MANAGEMENT INNOVATION SIGNALS AND TRENDS

Doug Reeder

Sr. Director of Innovation, Office of the CTO
NTT DATA Services
University of Texas at Dallas Innovation & Technology Summit 2017

@DougReeder

Management Innovation

Management innovation refers to the way organizations engage resources to enhance performance and achieve superior outcomes.

Examples

Resource models


Reward structures
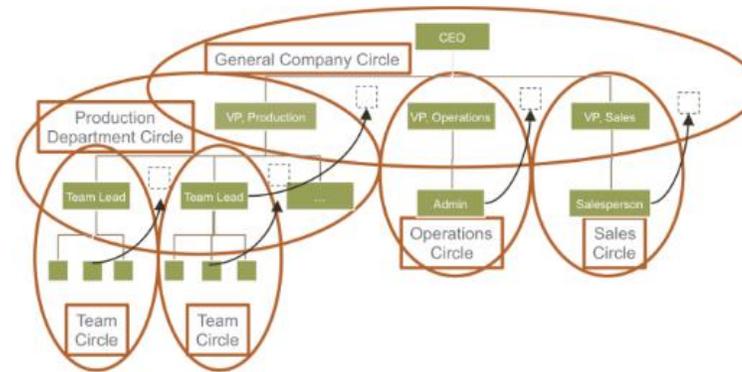
Organizational Models

Collaboration/ Autonomy

NTT DaTa

Foundational views and resources

© 2016 NTT DATA, Inc.

NTT DATA
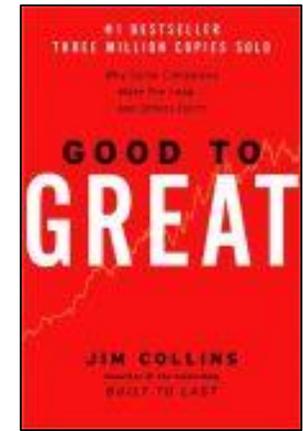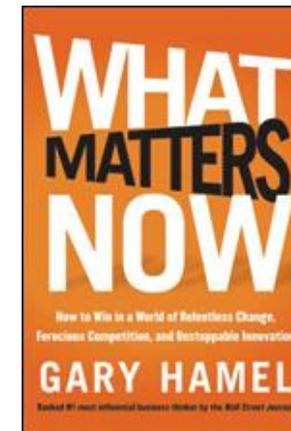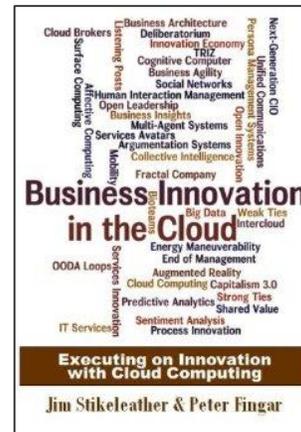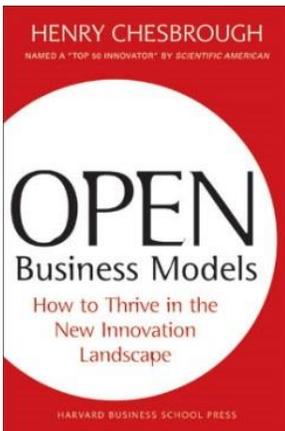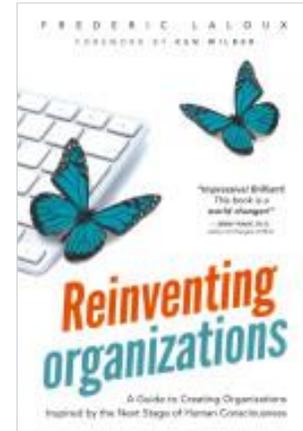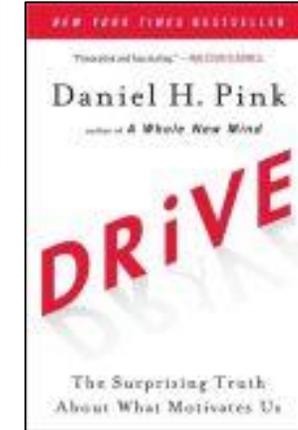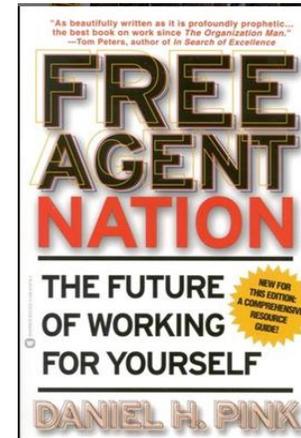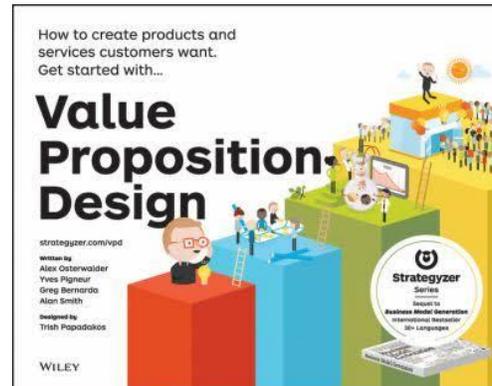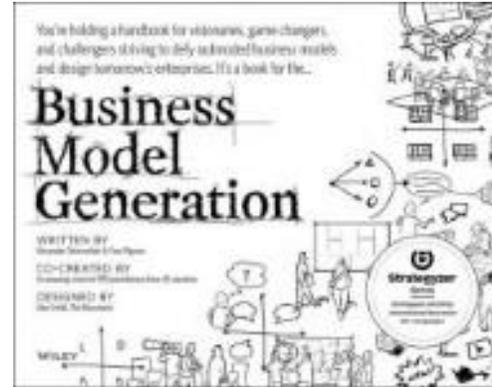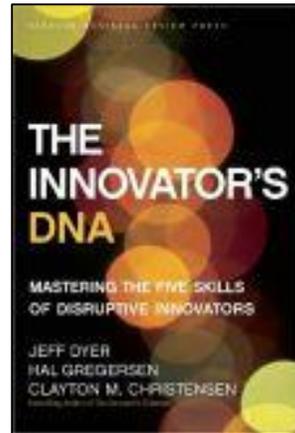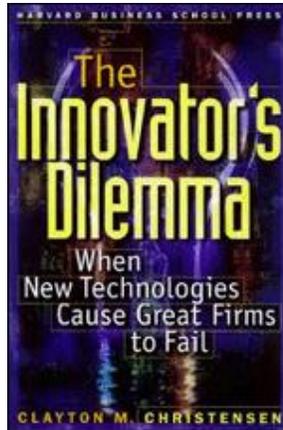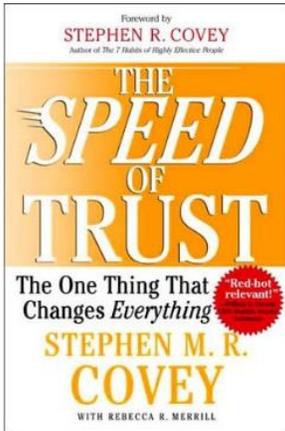
What Motivates us
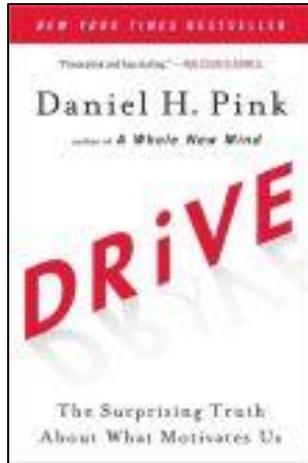
Autonomy
- Desire to be self-directed
- Management is great for compliance, but not engagement

