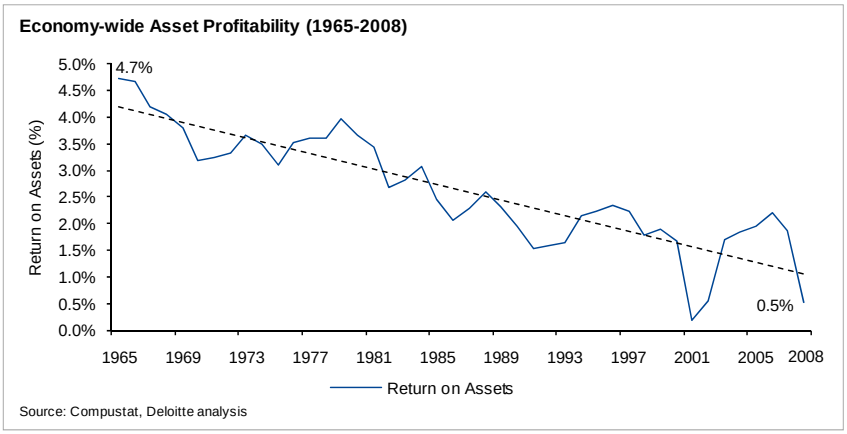
The Big Shift: the mutual coupling of two sets of disruptions – one in business & one in IT

ecosystems & cloud computing

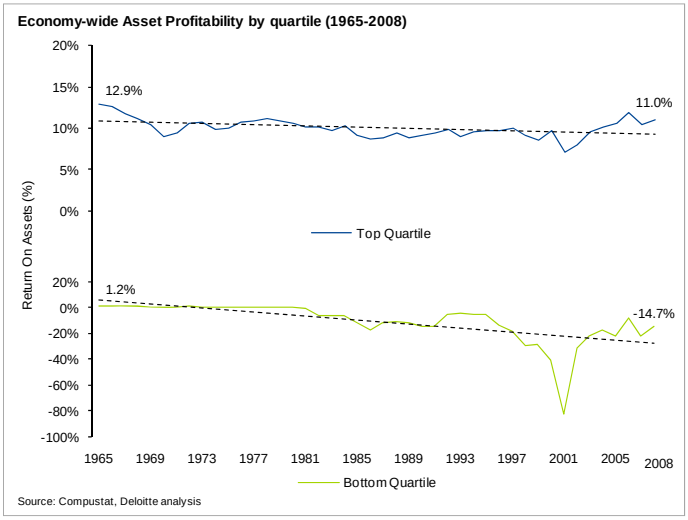
Our Business Context in 5 Astounding Graphs

or depressing graphs

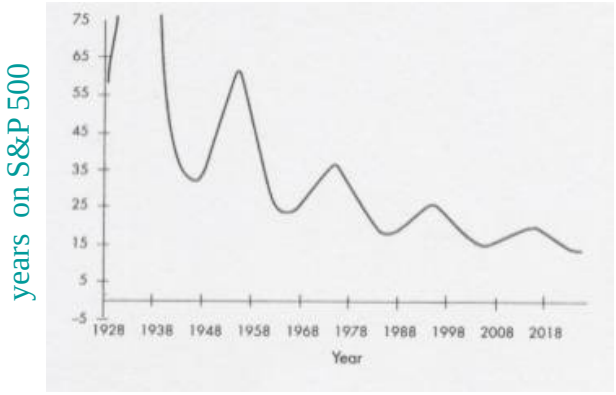
The return on assets (ROA) for U.S. firms has steadily fallen to almost one-quarter of 1965 levels



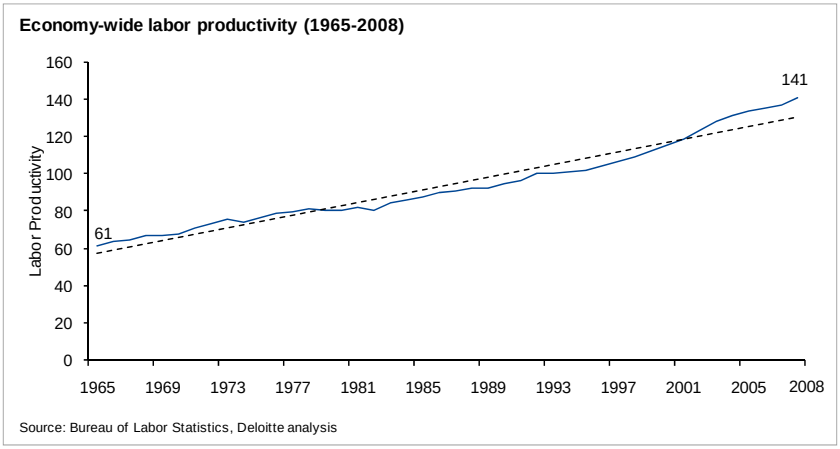
Similarly, the ROA performance gap between corporate winners and losers has increased over time, with the "winners" barely maintaining previous performance levels while the losers experience rapid performance deterioration



