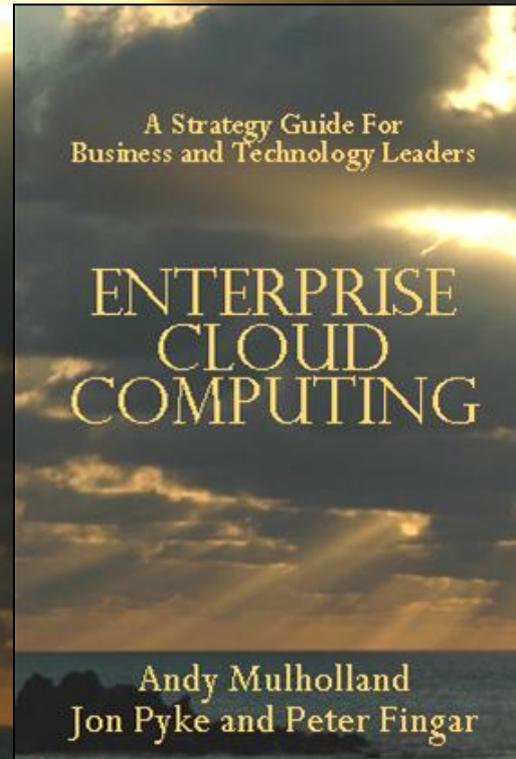
...John Garing, the CIO of the Defense Information Systems Agency at the Department of Defense thinks otherwise. (p. 49)



Gregory Simpson  
CTO, GE

The bottom line ...

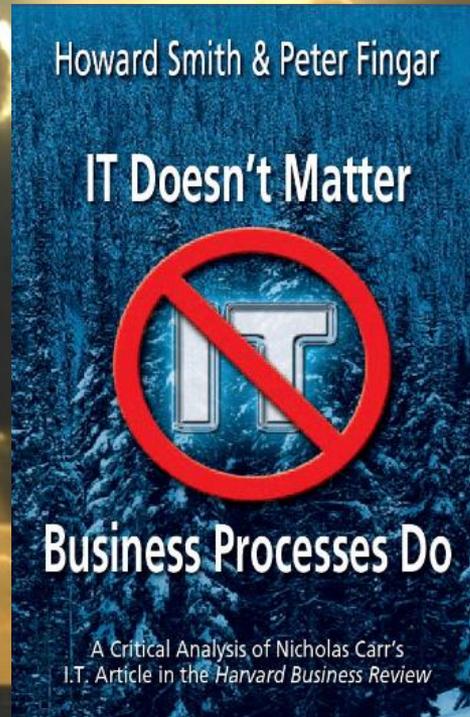
“The Cloud is nothing more than the platform upon which to build better businesses.”



“There will be many ways in which the Cloud will change businesses and the economy, most of them hard to predict.

But one theme is already emerging: businesses are becoming more like the technology itself—more adaptable, more interwoven and more specialized.

These developments may not be new, but Cloud Computing will speed them up.”



**The WOW isn't about ON-DEMAND IT,  
It's about  
ON-DEMAND BUSINESS INNOVATION**



With SOA + Web 2.0 in the Cloud  
the world shifts from using  
**Information Technology (IT)**  
for transaction and information management  
to a far more organic  
**Business Technology (BT)**  
for collaboration and *interaction* management.



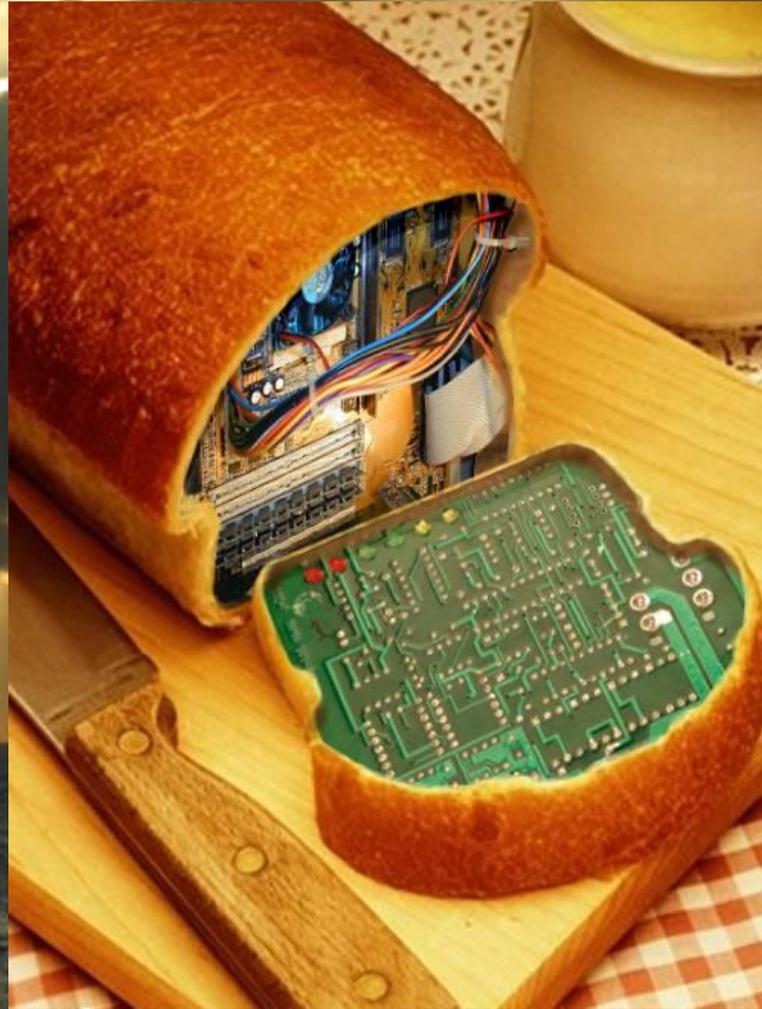
Cloud Computing is the next step in the evolution of the Internet as a source of “**services.**”

It’s those **services** that users are interested in, not the underlying technologies.