Mastery
- Urge to get better at stuff

Purpose
- More than profits – Making the world a better place

NTT DATA

Beyond Bring Your Own "X"

Yesteryear:

- BYOD – Bring Your Own Device

Today:

- BYOx – BYOT – Bring Your Own Technology, BYOA – Application, BYOI – Infrastructure, BYOC – Cloud, BYOP – Process, etc.

Emerging:

- SYOG - Set Your Own Goals
- DYOJ - Design Your Own Job
- PYOC - Pick Your Own Colleagues
- AYOE - Approve Your Own Expenses
- CYOB - Choose Your Own Boss

See: *The Dawn of Distributed Leadership* by Gary Hamel, June 24, 2014
http://www.mixhackathon.org/hackathon/contribution/dawn-distributed-leadership

NTT DaTa

Key tenets of Innovation

Implementing new ideas that create value.

Business Models

Management

Products and Services

Marketing

Processes

New ideas + Forward-thinking + Feasible + Viable + Valuable

NTT DATA

Innovation is not invention

Innovation is the process that takes new ideas and implements them in a way that creates value by solving unmet needs.

Invention is the process of taking capital and turning it into knowledge.

Innovation is the process of taking knowledge and turning it back into capital.

NTT DaTa

What innovation seeks to achieve

Efficiency

- Speed – Typically short cycle times

Efficacy

- Quality – Higher first-pass yield, increased durability, improved fidelity, etc.

Uniqueness

- Competitive separation

NTT DaTa

Looking at possible futures

The Futures Cone

Wild Card

Scenario

Probable

Preferable

Possible

Plausible

Today

Time
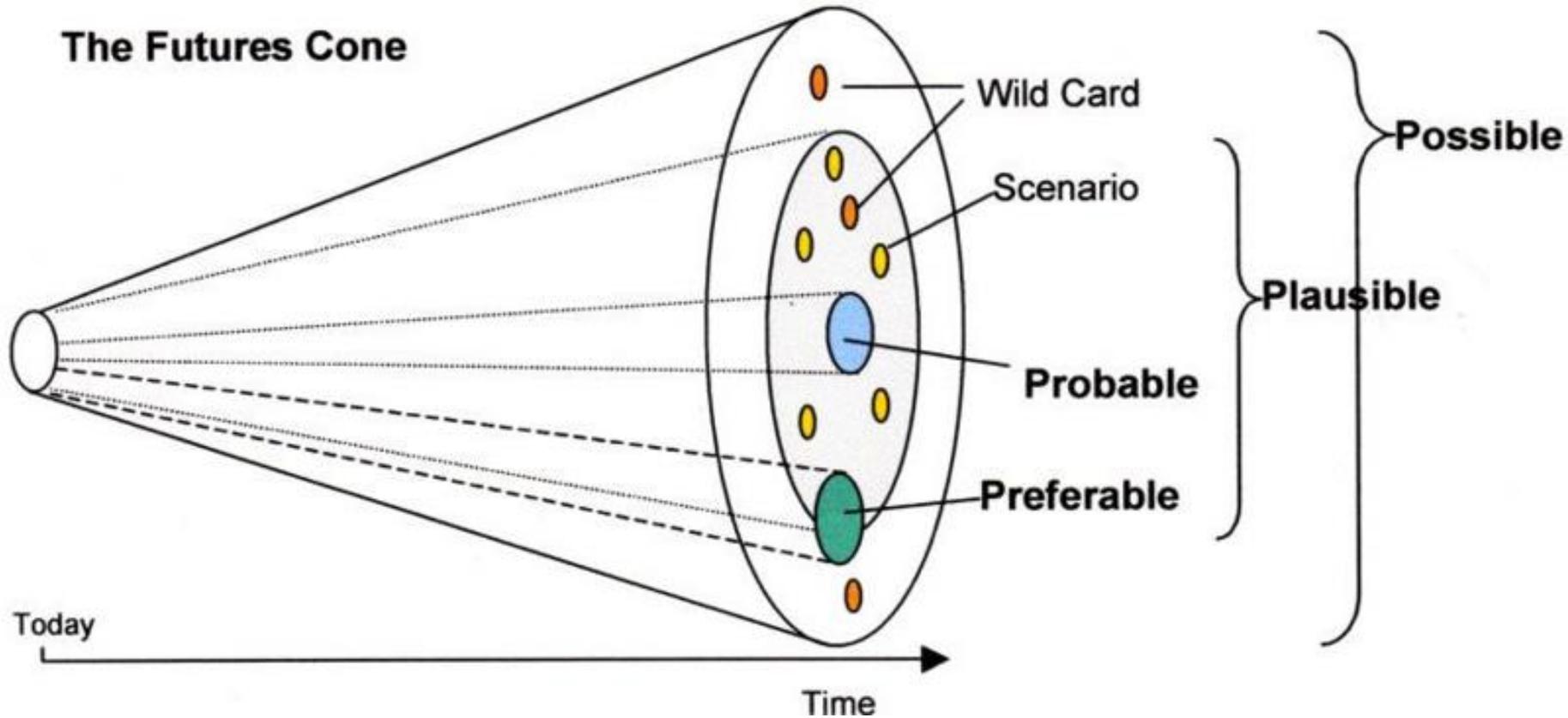
The future is not predetermined or predictable and future outcomes can be influenced by our choices in the present.

- Adapted from "The Three 'Laws' of Futures" by Ray Amara, 1981

Prediction attempts to determine precise futures.
Foresight allows for ambiguity in possible futures.

Source: Joseph Voros, A generic foresight process framework (2003)

NTT DATA

# Strategic Foresight Framework: PESTLED

Looking outside and anticipating change

Demographics cohorts, generations, frameworks, tribes

Environmental - customer expectations, carbon, infrastructure, etc.

