

#### Fostering an Innovative Culture Linda Gorchels

# By the end of these three days you should be able to:

- define and build on the components of creativity
- heighten your personal creative thinking
- discern leadership and management roles in establishing direction and processes of innovation
- identify ways to nurture creativity and innovation within a company's culture

**Psychology** of creativity Disciplined creativity leading to innovation Nurture the cultural ecosystem

## What is improv?

**Improvisation** is a state of being and creating action without pre-planning. This can be when an individual or group is acting, dancing, singing, playing musical instruments, talking, creating artworks, problem solving, or reacting in the moment and in response to the stimulus of one's immediate environment and inner feelings. This can result in the invention of new thought patterns, new practices, new structures or symbols, and/or new ways to act.

Source: Wikipedia

## **Big Bang Theory Improv**





## The Psychology of Creativity

#### Let's define CREATIVITY:

cre-a-tiv-i-ty [kree-ey-tiv-i-tee, kree-uh-] noun

the ability to transcend traditional ideas, rules, patterns, relationships, or the like, and to create meaningful new ideas, forms, methods, interpretations, etc.; originality, progressiveness, or imagination

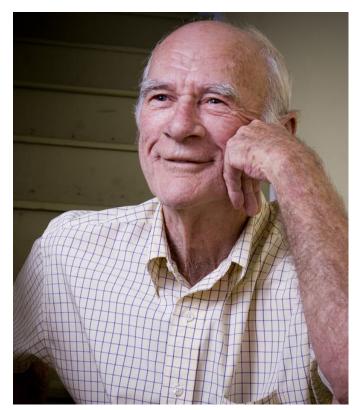


#### Who is more creative?











Only certain people are creative.

People are creative in different ways and to different degrees. Beyond thinking about whether people are creative, think about how they are creative.

## Fill in the blank

#### I was sharpest at age \_

Sandra Bond Chapman Make Your Brain Smarter ©Linda Gorchels

## Think about the following

- How can boredom be beneficial to creativity?
- What problems are associated with multitasking?
- Why are old ideas critical to innovation?
- When is unlearning important to creativity?
- Would you rather be smart or creative?

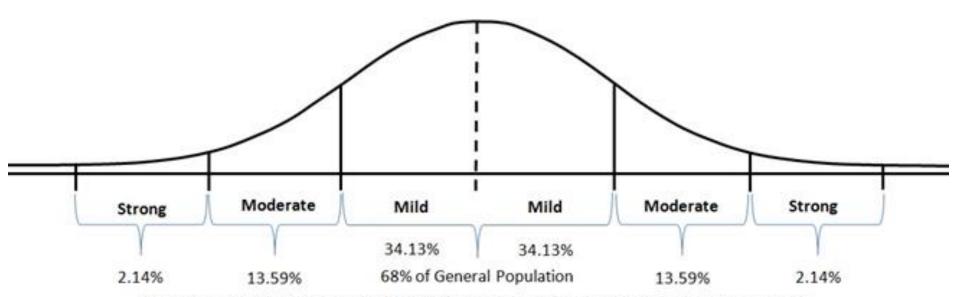
#### A creative style continuum

#### **Open (experiential)**

#### **Structured (cognitive)**



#### Another creative style continuum



The bell curve shows the normal distribution of respondents across the general population.

More Adaptive <----

---> More Innovative

#### Creativity, Innovation, and Change

Coursera course by Dr. Jack V. Matson, Dr. Kathryn W. Jablokow, Dr. Darrell Velegol

#### **Creative domains**

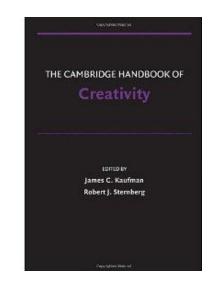
#### **Thematic-level domains**

- Artistic/verbal
- Artistic/visual
- Interpersonal
- Problem-solving
- Math/science
- Performance
- Entrepreneur