A “service” represents a  
“unit of business,” not a “unit of technology.”

Services can be bundled, unbundled and rebundled  
at the speed of business.



Service-Oriented Architecture (SOA):  
The Greatest Thing Since Sliced Bread?



SOA is about connecting dots, and there are many new dots to connect with Everything as a Service (EaaS).

# Web Mashups Without SOA?



# Power in the Cloud

BUILDING INFORMATION SYSTEMS  
AT THE EDGE OF CHAOS

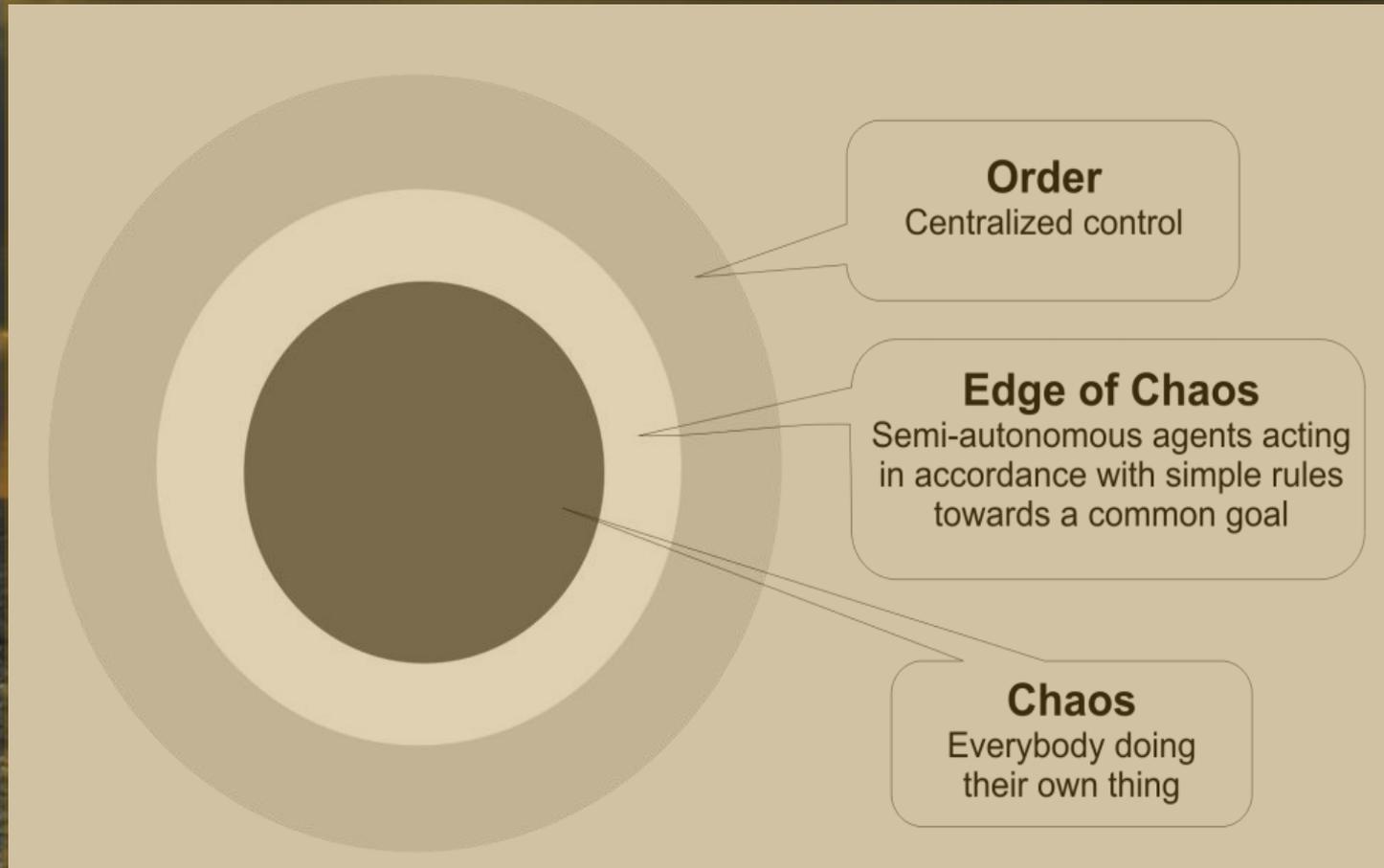


JONATHAN SAPIR

# Situational Apps



# A taxi system operates at “the edge of chaos”

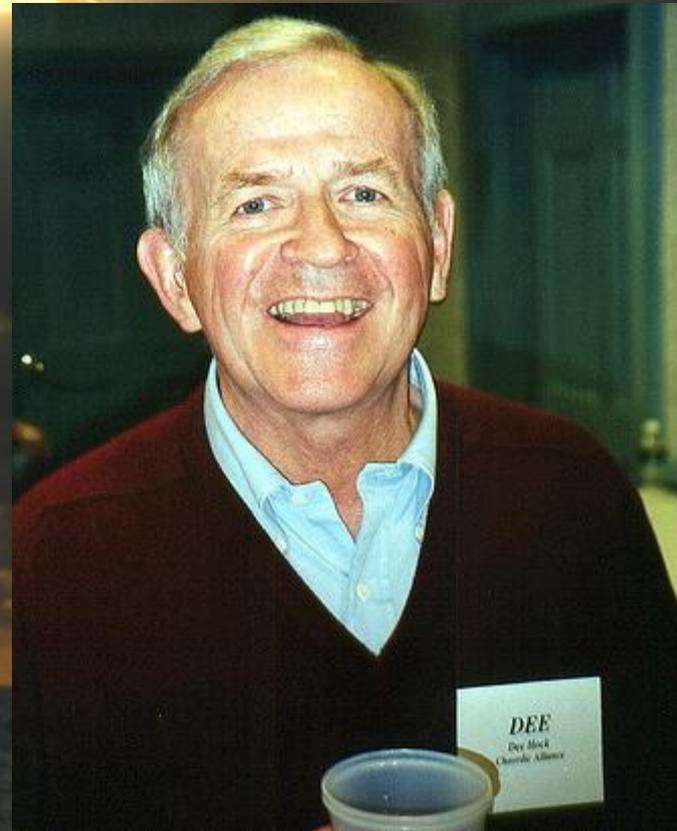


# Birth of the Chaordic Age



**D E E H O C K**

Founder and CEO Emeritus,  
VISA International



Command-and-control institutions are falling apart.  
The **chaos** of competition and the **order** of cooperation  
can and do coexist, succeed, even thrive.



***A taxi system is a  
complex adaptive system  
... just like your business!***

2nd Edition with new chapters on  
Overcoming Barriers and Changing the Game

# MASHUP CORPORATIONS

The  
End of  
Business  
as Usual



A Chronicle of Service-Oriented  
Business Transformation

Andy Mulholland, Chris S. Thomas, Paul Kurchina with Dan Woods

Mashups aren't just for software,  
they are for business, too.  
Software mashups enable business mashups.



Web 2.0 is not based on a technology shift, but rather a usage paradigm shift thanks to the simplicity of use.

**Why is Consumer IT so Simple, and Enterprise IT so Complex?**



p.s.—Did I mention Web 3.0?

Web 1.0 was “read-only,”

Web 2.0 is “read-write,”

Web 3.0 will be  
“intelligent read-write-execute”  
—in the Cloud.



# SOCIAL MEDIA



Social Media are centered on the interactions of people,  
not the interactions of computers.