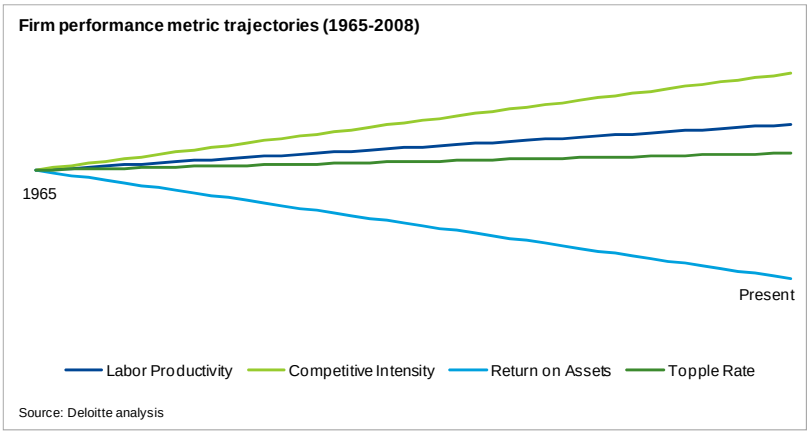
Average Lifetime of S&P 500 Companies



However, in those same 40 years, labor productivity has doubled – largely due to advances in technology and business innovation.



The performance paradox: ROA has dropped in the face of increasing labor productivity



But why is this happening??

A Partial Answer

- power has shifted to customer
- brand loyalty diminishing
- (global) competition increasing
- creative talent is grabbing more of the rent

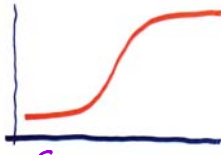
But I thought you implied there was something more fundamental, more deep structural going on, jsb.

20th Century Era Captured by Alfred Chandler

Push Economy

20th century infrastructure
roads/cars/trucks/trains/ships/airplanes

Scalable Efficiency becomes the goal.



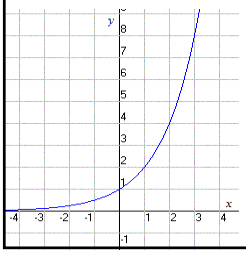
S-curve
stable over decades.
(Few real changes in 60 years)

- predictable
- hierarchy
- control
- organizational routines
- minimize variance

Organization Architectures leverage the properties of Global Infrastructure Architectures

And stable transportation infrastructures => Chandlerian firms that focused on *scalable efficiency*

But the 21st C infrastructure driven by the continual exponential advances of computation, storage & bandwidth, with no stability in sight, has consequence!!



Then, what does this say about the need for new organizational architectures & institutional innovations?

For example:
in a world of increasingly rapid change,
the half life of a given stock/skill is constantly shrinking
& the predictability of future needs is increasingly less certain!

Stocks =====> Flows

(of K assets, including IP) protecting, teaching predetermined curriculum

(of knowledge) participating, learning on demand

wow, are knowledge flows the new normal?

The Big Shift

Push	→	Pull
Stable Environments (predictable/forecast-able)	→	Dynamic Environments (Unpredictable)
Knowledge Stocks (manage/protect)	→	New Knowledge Flows (participate in)
Knowledge Capture (knowledge management)	→	Knowledge Creation
Explicit Knowledge	→	Tacit Knowledge
Transactions	→	Relationships
Zero Sum	→	Positive Sum Mindsets
Institutions driven by scalable efficiency	→	Institutions driven by scalable peer learning

Key is how to participate in knowledge flows especially on edges (firm/industry/region/gen Y,..)

Supporting & leveraging knowledge flows
(social media & relational thinking to the rescue)

social media as a new kind of scalable architecture for scalable learning.

Skadden

The Skadden Story

Supporting Users Across Generations

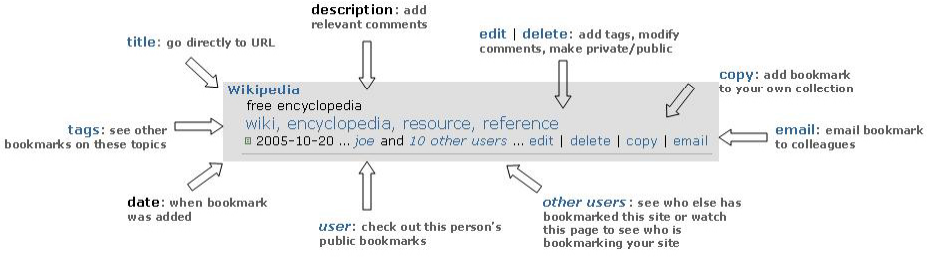
Learning from the Twitter/FB generation.