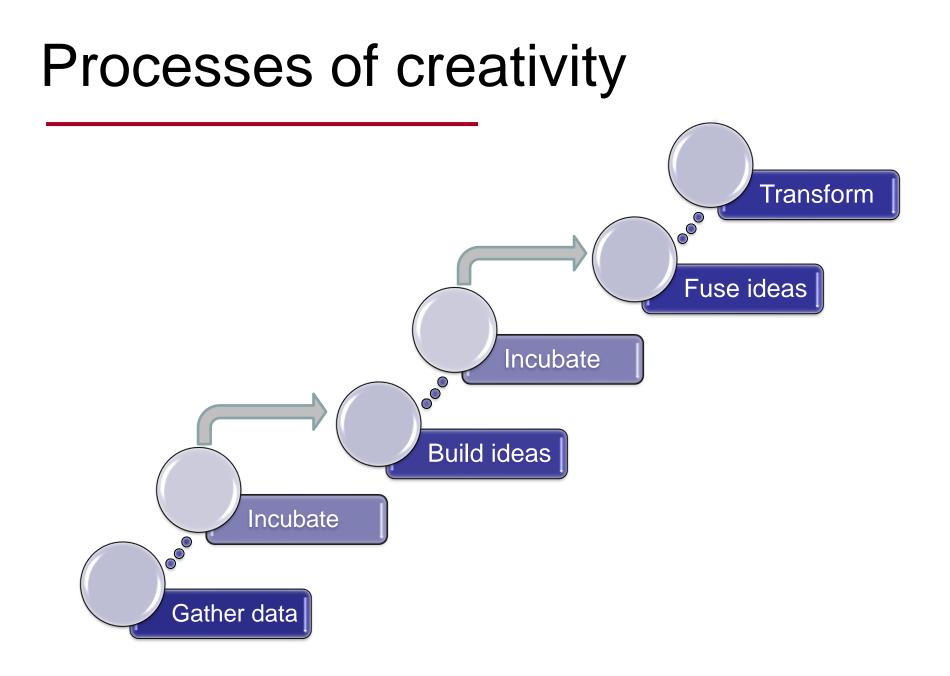
#### 2<sup>nd</sup>-level domains

Within math (for example):