*How people really work  
and how they can be helped to work better*

---

**HUMAN INTERACTIONS**



THE HEART AND SOUL  
OF BUSINESS PROCESS MANAGEMENT

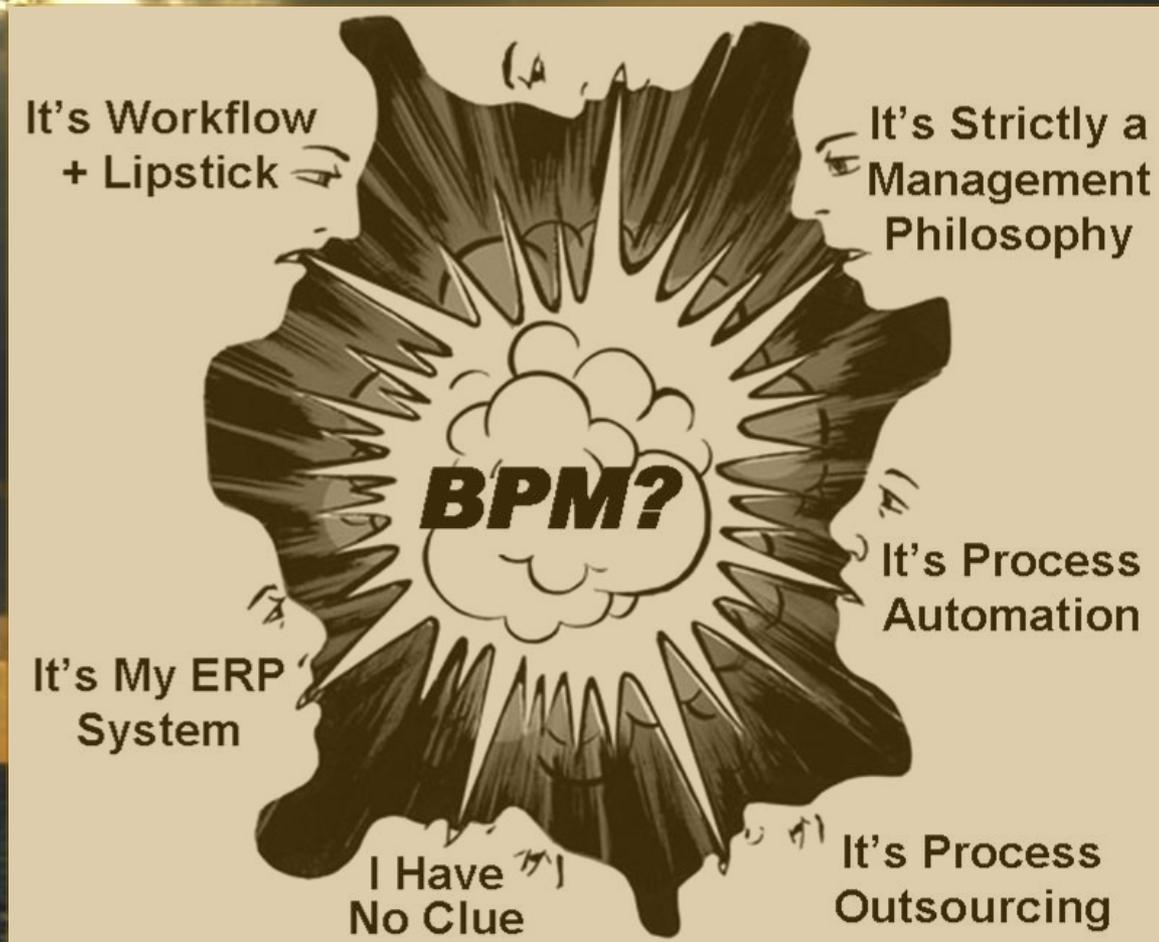
---

**Keith Harrison-Broninski**



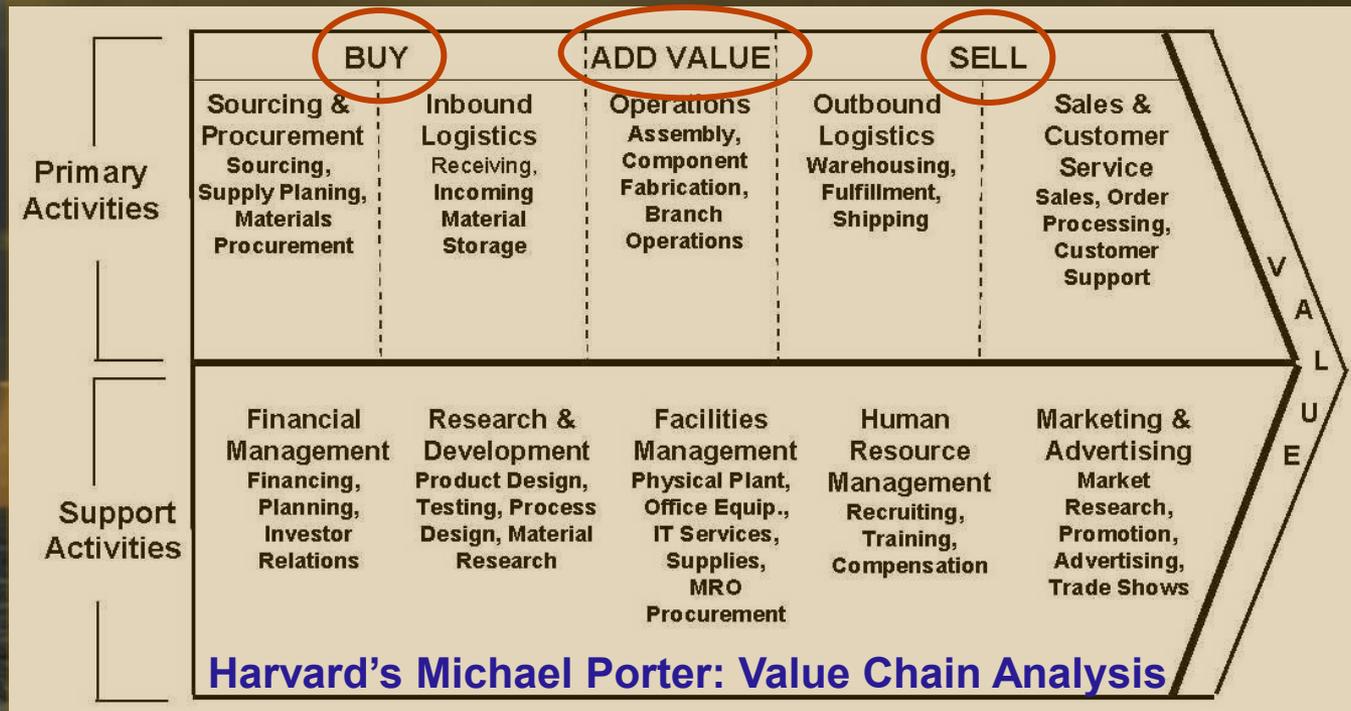
*He who uses this machine should be able to forget that it is machine.*  
—Antoine de Saint-Exupery, *Wind, Sand and Stars*, 1939.





## How Work Works in the Cloud

BPM is the Cornerstone of  
*Enterprise* Cloud Computing.



The days of the monolithic, vertically-integrated company, owning everything from raw materials to production to selling, ... are over!

SUPPLY  
CHAIN  
MGT.



TRADING  
PARTNERS'  
SYSTEMS

ERP  
SYSTEMS



HUMAN  
WORK



**END-TO-END** BUSINESS PROCESSES  
**BUSINESS PROCESS MANAGEMENT**



INVENTORY  
MGT.  
SYSTEM

HUMAN  
WORK

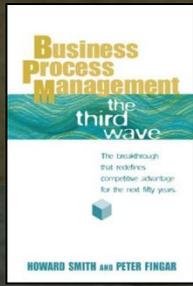


FULFILLMENT  
SYSTEM

ORDER  
MGT.  
SYSYEM



In short, business processes are *how work gets done*.



BPM vs. BPA



Programs,  
campaigns, initiatives

Situational Processes

Value to your customer

The Fourth Tier

Process-oriented systems (the fourth tier)

Dynamic customer-oriented processes

Collaboration

Custom processes



Collaboration

Real-time information integration and transaction support

SOA / Web Services

ERP

Supply chain management (SCM)