Peter E. Lesser
Director of Global Technology
Skadden, Arps, Slate Meagher & Flom LLP
peter.lesser@skadden.com

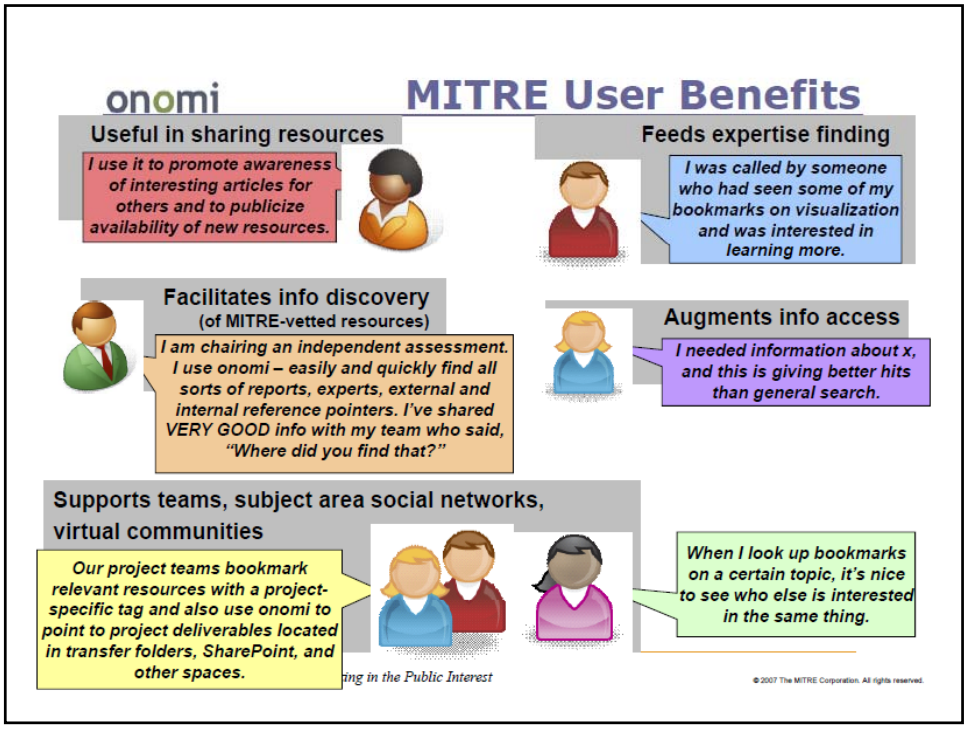
Social Bookmarking

Extending traditional public bookmarking:

- User-specified metadata
- Ability to add descriptions and comments
- No hierarchical structure – retrievable via tag search
- Centrally stored-accessible from any browser
- Shareable with others