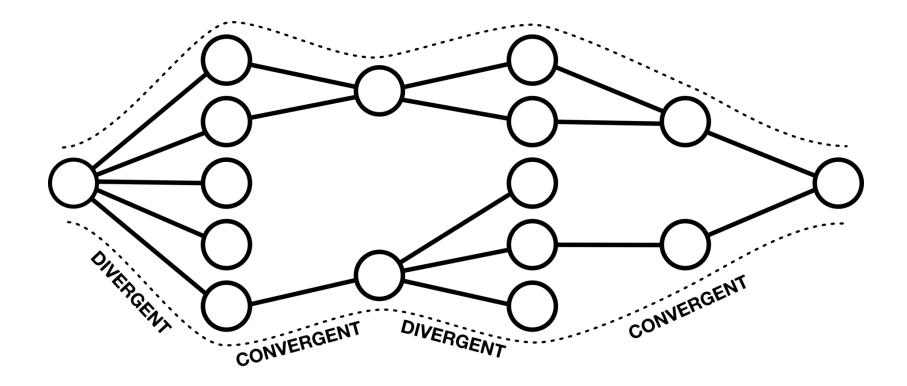
- Biology
- Chemistry
- Physics



Source: The Cambridge Handbook of Creativity



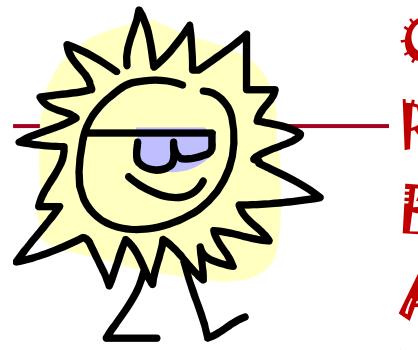
#### Diverge & converge repeatedly





#### **Clifford Nass on multitasking**





Generally accepted traits of individual creativity

Curious Resilient Extrospective Autonomous Tenacious Introspective Versatile





## Ask challenging questions: Why? How? What if? Why not?



#### "Millions saw the apple fall, but Newton asked 'why?"

Bernard Baruch American businessperson and political consultant

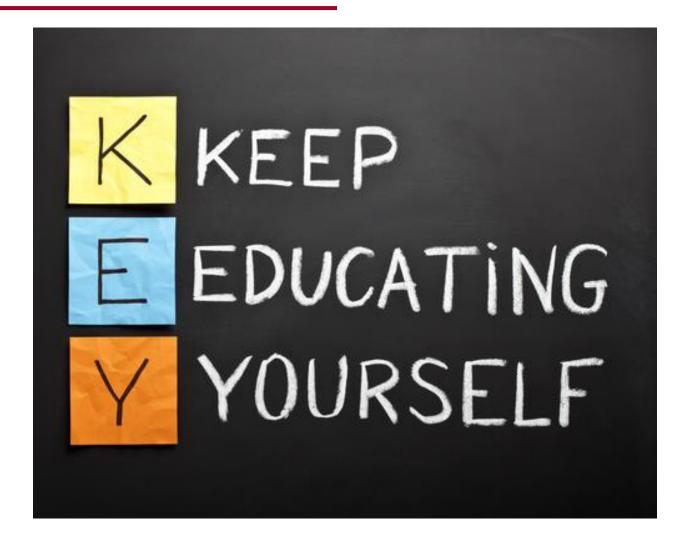
#### What if we...





- went backwards rather than forwards?
- looked at this from the perspective of a child / grandparent/ engineer ...?
- projected ourselves into a different environment?
- went beyond the obvious or expanded on the obvious?

#### Cultivate a love of learning

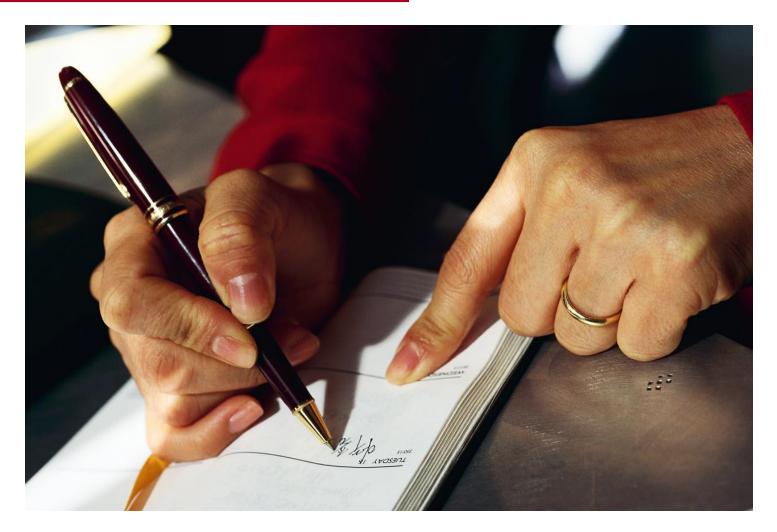




Linus Pauling Nobel Laureate

"I am constantly asked by students how I get good ideas. My answer is simple: First , have a lot of ideas. Then, throw away the bad ones."

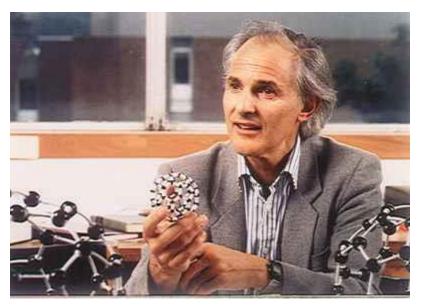
#### Use discipline to capture ideas





# Rethink the meaning of failure

"Nine out of ten of my experiments fail, and that is considered a pretty good record amongst scientists."



Sir Harold Kroto Nobel Laureate

## Build your failure grit

Perfection ...

beware the relentless pursuit of perfection

• "practice" small failures with a smile



#### J. K. Rowling on failure







- Be honest about your idea
- Get input from others
- Keep tinkering

#### Seek out new adventures

- Tune into different broadcasting stations, publications, presentations, etc.
- Try new hobbies
- Pay attention to new conversations
- Notice things you never paid attention to



## Which side are you on?

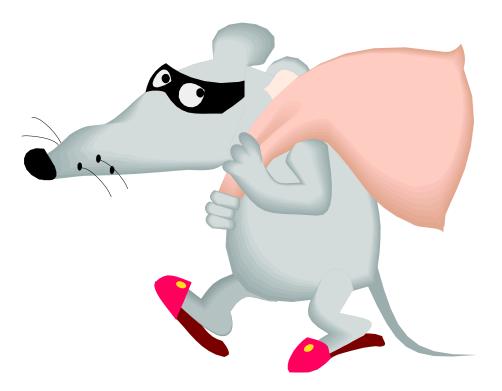
(from Chapman, Make Your Brain Smarter, p. 23)

Do you have the same dinner guests repeatedly?	Do you invite an unexpected guest to change up the conversation?
Do your regular gatherings with colleagues, friends, or family discuss the same predictable topics?	Do your gatherings always have an interesting new topic to discuss?
Do you express the same ideas to convey your stance on issues over and over?	Do you continually attempt to see things from a new perspective when you discuss a topic?
Do you adamantly resist using new technology?	Do you stay open to moving from old to new technologies?
Do your emails sound the same? Are your communications predictable?	Do you think of creative ideas and unique timing to convey messages?
Do you stop short and only complete the task asked of you by your spouse, relative, or boss without reflecting on the process?	Do you add your own thinking to the task at hand or even try to offer new approaches to improve the outcome or solve an unexpected problem?