Financial management

Production management

Shipping and logistics

Sales force automation

MRO procurement

Inventory management

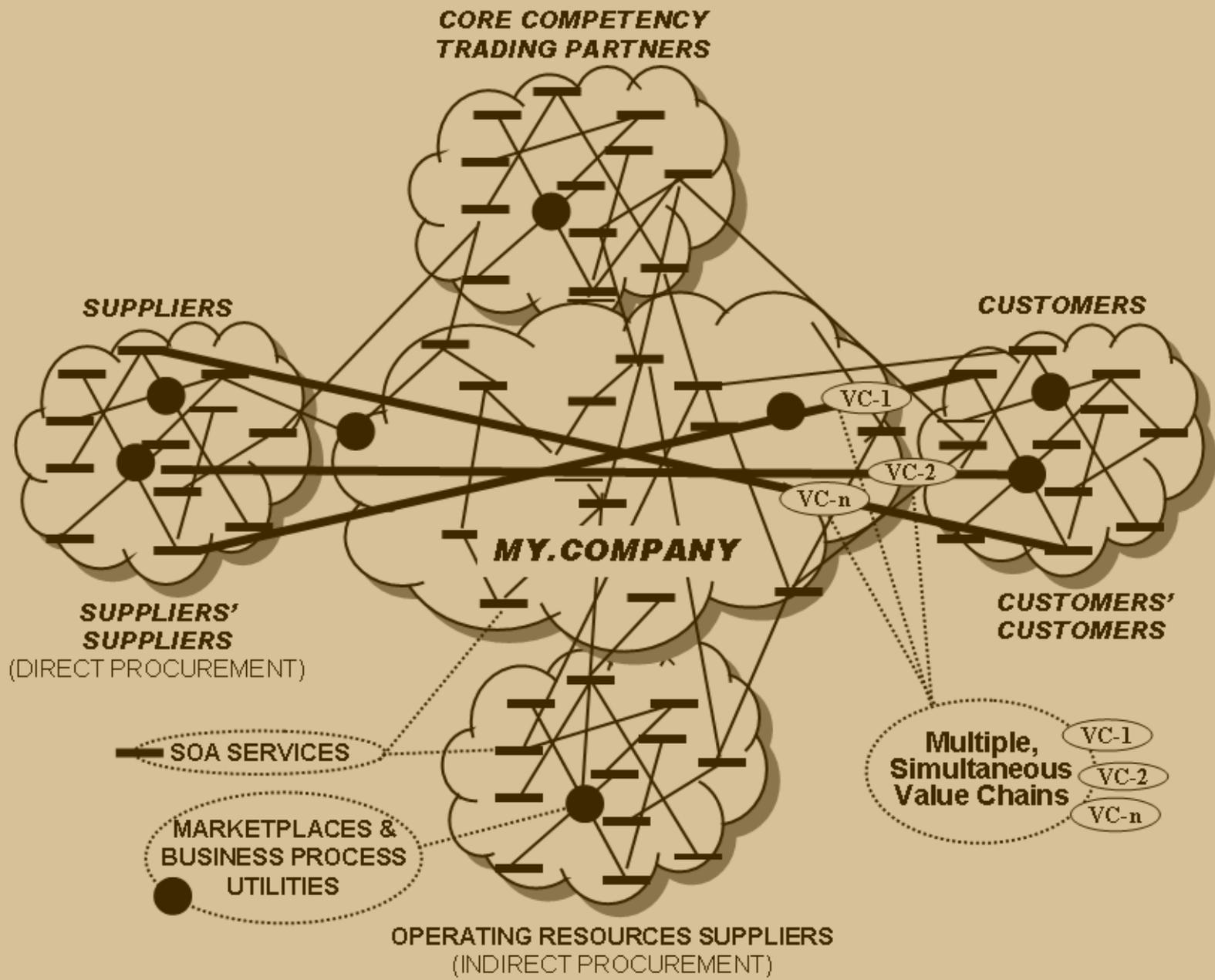
Asset management

Human resource management

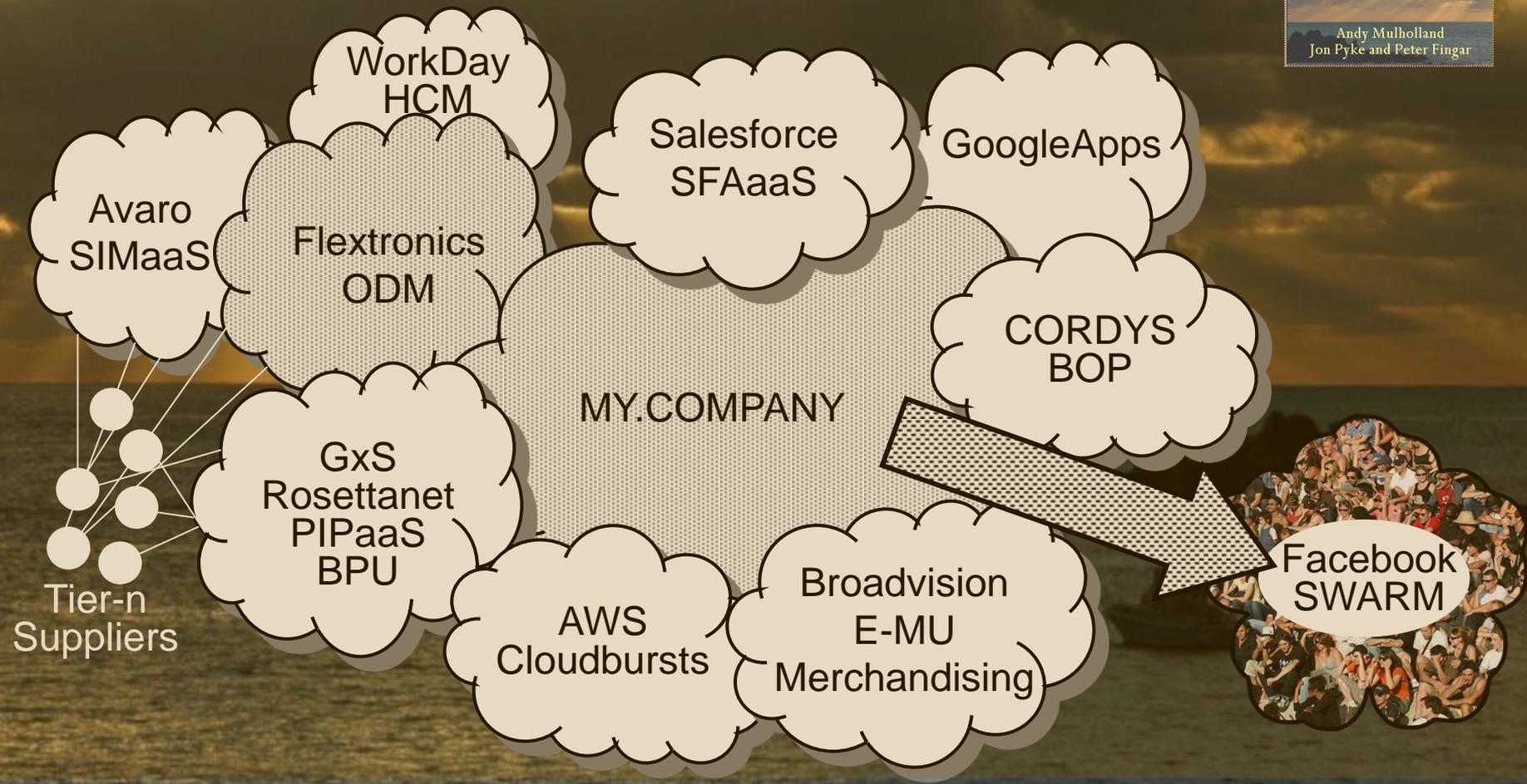
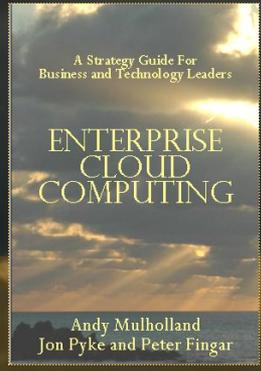
Legacy enterprise systems