Legislative/Legal - employment rules, contracts, privacy and consumer protection laws, corporate governance, etc.

Technology - examined in terms of its usage patterns, potentials and possibilities. Actual technology forecasts are handled in Insight
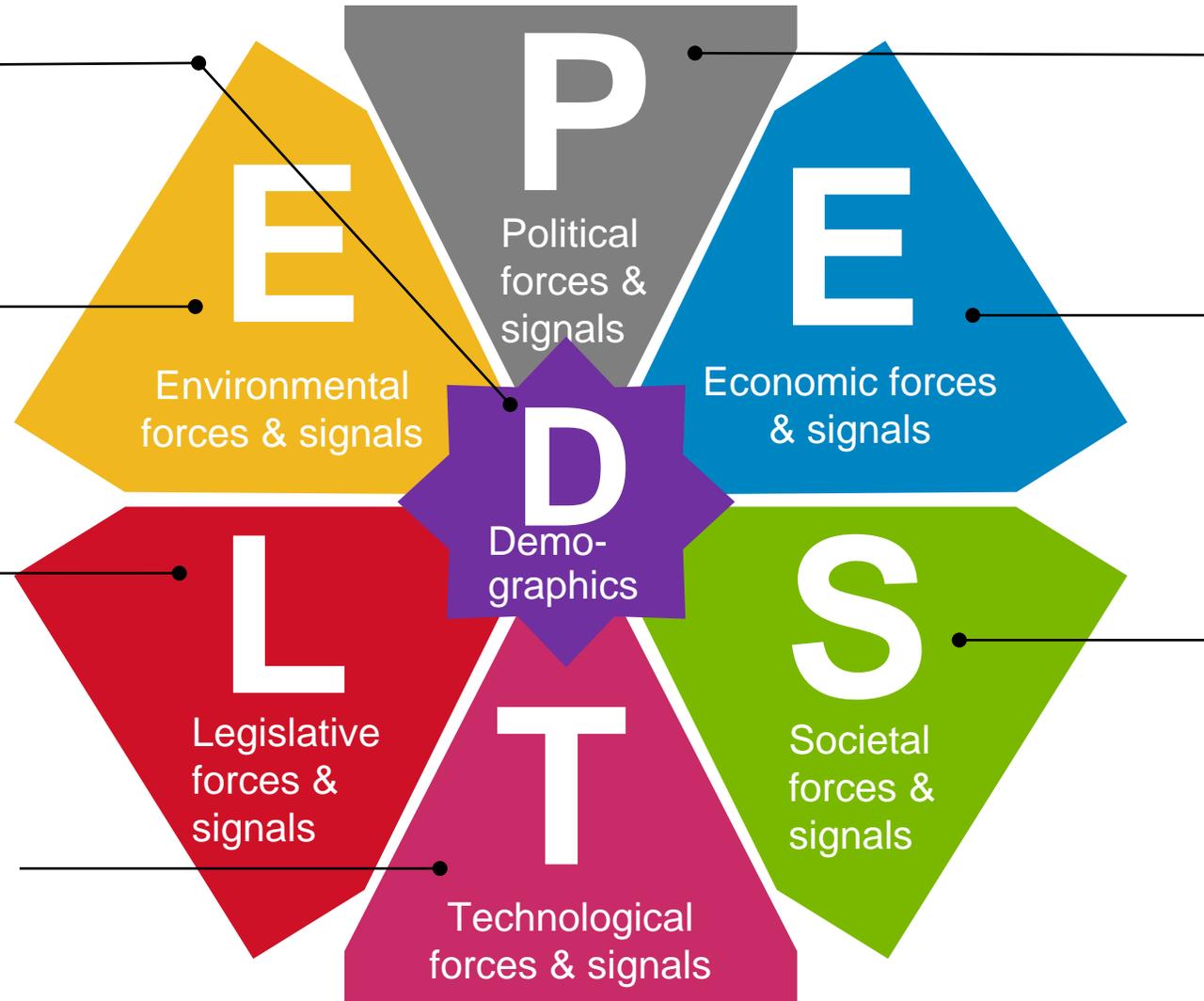
Political - trade rules, competitive rules, stability, openness, freedom, etc.

Economic - growth, finance rates, investment, employment, etc.

Societal - risk tolerance, familial ties, mobility, lifestyle, priorities, attitudes, etc.

P Political forces & signals

E Economic forces & signals

E Environmental forces & signals

D Demo-graphics

S Societal forces & signals

L Legislative forces & signals

T Technological forces & signals

NTT DaTa

A small sample of current trends & technologies

Artificial Intelligence

Freelance economy & Hollywood Model

Risk & security management

An Old Workforce, a New Workforce

Prescriptive Analytics

Local Manufacturing; 3D & 4D Printing

Crowdfunding & Peer-to-Peer lending

Internet of Things

Learning styles & knowledge transfer

Smart everything

Advanced Robotics

Dynamic pricing

Digital World

Open innovation & Crowdsourcing

Sustainability

Robotic Process Automation

Urbanization

Cryptocurrencies & Distributed Ledger

Utility computing

Augmented reality

Advanced genomics

Pervasive simplification of use

Consumerization

Intelligent Assistants

Perfect Information

User Experience

NTT DaTa

New view of the enterprise

Socially-enabled enterprise operating in a **digital business ecosystem**

- Increased collaboration among business partners

- Organizations are experimenting with a variety of **"Rapid resource reconfiguration models"**

- Experimentation with new approaches to labor beyond staff augmentation and traditional outsourcing:

Management

Business Challenge Solutions
- Hollywood Model
- Hackathons
- Crowdsourcing
- Microwork

Organizational Models
- Flat organizations
- Holacracy
- Expert Ecosystems
- Networked Organizations

Workplace & Work styles
- Open Allocation
- Self-Selection
- Internal Mobility
- Transparent Organizations