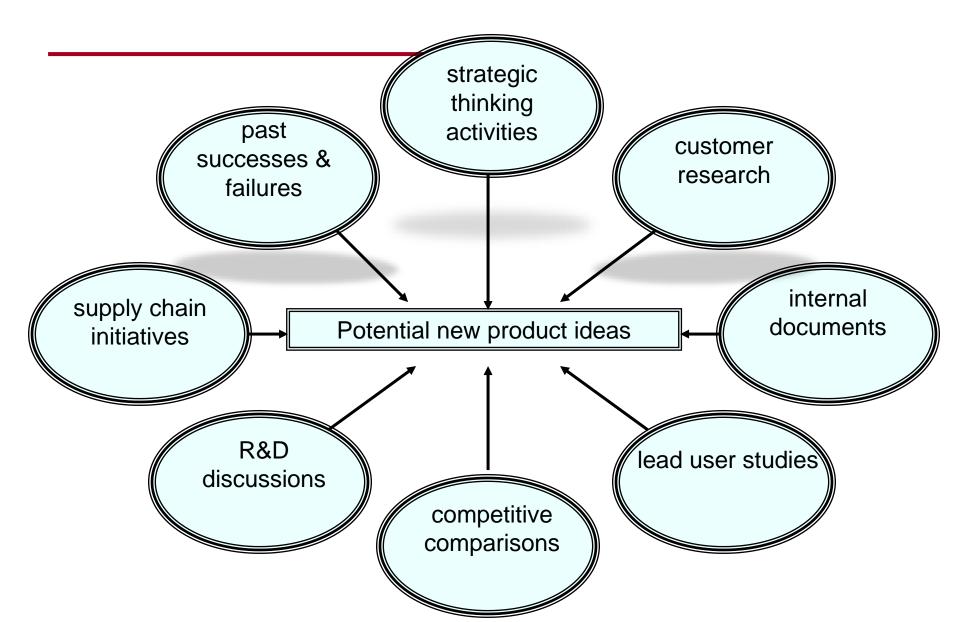
#### Practice content absorption



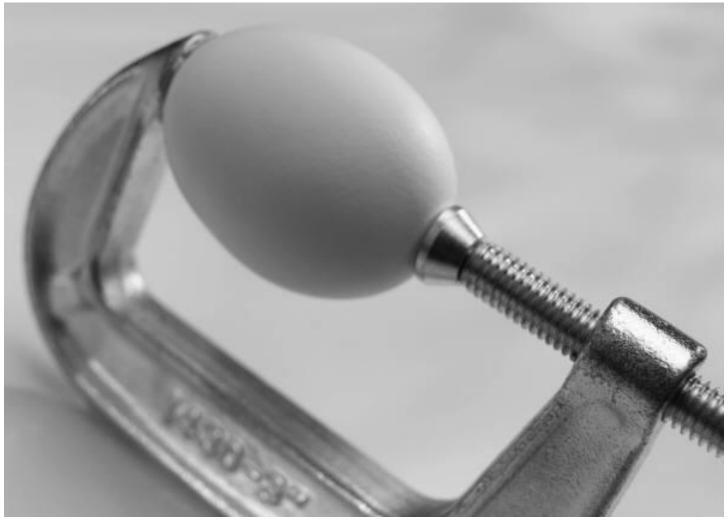
Pull out main points from books and movies. Look for unexpected connections.  Beg, borrow and steal ideas (but always stay ethical and legal!)



#### Expand your idea sources



## Apply metaphorical thinking





#### Independent Motivated by selfimposed deadlines and goals



## "Sometimes assumptions seem so basic that we never think to challenge them."

Michael Michalko, creativity expert



#### However ...

- Beware the dangers of unhealthy pride
- Don't be a one-man relay race
- Avoid unrealistic expectations



### Be confident ...



#### ... but not over-confident



### Seek out new adventures Be open to new perspectives and adventures



#### Keep your dreams alive

- Set goals with deadlines.
- Break into smaller pieces.
- Remind yourself of the goals.
- Keep score of progress
- Build in frequent personal rewards.