Order management

External trading partners' systems



Where did Michael Porter's big fat arrow go?





**Business Operations Platform**  
**End-to-End Business Process Management**

The Only Thing Linear is the Goal!  
“Process on Demand” – Choreography  
Situational Business Processes

# Innovation in the Cloud



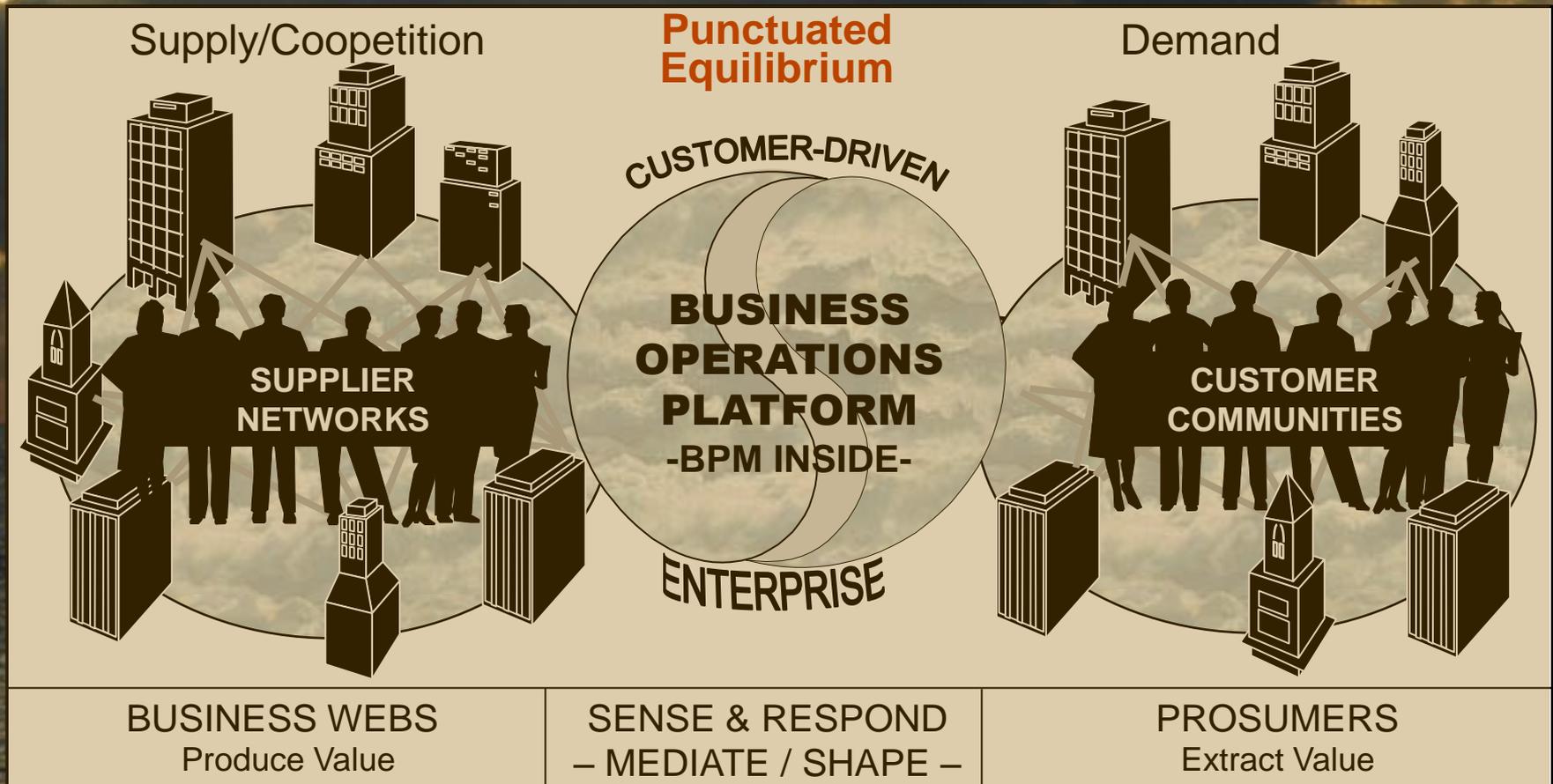


# Open Innovation

No longer can companies win the innovation arms race from the inside-out (internal R&D).

Instead they should turn the table to **outside-in innovation.**

# Customer-Driven Innovation



Your company will cease to be a seller and instead become a buyer for your customers.

# Customer-Driven Innovation



Great entrepreneurs launch their businesses based on *customer insights*.

In many cases *they* are frustrated customers.



## Creative Destruction

Joseph  
Schumpeter

Entrepreneurs innovate  
... not just by figuring out how to use *inventions*,  
but also by introducing new means of production,  
and new forms of organization.

You simply can't do these things without process innovation that  
enables process collaboration across the globe, in the Cloud.