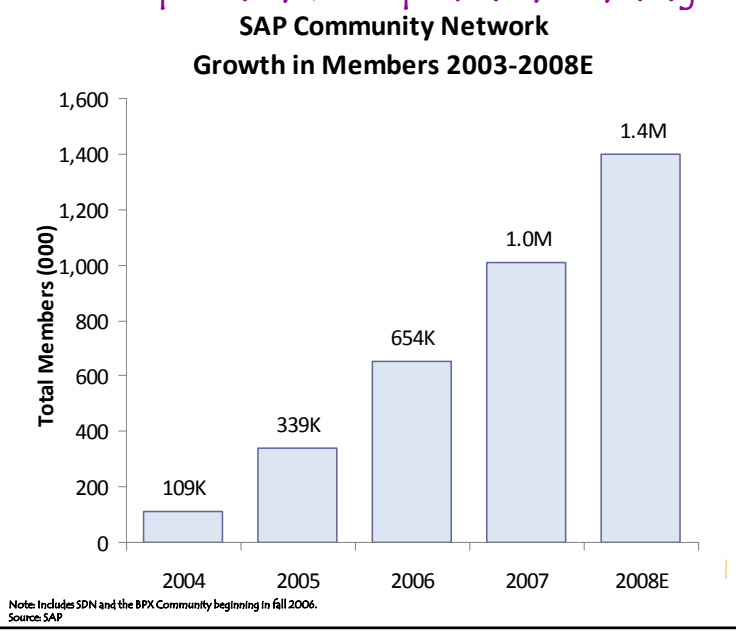
Onomi – Mitre Corporation



SAP wants to accelerate customer inspired enhances of NetWeaver

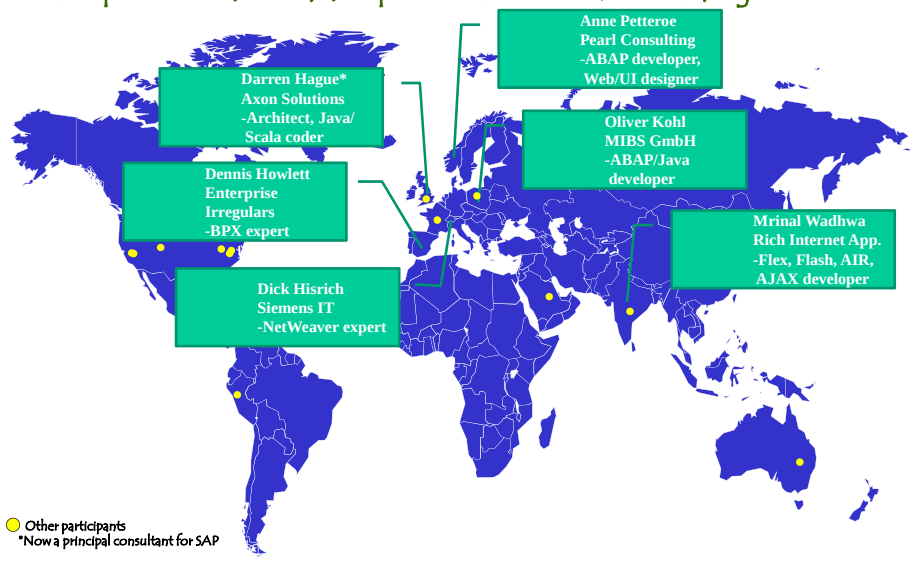
SAP Developer Network (SDN) was created as a learning platform and as an environment to foster interaction through forums, wikis & blogs in 2002

SAP Community Network's scale and richness have potential for Exponential Learning



An Enterprise Twitter solution emerged from the SAP Community Network

Enterprise Social Media Experiment (ESME) Founding Members



Mastering the art of participating in flows
helps you stay current in a world of flux
and in that sense learn faster –
but

can't you do much
more than just that?

Creation Spaces *qua* Institutional & technological Platforms –

environments that effectively integrate
individuals and teams
within a broader learning ecology
to engage in challenging problems
so that performance improvement accelerates
as more participants join.

Open Source as a Participatory Learning Platform

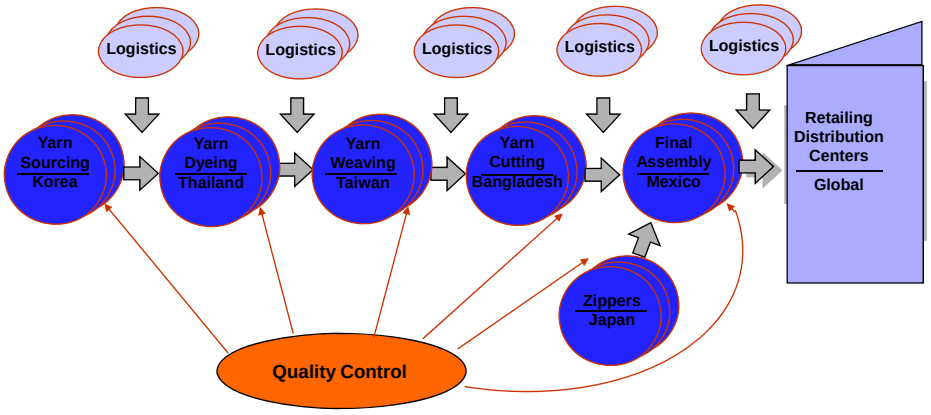
The Open Source Movements:

- writing code to be read
- engagement thru useful additions
- social capital matters