# Accept the rarity of eureka

Be prepared to cultivate ideas over time.

"The Vaseline-daubed lens of hindsight tends to blur slow hunches into eureka moments. Inventors, scientists, entrepreneurs, artists – they all like to tell the stories of their great breakthroughs as epiphanies...[but] the slow hunch is the rule, not the exception."



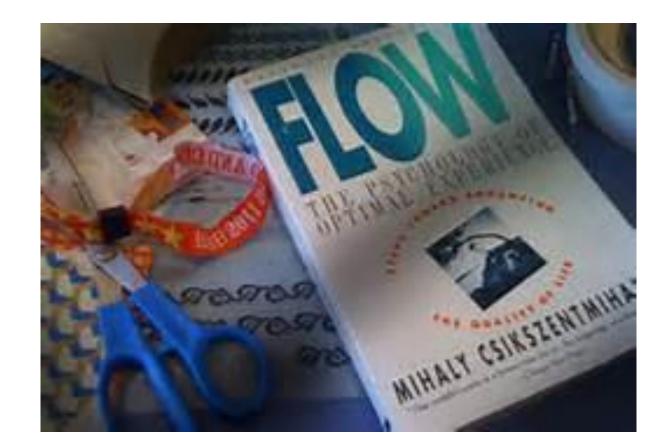




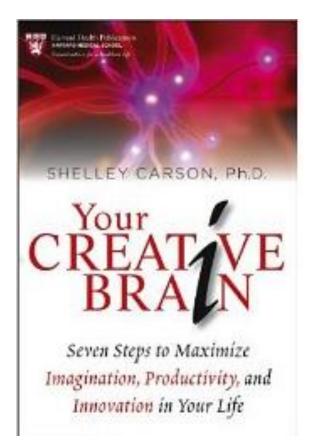
#### Know your self-motivators and use them

# Creativity happens during flow

Flow refers to complete absorption in what one does.



# Make creativity a habit



Shelley Carson, Your Creative Brain

Activate seven brainsets:

- (1) absorb
- (2) envision
- (3) connect
- (4) reason
- (5) evaluate
- (6) transform
- (7) stream





#### Be a dreamer Discover what other people miss

# Accept ambiguity

Strengthen your mental ability to be aware of and cope with potentially contradictory data

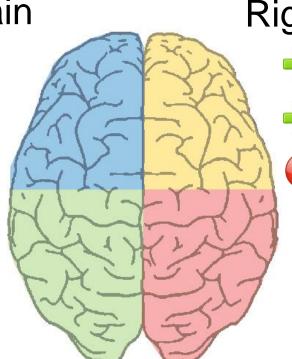


Acknowledge there may be multiple viewpoints for issues, and that other perspectives might add to your creativity.

OLinda Gorchels

# Apply QuhaleBrain thinking

Left brain + Proof + Data analytics Meaningless unless connected to a narrative framework

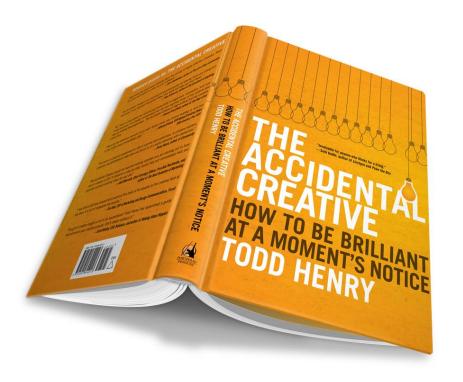


Right brain Discovery Insights Still may require "big data" statistics

# Your Bleeped Up Brain







This and the following five slides are adapted from Todd Henry's *The Accidental Creative: How to be Brilliant at a Moment's Notice*, Penguin Books, 2011. Establish your own rhythm to manage your energy.