Now the rate of change is *exponential*, and “process innovation” is its engine.

*"A remarkable book..." Warren Bennis*

---

# THE END OF MANAGEMENT

AND THE RISE OF ORGANIZATIONAL DEMOCRACY

---

KENNETH CLOKE & JOAN GOLDSMITH

And the rise of

High performance teams based on  
nature's most successful designs

# BIOTEAMS



Ken Thompson

If you are looking for the book that describes the  
radical new model for teams in today's world—this is it!  
—Toby Coppel, Managing Director of Yahoo! Europe

# Management Innovation

From Command-and-Control  
*To Connect-and-Collaborate*

*Transparency*  
*becomes the invisible hand of*  
*management control*





“In a process-managed enterprise,  
command-and-control leadership gives way to  
connect-and-collaborate,  
where every member of a business team is a ‘leader.’”

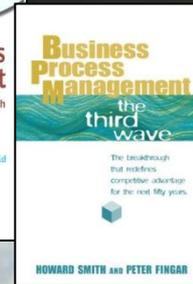
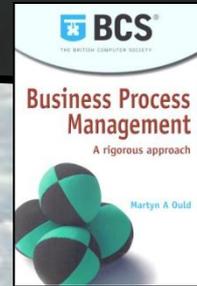
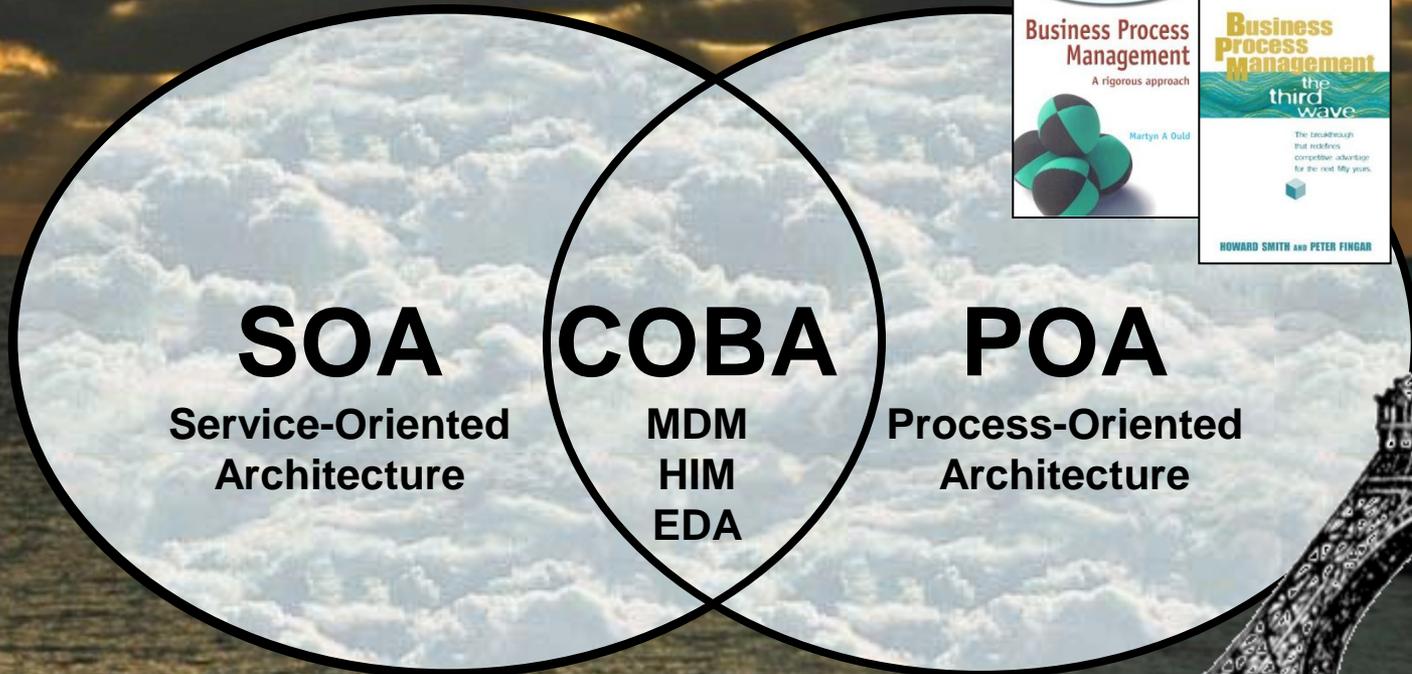


It's about acting on opportunities,  
and letting others lead the leader  
when they know best about getting stuff done."



In the Cloud,  
self-organizing, self-managed teams  
will swarm as complex adaptive systems  
to seize new opportunities  
in the brave new world of total global competition.

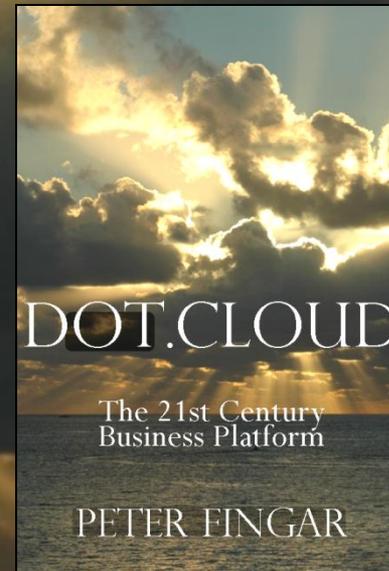
17 Action Items and  
One First Principle:  
**ARCHITECTURE!**