Each OS community has a constitution, dispute resolution mechanisms, culture, …

open code, open system, open community discussion

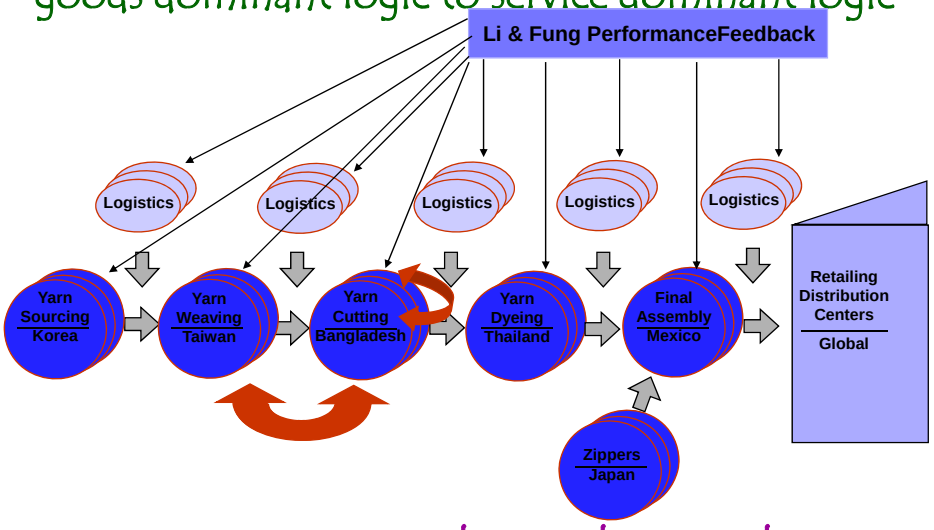
Li & Fung – Process Orchestrator



10,000 suppliers
48 countries
ROE 30 to 50% & one million$/employee

Li & Fung – orchestration

Learning, bootstrapping skills & knowledge creation
goods dominant logic to service dominant logic



Key: 30/30 Relational Principle

The Big Shift in IT

(from enterprise systems to clouds)
is precisely what is needed
to support:

- unpredictable scaling needs
- distributed creation spaces/platforms
- rapid experimentation
- innovation on the edge

20th Century: Push Economy – Stocks

Infrastructure of roads/trucks/trains/ships/airplanes & ERP

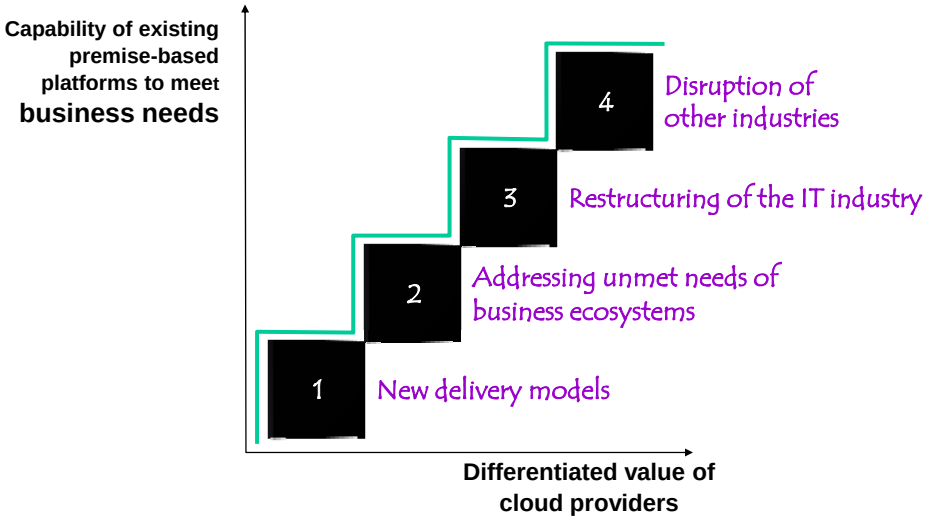
Big Shift

21st Century: Pull Economy – Flows

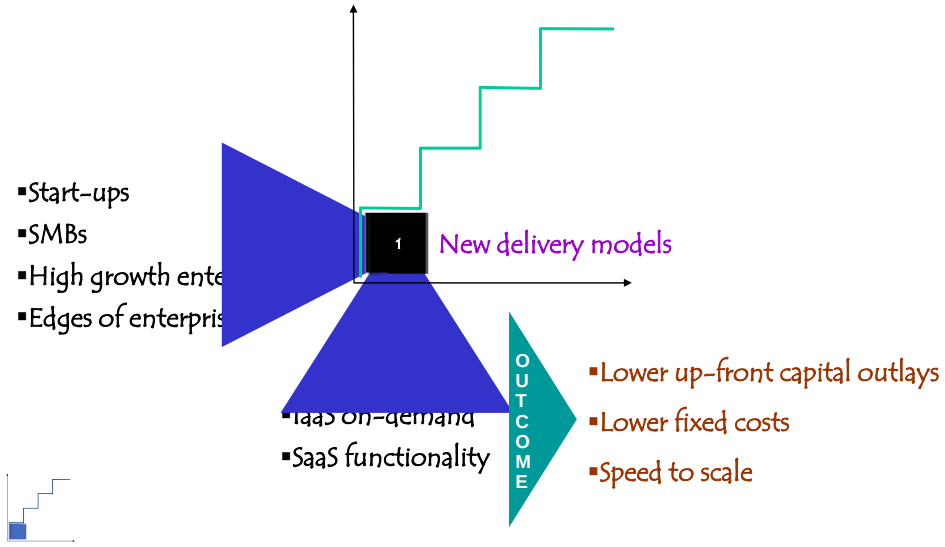
Cloud Architectures & providers

21st century firms/producers

Drivers for change will catalyze four fundamental disruptions



The customer segments benefiting most from this disruption are typically cash-strapped, growing rapidly, and lack on-premise support