NTT DATA

# Alternatives to full-time employees in specific roles

Sharing economy

An old workforce, a new workforce

Learning styles & knowledge transfer

Traditional Full-Time Employees

- Interns
- Fractal CxOs
- Contingent Workers
- Outsource Personnel
- Independent contractors
- Alumni & Ramp-down Retirees
- Crowd-sourcing
- Dynamic Bench
- Microwork
- Teams & Clusters
- Open Allocation
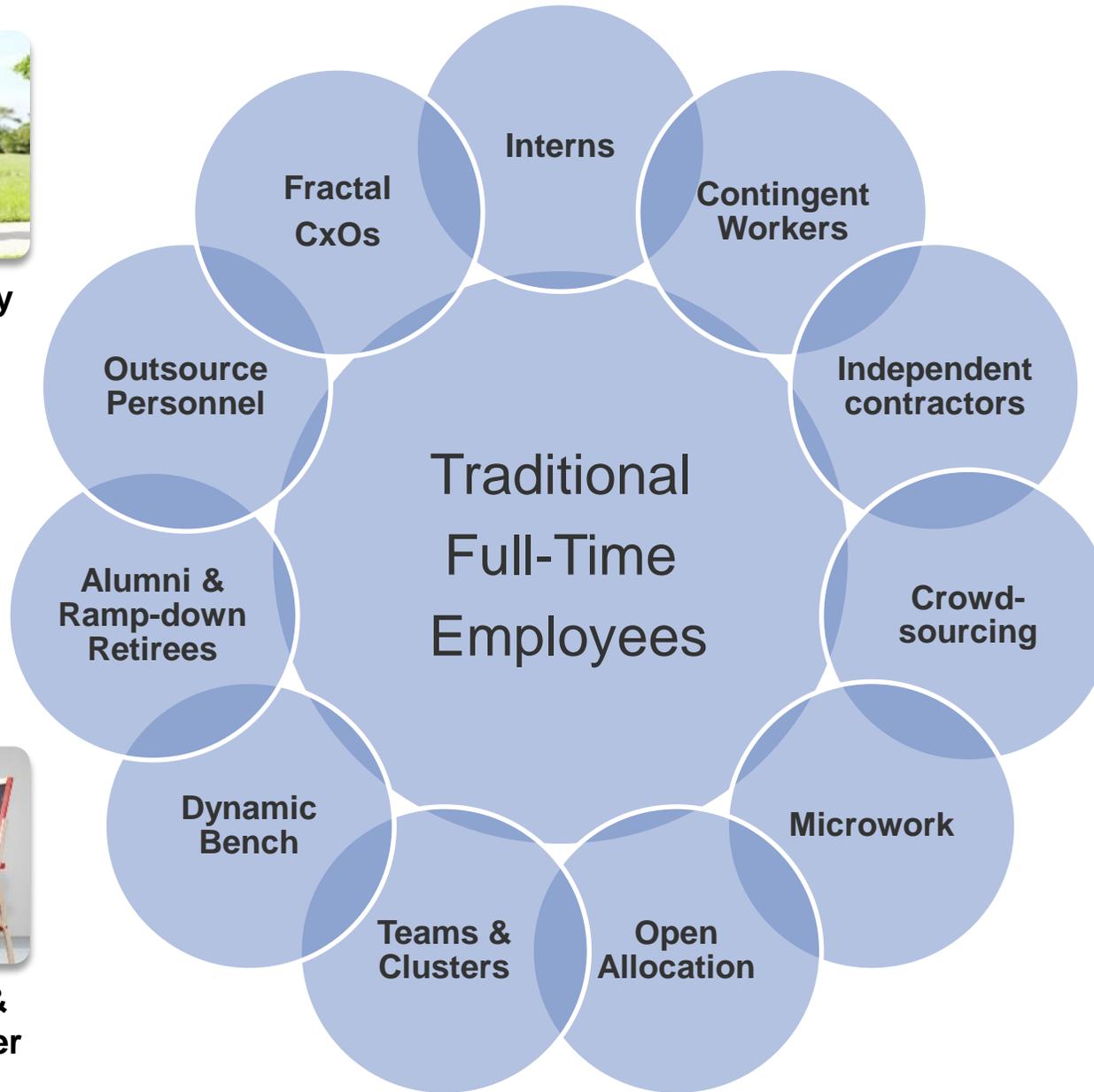
Freelance economy & Hollywood Model

Open innovation & Crowdsourcing

Reputation economy

NTT DaTa

Freelance Economy & the Hollywood Model

FREE AGENT NATION — THE FUTURE OF WORKING FOR YOURSELF — DANIEL H. PINK

Contractors Independent Professional Freelancers Contractor On-Call Micropreneurs Home-Based e-lancers Solo Soloists SoleProprietors Self-Employed Consultant PermaTemps Infopreneurs Interim KnowledgeWorkers e-Lancers Temps Part-Time FreeAgents
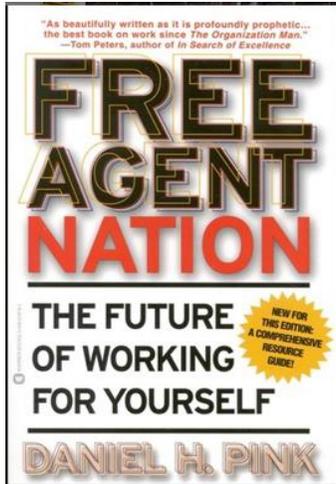
Hollywood Model
Only the "producer" remains with the project from start to finish. Others come and go as skills are required.

APPIRIO
[topcoder]™

Manpower®

Maven
Faster Insights. Smarter Decisions.®

NTT DATA

Freelance Economy & Hollywood Model

Freelance economy & Hollywood Model

"A **freelance economy** revolves around hiring self-employed workers to undertake specific, short-term jobs in return for an agreed upon wage. These jobs typically are too small or infrequent to hire a full time employee or would be too expensive to contract out to another firm." [1]

Hollywood Model – "A project is identified; a team is assembled; it works together for precisely as long as is needed to complete the task; then the team disbands. This short-term, project-based business structure is an alternative to the corporate model, in which capital is spent up front to build a business, which then hires workers for long-term, open-ended jobs that can last for years, even a lifetime." [2]

1 http://www.investopedia.com/terms/f/freelance-economy.asp
2 http://www.nytimes.com/2015/05/10/magazine/what-hollywood-can-teach-us-about-the-future-of-work.html?_r=0
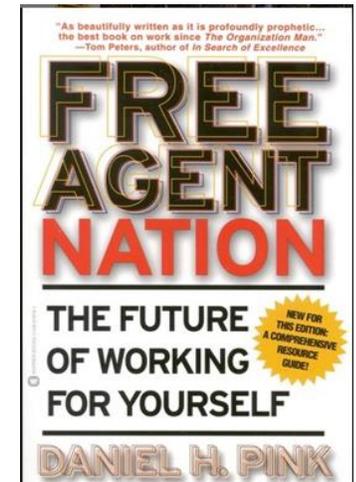
Hollywood Business Model

Freelance economy & Hollywood Model

The Hollywood Model embraces **economic specialization;** *Focus on where you can create value and outsource everything else.*

IT Departments:
Shift from Cost Center to Value Creator

- Costs are quarantined and made variable
- Scale and expertise is available and responsive
- Costs are correlated to revenues

Less of this:	More of this:
Internal IT budget	External IT budget
Built and managed here	Bought and managed there
Cost of labor	Value of talent
Ownership	Lease
Physical management	Virtual access
People	Software
Generalists	Specialists
Independence	Interdependence
Market leader	Leading consortia