**Cloud-Oriented  
Business Architecture**

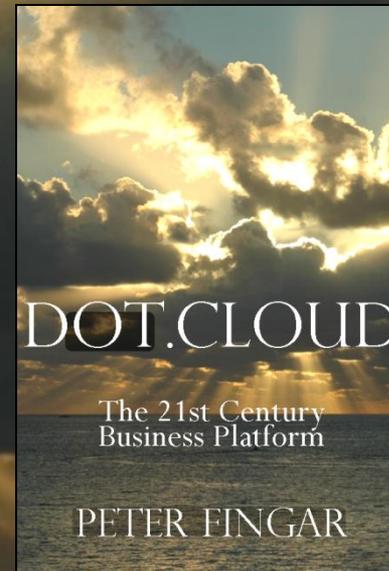


# 17 Action Items



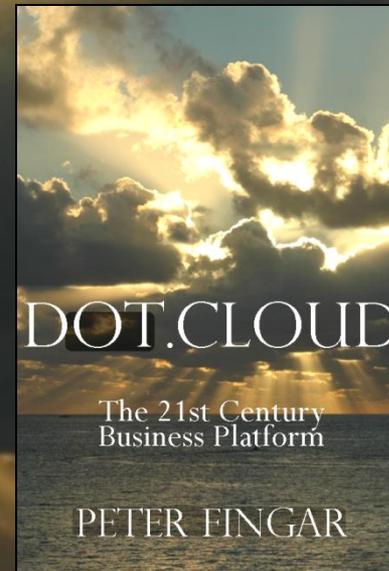
1. Innovate, from the **outside-in**.
2. Don't just reinvent your company, **reinvent your industry** or invent a new industry (iTunes).
3. When pursuing **emerging business opportunities**, start small, and set intervals for go, no-go check points.
4. When breaking new ground, **pay as you go, learn as you go**.
5. Use **Return on Opportunity (ROO)** calculations focused on benefits instead of traditional ROI calculations only.

# 17 Action Items



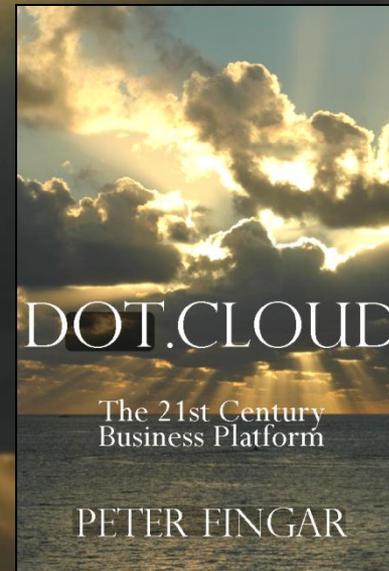
6. Tap the Cloud for **IT infrastructure investments** that otherwise couldn't be made to pursue emerging business opportunities.
7. Tap the **wisdom of crowds** for open innovation.
8. Replace functional management with **process management**.
9. Adopt business process management systems, but even more important, **become a process-managed enterprise**.
10. Adopt **service-oriented architectures**.

# 17 Action Items



11. Become a **service-oriented enterprise**.
12. Adopt **Web 2.0** tools and methods.
13. Utilize a **business operations platform** in the Cloud to support your entire multi-company value chains.
- 14. Fire your managers and employees; then rehire them as associates, as champions, as sponsors, as peers.**
15. Replace your command-and-control bureaucracies with self-organizing, self-managed **Bioteams**.

# 17 Action Items



16. Connect-and-collaborate using **human interaction management** methods and systems.
17. Become a **learning organization** to assure that your new way of doing business is assimilated throughout your workforce.



# 17 Action Items = Management Innovation

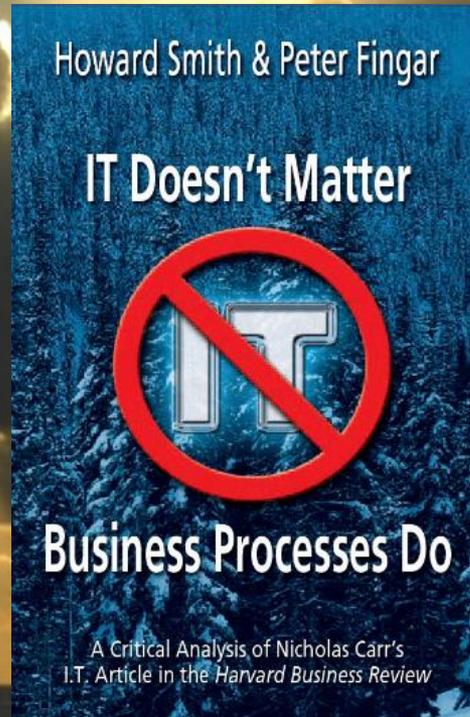
Although the Cloud enables radical change,  
the *culture* of the firm will determine the outcome.

Permission, risk tolerance, cultivating lots of small bets  
—these are some of the earmarks of a Cloud-oriented business culture.

Above all else, it's the customer that counts!

A dramatic sunset over the ocean. The sky is filled with dark, heavy clouds, with bright sunlight breaking through in several places, creating rays of light. The sun is low on the horizon, casting a golden glow. In the foreground, the ocean is dark with some ripples. A small boat is visible in the lower right, and a rocky island or reef is silhouetted against the horizon on the right side.

**Now you know.**



**The WOW isn't about ON-DEMAND IT,  
It's about  
ON-DEMAND BUSINESS INNOVATION**



Lead, follow, or get out of the way.

**Yesterday the Internet  
Today the Intercloud**



Adjiedj Bakas, Trendwatcher and author,  
*Beyond The Crisis: The Future of Capitalism*

“The Chinese word for ‘crisis’  
consists of two characters:  
‘danger’ and ‘opportunity’.  
Out of the ashes of the current economy  
a renewed one will arise.”



“The best way predict the future is to create it.”

—Peter Drucker



What can be done in the Cloud, will be done.

**Will you be the doer, or the one done in?**



Peter Fingar  
[www.peterfingar.com](http://www.peterfingar.com)  
[pfingar@acm.org](mailto:pfingar@acm.org)

*Thank you!*