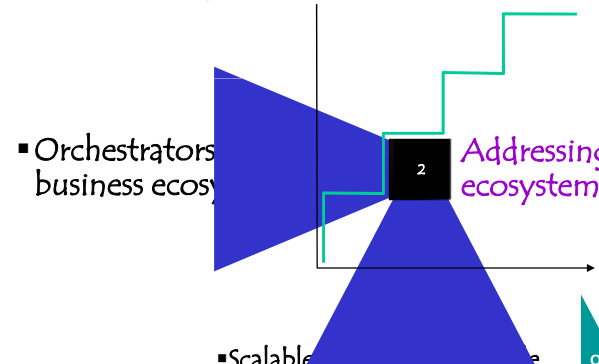


Amazon's Cloud and web services (AWS) creates an ecosystem that enables startups to get going fast and scale quickly.

Animoto startup –
(personal MTVs)
went viral one day on Facebook:
scaled from 50 servers to 5000 servers
in just about a day
on the Amazon Cloud

Examples of SaaS services built on AWS, Google AppEngine and Force.com

A wave of lead companies are emerging that orchestrate complex extended business process across large diverse ecosystems of participants



- Orchestrators
  business ecosy

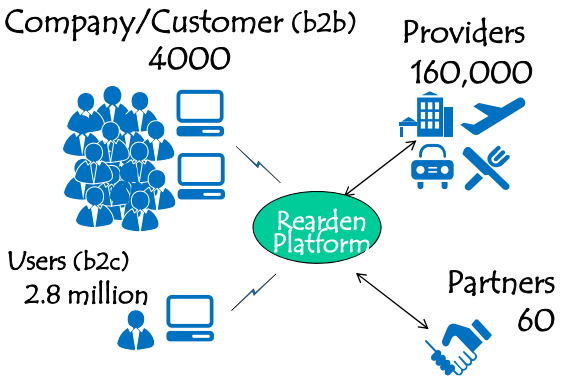
Addressing unmet needs of business ecosystems

- Scalable
  by multiple parties
- Security and SLA enforcement capabilities
- Enterprise ready capability

OUTCOME

- Ability to scale diverse networks
- Ability to facilitate complex, long-lived transactions

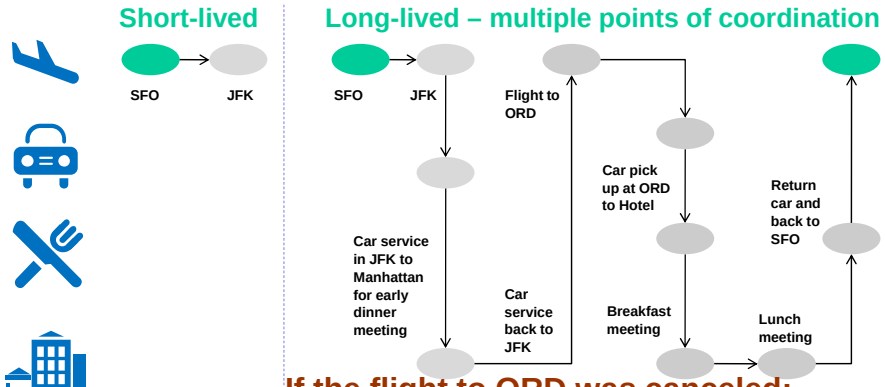
Rearden Commerce is an orchestrator that needed to transform their architecture to meet business needs



Original shortcomings:

- Current architecture unable to support customer's policy
- No standard way of incorporating vendors into platform
- No way to maintain context of an interaction

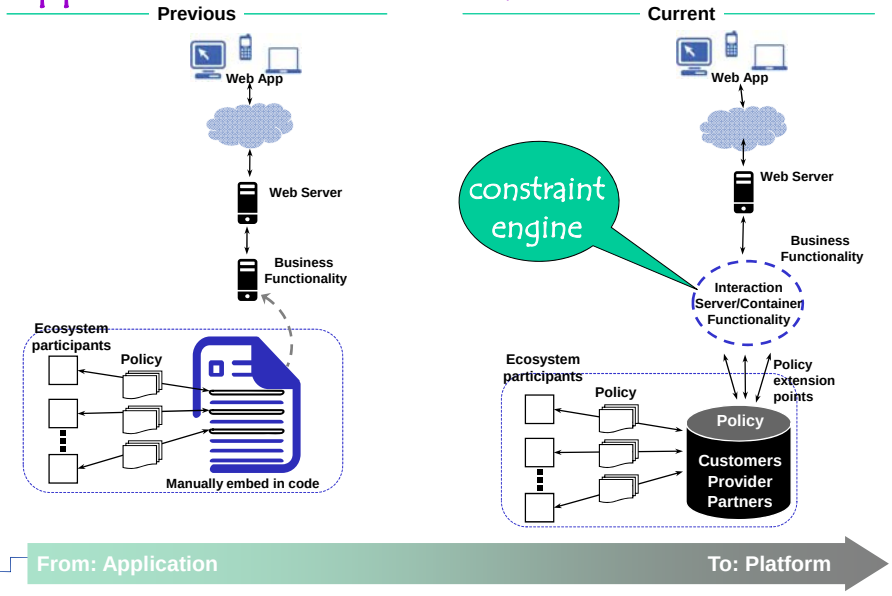
A typical scenario of a travel itinerary illustrates some of the challenges an orchestrator faces