NTT DaTa

Enabling Technologies - Hollywood Model

Freelance economy & Hollywood Model

Security

- Robust network security
- Digital Rights Management
- Identity Management; ID-as-a-Service (IDaaS)
- Two Factor Authentication (2FA)

Virtual Desktops, in all their forms and BYOx enablement:

- Server-hosted Virtual Desktop Infrastructure (VDI)
- Desktops-as-a-Service (DaaS)
- Remote PC access/Remote desktop services/Session-based DT
- Local virtual desktops – Bare metal (Type 1), and Type 2
- Application virtualization
- Unified Endpoint Management

NTT DATA

Open Innovation

Open innovation is: "a business concept developed by Henry Chesbrough which encourages companies to acquire outside sources of innovation to order to improve product lines and shorten the time required to bring products to market, and to market or release internally developed innovation which does not fit the company's business model but could be effectively used elsewhere." *

Open innovation & Crowdsourcing

NTT DaTa
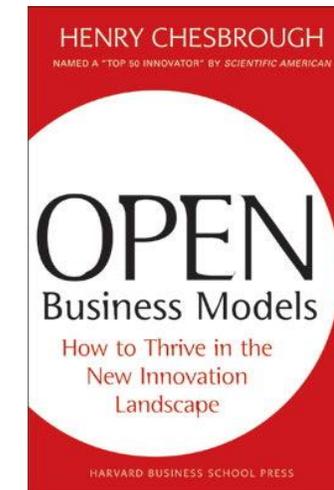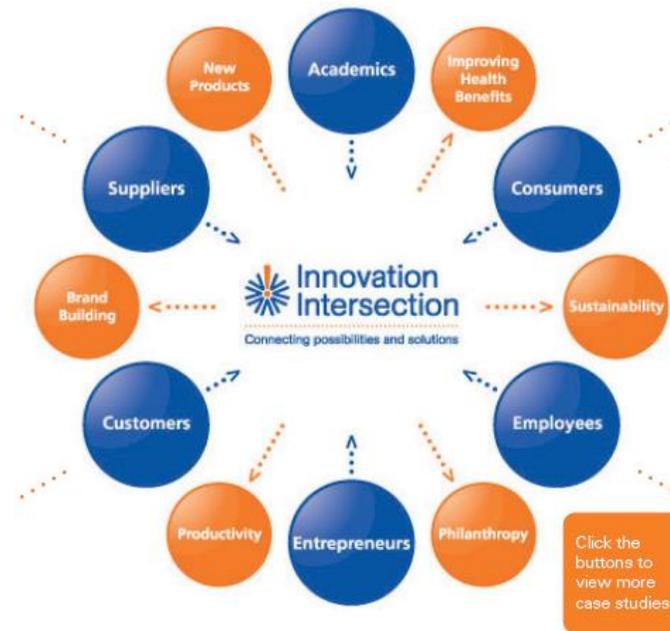
Formalization of Business Partner Ecosystems

Who can add value to mine, how can I add value to theirs?

Enterprise 2.0

Platform based

Management 2.0

Economics 2.0

IT 2.0

Capitalism 2.0
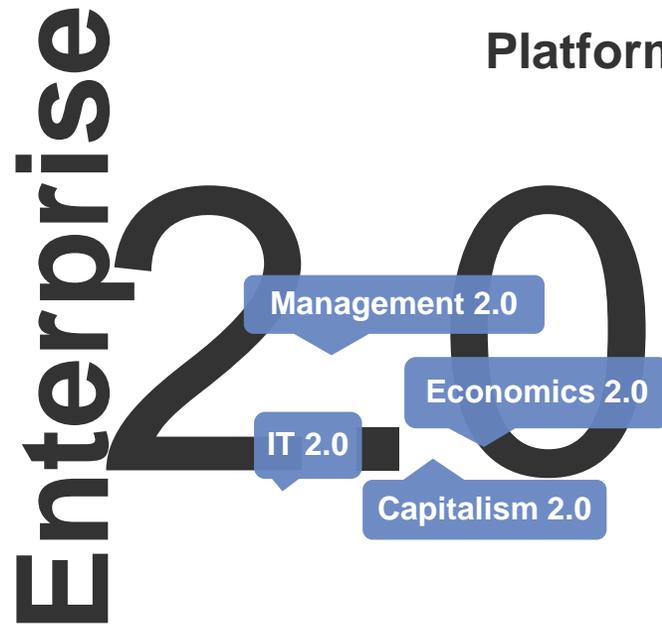
Universal access, availability and on demand performance; within and without the corporate boundaries; from customer through supply chain; recursively.

Changed nature of value as a consequence of the serendipity economy

Value will be the product of in-the-moment, at-the-place collaborative creation

Smaller, more agile enterprises

An ecosystem to speed up the processes of successful selection

Effective socially-enabled enterprise

Two-way collaboration between publishers and consumers of content, knowledge and value

Strong partnerships and relationships

Even among competitors, in order to service customer

Complex Information systems

Lots of moving parts, known and unknown factors, with varying degrees of understanding

Evolution of the workforce

Mentoring people versus directing people on how to achieve the outcomes we need

NTT DATA

Self-organizing models; Open Allocation

Open allocation refers to a management style in which employees are given a high degree of freedom in choosing what projects to work on, and how to allocate their time. They do not necessarily answer to a single manager, but to the company and their peers.

Google 20%

Atlassian FedEx Days

Organization	Industry	Type	Number of employees	Used open allocation
W. L. Gore and Associates	Manufacturing	Private company	9,840	1958 (founding year) - date
Valve Corporation	Video games	Private company	400	Founding year – date
Treehouse	Technology	Private company	60	June 20, 2013 – date
Monk Development	Software as a Service	Private company	25-30	2013 – date
GitHub	Technology	Private company	175	Founding year – 2014

NTT DATA

Open allocation - W. L. Gore & Associates, Inc.

Bill Gore articulated four culture principles that he called freedom, fairness, commitment and waterline:

- Associates have the freedom to encourage, help, and allow other associates to grow in knowledge, skill, and scope of responsibility

- Associates should demonstrate fairness to each other and everyone with whom they come in contact

- Associates are provided the ability to make one's own commitments and are expected to keep them

- A waterline situation involves consultation with other associates before undertaking actions that could impact the reputation or profitability of the company and otherwise "sink the ship."

New Management Models: Holacracy

Holacracy is a self-governing, purpose-driven business structure that reassigns authority and responsibility based on the task at hand.

Holacracy®
Purposeful organization through social technology

Management Without Managers
Holacracy places the seat of organizational power in an explicit process, one which organizes around an explicit purpose. This allows emergent behavior of the whole system, without being controlled by either a single heroic leader or even the collective group.

Organisational Levels

Macro	environment	G+F+E+D+C+B+A
	industry	F+E+D+C+B+A
	organisation	E+D+C+B+A
Meso	business unit	D+C+B+A
	team/work group	C+B+A
Micro	work dyad	B+A
	elemental task/job	A

the nested holarchy of organisational levels

Traditional hierarchy pushes us to focus on rank, professional development, and procedure.

VS.

Holacracy allows function-based organization, with a focus on the task at hand. Namely, your product.

Flexible Organizational Structure
With clear roles and accountabilities

New Meeting Format
Geared toward action and eliminating over-analysis

More Autonomy to Teams and Individuals
For individuals to solve issues themselves and cut through bureaucracy

Unique Decision-making Process
To continuously evolve the organization's structure.

NTT DaTa

New Management Models: Holacracy

Holacracy is a self-governing, purpose-driven business structure that reassigns authority and responsibility based on the task at hand.

Medium is an online social journalism platform

Founded by Twitter co-founder Evan Williams in 2012.

Publications include:

Cuepoint – Online Music Magazine

Backchannel – Technology publication

Zappos.com is an online shoe company and is part of Amazon.com

ARCA, a North Carolina-based technology company

NTT DaTa

Known organizations using Holacracy as of 04/27/2017:

- HolacracyOne (public governance records)
- iGi Partners (public governance records)
- Structure & Process (public governance records)
- Evolving Organisation (public governance records)
- Zappos.com (link collection)
- Downtown Project
- David Allen Company (link collection)
- Undercurrent (Case-Study)
- Future Logic (press release, Stephan Jenner on Quora)
- AdScale Laboratories (case-study)
- Wonderworks Consulting
- Springest (announcement, blogpost, more details)
- BoP Innovation Center
- Impact Hub Amsterdam
- Impact Hub Vienna (article)
- Impact Hub Company
- Waterschap de Dommel (in parts of the organisation)
- Streamit (in parts of the organisation)
- Center for Human Emergence
- CHE Synnervate
- Kolibri
- The Integral Center
- Conscious Brands
- Outformations Agile Collaboratory (governance)
- Three Coins (mention)
- Trillium Awakening Operations Circle (public governance)
- Washington's Strengthening Families Collective (via)
- Becoming Parents Program (via)
- BC3—Boulder Conscious Community (Governance)
- Precision Nutrition (video, case-study)
- Beratergruppe Neuwaldegg

- Moveline
- ITX Wireless (note)
- liv.it
- Concept7 (case report)
- talkSpirit (case report)
- ARCA (blog post)
- Netcentric (blog post)
- Buddhist Geeks (note)
- Washington Technology Solutions (WaTech) (blog, links, public governance records)
- OZ
- Voys (links)
- cidpartners GmbH
- Colman Knight Advisory (link)
- Scarabee Biocoop (report)
- Energized.org (public governance records)
- soulbottles
- CourageLabs LLC (public governance records)
- MankindProject USA (public governance records)
- Xpreneurs GmbH (public governance records)
- ACNV-BF (public governance records)
- Die Wertschätzer
- Doctusoft
- FinanceFox
- EMPAUA
- SocialSquare (blogpost)
- Findasense (video)
- AFCA
- LIIP
- Euphoria
- CINTEO

- VSE
- People's Playground
- Lab.Coop (blogpost)
- bol.com (in some teams)
- Spindle
- Purely Poultry
- encode.org
- evolution at work
- Business School Lausanne
- dwarfs&Giants (public governance records)
- CompassPoint (blogpost)
- Valsplat (post)
- Viisi (public governance records)
- Green-Acres
- Connectis
- Butterfly Works
- Rockstart
- Smart Hotel
- PRO6 Managers (more details)
- Durabilis
- VillageOffice
- Paramount Software Solutions
- LIIP – Agile Web Development
- Ticketfrog
- MySign
- GrantTree
- Target Teal (governance records)
- Oliver Valves Nederland B.V.

Source: http://structureprocess.com/holacracy-cases/ Extracted May 5, 2017

NTT DATA

Self-regulating, Self-management models

History:
- The Morning Star Company was founded in 1970 by Chris Rufer as a one truck owner operator, hauling tomatoes to other canneries
- Today, Morning Star accounts for over 25% of the California processing tomato production, supplying 40% of the U.S. ingredient tomato paste and diced tomato markets, with industrial sales of approximately $350 million

Key Initiatives towards a self-regulating, self-management model:
- People ("professionals") work in a culture of self-management to achieve the mission
- They initiate communication and coordination of their activities with fellow colleagues, customers, suppliers and fellow industry participants, absent directives from others
- Colleagues take personal responsibility and hold themselves accountable

…no bosses, no titles, no job descriptions, and a sweeping scope of authority when it comes to making decisions (about hiring, how to spend the company's money, what direction to take)

NTT DATA

Statoil: Self-regulating Management Model

Profile:
- Norwegian oil and gas company
- Operations in 34 countries, 20,000 employees and $90B revenue
- Ranked #67 on Fortune 500 in size, but #1 in Social Responsibility and #7 in Innovation

Management Innovation Exchange: Busting Bureaucracy Hackathon

- Reinvent the means of control
- Develop holistic performance measures
- Stretch management timeframes and perspectives

www.managementexchange.com

Key Initiatives towards a "more dynamic, flexible and self-regulating management model."

- "In 2005 we started on a journey of radically changing our management processes, which included abolishing traditional budgeting."
- "In 2010 we decided to 'kick out the calendar'"

Distributed and network workforce approaches

Expert ecosystems	Networked organization

Haydn Shaughnessy, Contributor
Documenting the emerging economy
+ Follow (392)   Subscribe 427

TECH | 10/22/2012 @ 10:11AM | 810 views

Will IBM's Bet On A Realigned Jobs Market Be Its Undoing?

2 comments, 2 called-out   + Comment now

In The Elastic Enterprise, Nick Vitalari and I described how companies are evolving new ways to externalize their processes. IBM's Liquid Challenge is a way to take jobs out of the company into the global talent pool.

Image via CrunchBase

DBACCESS

Technology firm in Venezuela

- Work is arranged in large outcomes
- Teams are formed and self-selected
- Highly transparent
- People backfill their own

NTT DATA

New resource models & approaches: Microwork

The process and execution of decomposing work projects into smaller, manageable modules and engaging workers, typically from a network of people with skills and resources, to accomplish the task.

microWorkers — work & earn or offer a micro job

FamilySearch

1,315,562,281	21,890,118
Total Records Completed	Records Awaiting Arbitration
44,211,528	139,441
Total Records Completed in 2015	Total Contributors in 2015

amazonmechanical turk — Artificial Artificial Intelligence

Find an interesting task → Work → Earn money

TaskRabbit

ClickChores — THE WEB'S MICRO JOBS MARKETPLACE .com

NTT DATA

New resource models & approaches: Microwork

© 2016 NTT DATA, Inc.