If the flight to ORD was canceled:

- **Car service to airport from restaurant needs to be canceled**
- **Flight to ORD must be rebooked for the next day**
- **Hotel reservation in Chicago must be canceled**
- **Restaurant reservation for breakfast in Chicago must be canceled**
- **New hotel reservation in NY must be made**

Rearden adopted a policy-based, outside-in approach to transformed their architecture

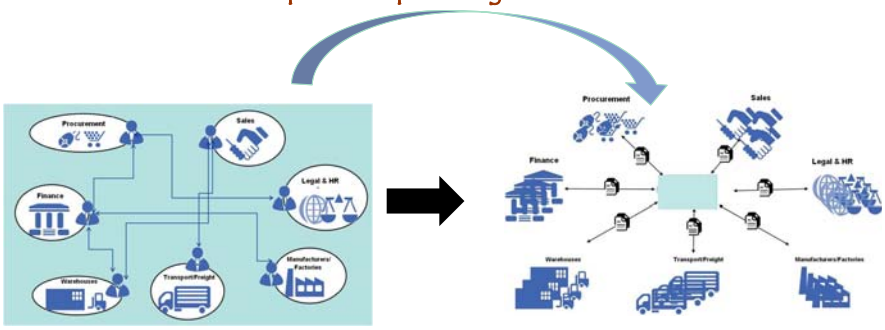


Outside-In approach provides the necessary flexibility required of cloud computing architectures to support a large number of participants

	Architectural style today: Inside-Out	Architectural style to address unmet needs of orchestrators: Outside-In
Control	One control point	Autonomous entities
Resources	Heterogeneous	Heterogeneous squared
Transactions	Fine grained Short-lived	Coarse grained Long-lived
Completion	Optimistic	Pessimistic

As enterprises focus more on orchestration, outside-in architecture will be needed to support ecosystem participation