NTT DATA

Amazon's Mechanical Turk

amazonmechanical turk
beta
Artificial Artificial Intelligence

Make Money
by working on HITs

HITs - *Human Intelligence Tasks* - are individual tasks that you work on. Find HITs now.

As a Mechanical Turk Worker you:

- Can work from home
- Choose your own work hours
- Get paid for doing good work

Find an interesting task → **Work** → **Earn money**

TASKS

$

Find HITs Now

Get Results
from Mechanical Turk Workers

Ask workers to complete HITs - *Human Intelligence Tasks* - and get results using Mechanical Turk. Get started.

As a Mechanical Turk Requester you:

- Have access to a global, on-demand, 24 x 7 workforce
- Get thousands of HITs completed in minutes
- Pay only when you're satisfied with the results

Fund your account → **Load your tasks** → **Get results**

Get Started

NTT DATA
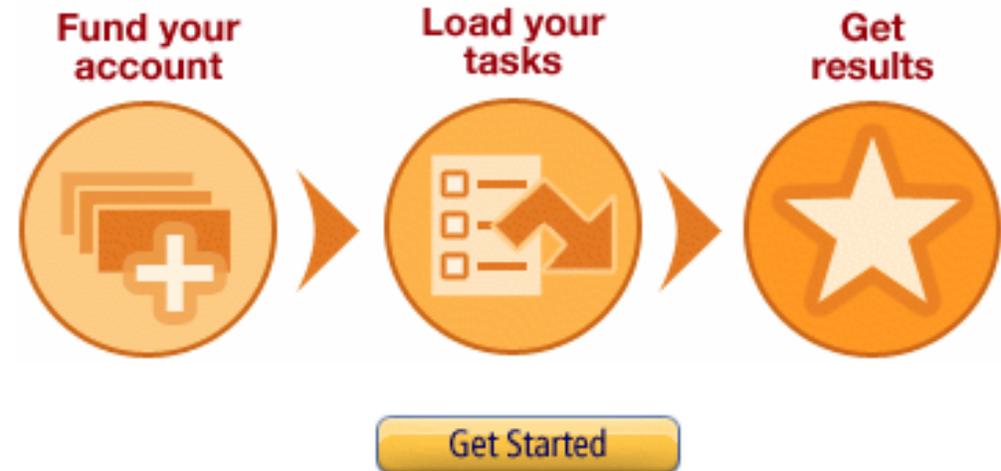
Hackathons

A gathering of experts, traditionally programmers, that collaboratively develop work products in a compressed time frame.

Hackathons, or "Hack Day", "Hackfest" or "Codefests" originated with Computer Programming (1999) later extended into other areas including:

- Process
- Management
- Marketing
- Strategy

NTT DaTa

Hackathons – How they work

How they work:

- Real-time and asynchronous
- Tangible frameworks or deliverables
- Focused or broad challenges
- Self-selecting teams
- From a few hours to several weeks
- Review gates
- Read outs and posting of results

NTT DATA

Management Innovation Exchange (MIX)

www.managementexchange.com

NTT DATA

THE BUSTING BUREAUCRACY HACKATHON

HACKATHON OVERVIEW
INTRO / COACHES / GUIDES

THE COSTS OF BUREAUCRACY
PHASE 1 SYNTHESIS

IMAGINING THE POST-BUREAUCRATIC ORGANIZATION
PHASE 2 SYNTHESIS
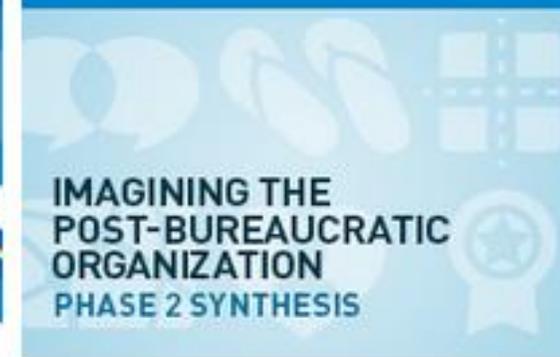
Serve peers and customers – not the boss

Break up monolithic structures

Give everyone a place at the table

Radically expand the scope of employee autonomy

Create meritocracies where influence is based on contribution, not credentials

Provide open access to real-time information

Drive performance through a shared sense of purpose and community

Ditch formality

34

NTT DATA

"Not all of the smart people in the world work for you."

- Bill Joy, Sun Microsystems

Types of Crowdsourcing

- Searches
  - Specific ideas, wisdom, data, lost & found items

- Creative projects
  - Graphic design
  - Brainstorming for unconstrained ideas
  - Refinement of ideas

- Challenges
  - Structured questions to create a deliverable

- Project work
  - Open source and competitive source
  - Microwork

- Funding
  - Venture capital from individuals

- Crowdvoting

NTT DaTa

Crowdsourcing industry

NTT DaTa

Local Motors™ - Crowdsourcing and Personalization

"This design has aroused incredible feedback and collaboration from the Community. By promoting discussion and collaboration early on, we are able to design cars we know people want; there is no guessing."

Ben Messmer, Lead Designer at Local Motors

NTT DATA

DESIGN PROCESS BY LOCAL MOTORS
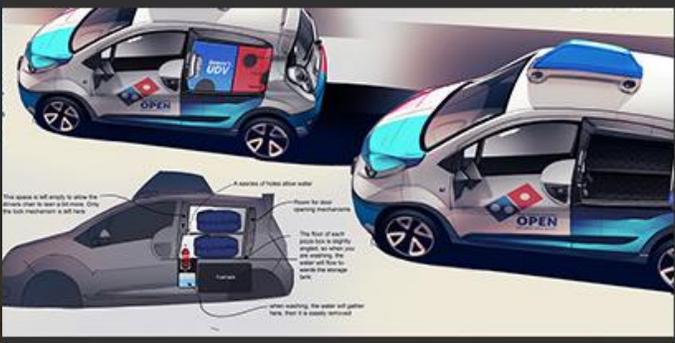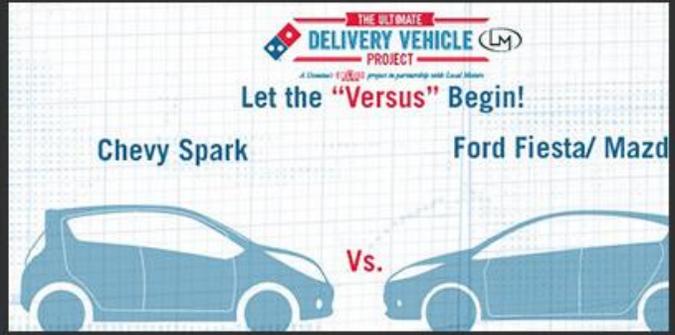
PHASE 1 – DESIGN

The first phase was to design the Ultimate Delivery Vehicle (UDV) for Domino's Pizza that will revolutionize pizza delivery forever in the United States. This purpose-built vehicle should enable delivery drivers to do their job with greater ease and efficiency, be a vehicle they are excited to drive, transport Domino's menu items in a manner that maintains their temperature and appearance, inspire Domino's franchise owners to purchase the vehicle, and prove to customers that Domino's is absolutely fanatical about making perfect deliveries every time.