Enterprises expanding business networks



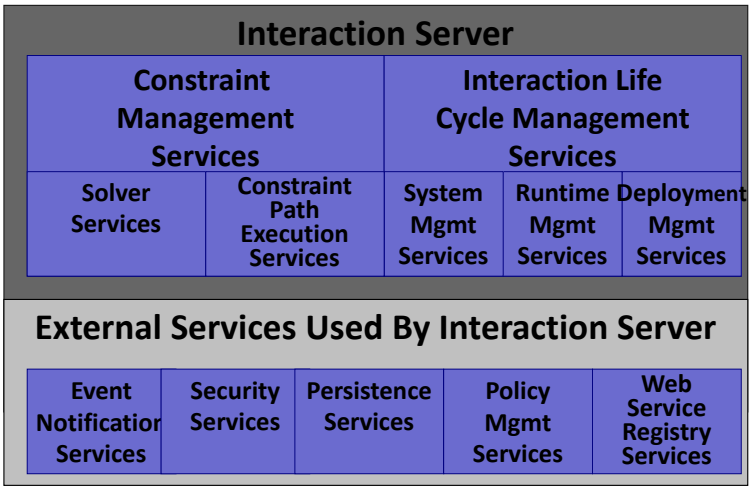
From: Enterprise To: Ecosystem

beyond hub and spoke

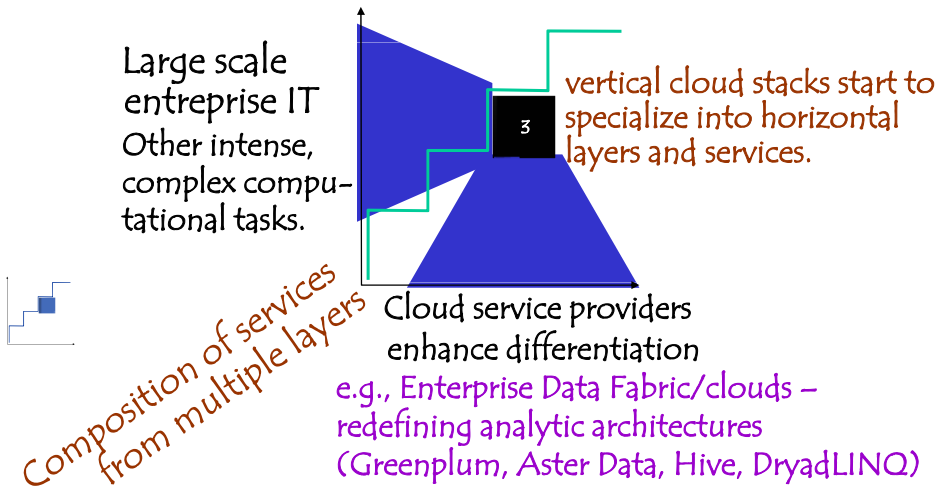
Need For Scalable Workflow

- Multiparty interactions, with N large
  - Workflows must be structured to accommodate multiple ways to accomplish business goals so that unique party-specific implementations are not necessary
- Control-oriented (EAI-styled) flow will not scale
  - Specifics of enterprise platform implementations need to stay within the enterprise
  - *BUT* business policies must be factored out and made explicit
  - Business policy buried deep in an enterprise system, or implied in the edge of a directed graph, restricts reusability
- Externalized policy enables loosely coupled, policy informed Interactions

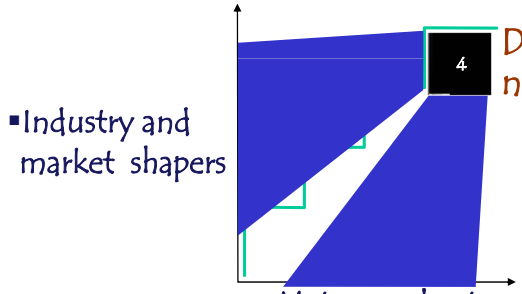
Interaction Server Component View



In wave 3, emerging demands of complex ecosystems & large scale enterprises lead to specialized, federated cloud infrastructural services



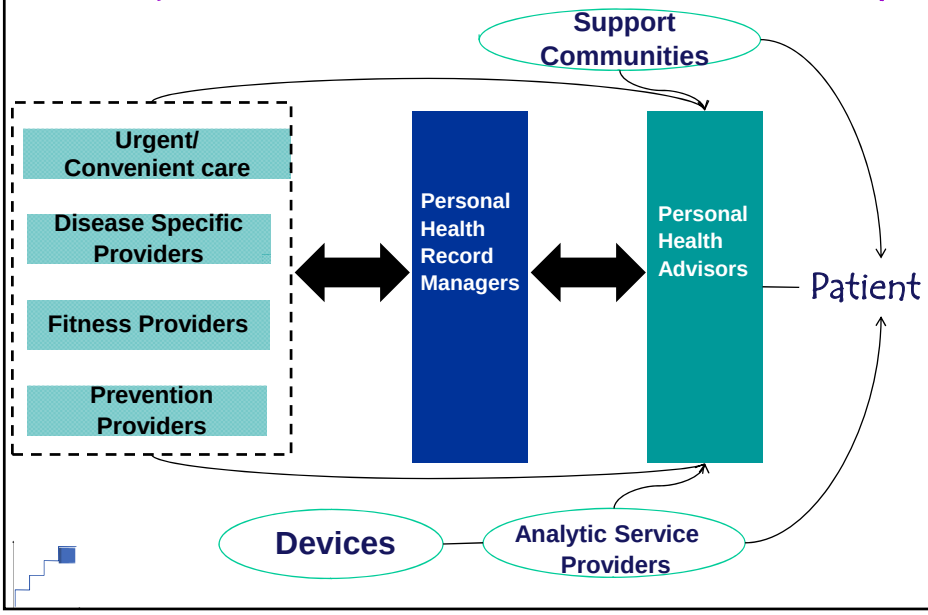
In wave 4, industry specific cloud solutions will emerge to address specific needs



Disruption of non IT industries

- Industry and market shapers
- Mature, robust enterprise architecture
- Interoperability
- Collaboration platforms
- Leveraging scale and scope

The impact of Cloud Computing has the ability to disrupt the structure of the healthcare industry

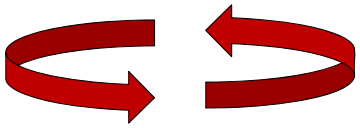


A rapidly evolving co-evolution between emerging digital infrastructures & it's industry structure

and

the structure and form of enterprises & business ecosystems more generally.

Cloud Architectures & providers



21st century firms/producers

Wow – this is a different world.

Thank You

And special thanks to
John Hagel & Tom Winans
Deloitte's Center for Edge
Shift Index & Cloud Teams – Deloitte COE