PHASE 2 – PACKAGING

The second phase was conducted as a collaborative challenge rather than a competition. In a collaborative challenge, participant's work together towards a common goal. The goal was to select an existing vehicle platform and then package The Pack on that platform to produce a four-view orthographic packaging illustration. This illustration will then be used in the following phases of the Ultimate Delivery Vehicle Project.

PHASE 3 – INTERIOR

The third phase was to transform the Chevy Spark into the Ultimate Delivery Vehicle to redesign the interior to efficiently carry drivers, pizzas, condiments and other Domino's Menu items to customer delivery locations. Successful designs would focus on how the interior will be designed and the exterior will be modified as appropriate to allow the fastest and easiest transportation of the delivery order from the store into the car, securing that order, and then taking the order out of the car to the individual customers.

PHASE 4 – SURFACING

Precisely define challenges

"If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions."

- Albert Einstein

NTT DaTa
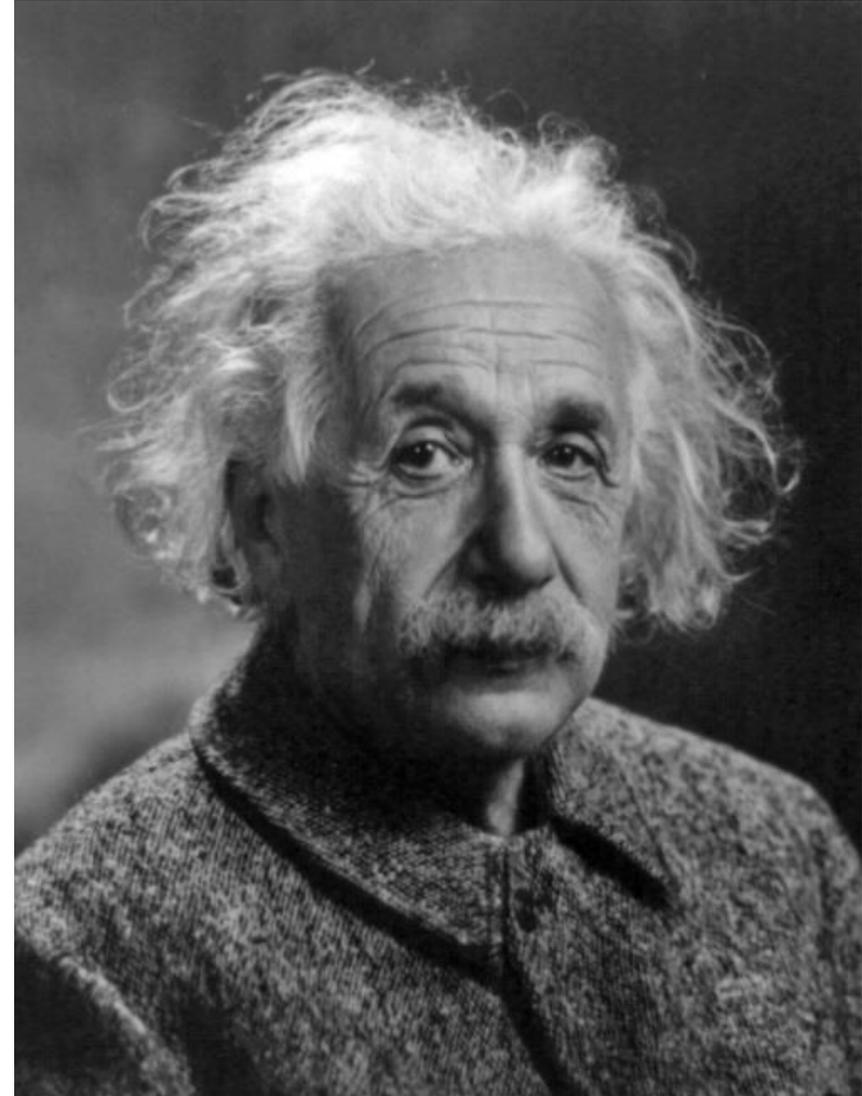
Crowdsourcing Recommendations

- **Focus on very narrowly defined challenges**
  - Challenge abstraction and definition is key
  - Train a catalyst solver group - Ideally the only truly viable solutions are submitted

- **Issue a balanced portfolio of challenges**
  - Not all challenges have to be grand challenges

- **Understand the available tools and how they can be used**
  - Internal tool for employees
  - External tool/service when internal solutions cannot be discovered

- **Governance, balanced with autonomy, is essential**
  - Follow through on viable solutions (or risk alienating your solver group)

- **Partner with Human Resources and whoever else specifically owns culture in the organization**
  - Use as a catalyst to build a culture of innovation

NTT DaTa

Key ideas to build on

- Understand that technology is not the primary driver of change
  - It's the Business, silly

- Innovation is not invention, and is far more than products, services and gadgets
  - Enabling and facilitating business model changes, understand business models

- Management, and its companion bureaucracy, are being disrupted
  - Finally, and they need IT's help to accelerate the transformation

- IT needs to take a leadership role in introducing and facilitating new ways of working
  - Understanding trends, signals and directions, and being prepared with the right tools to ensure productive contractors, dynamic workers, and new work environments

- IT leaders are partnering with Human Resource leaders and Chief Customer Officers to develop a culture of innovation

- Increasingly we will be working alongside robots

NTT DATA

Recommendations for CIOs and Strategic IT Leaders

- Establish a Strategic Foresight function in your organization, and/or liaisons to existing corporate groups
  - Use the PESTLED framework for Foresight
  - Expand the role of "Technology Scouts" to include business signals & trends

- IT leaders should partner with business leaders to develop a culture of innovation
  - Identify who "owns culture" in the their organization, ultimately the CEO but increasingly specifically delegated to Human Resource leaders or Chief Customer Officers
  - Seek to promote serendipitous interactions or "collisions" in the workplace

- If Open Allocation of employee's time is not already embraced by the organization, find the curious and have them periodically report what they are seeing

NTT DATA

NTT DATA

Global IT Innovator

Thank you!

@DougReeder