### Focus

**R**elationships

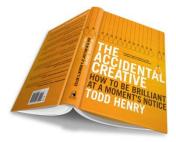
Energy

**S**timuli

**H**ours

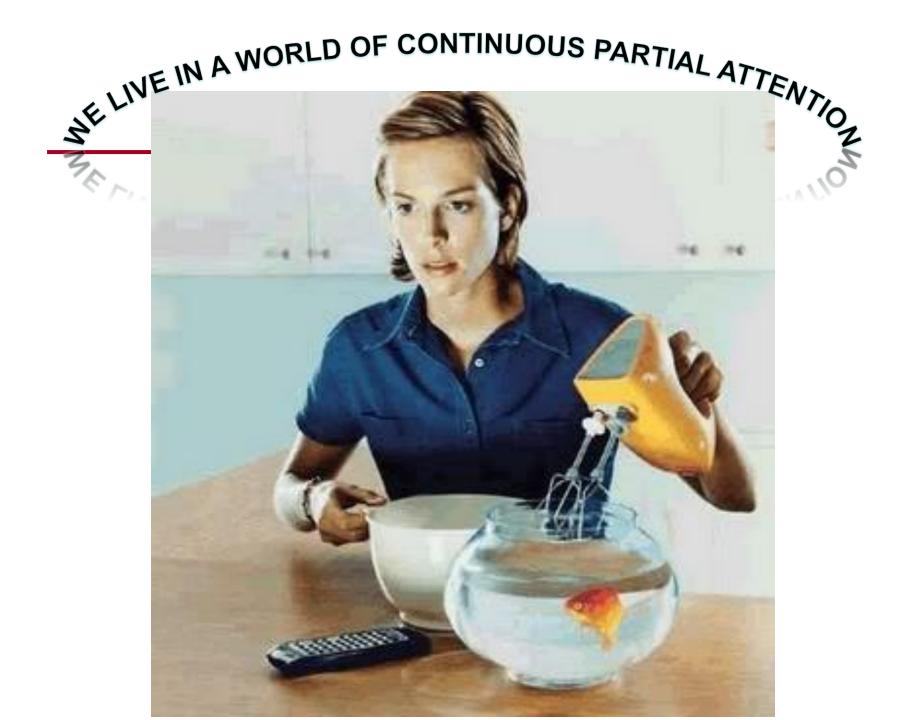
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## Focus



#### Direct your efforts toward those things that will increase your level of creative engagement

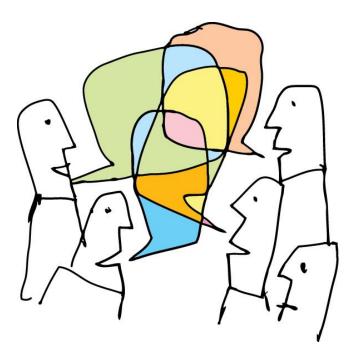




# Relationships



Build creatively stimulating friendships and limit access to the creativity vampires.





# Energetic

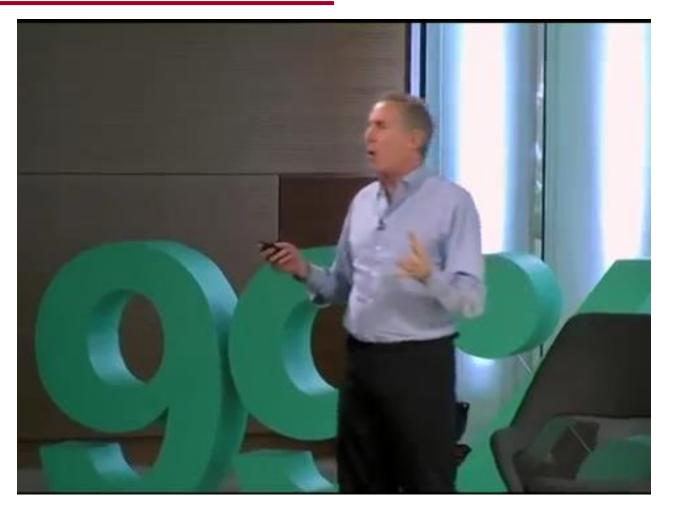
Discipline your energy management and build in buffers to recharge



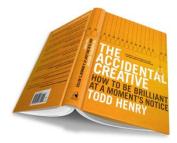
#### Tony Schwartz: The Myths of the Overworked Creative



#### Tony Schwartz: The Myths of the Overworked Creative



# Stimuli



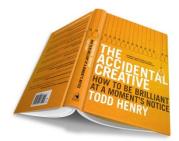
# Evaluate the quality of the inputs you use as "creative nutrition."



#### **Derren Brown-subliminal advertising**



# Hours





#### Here's where we are now

 define and build on the components of creativity

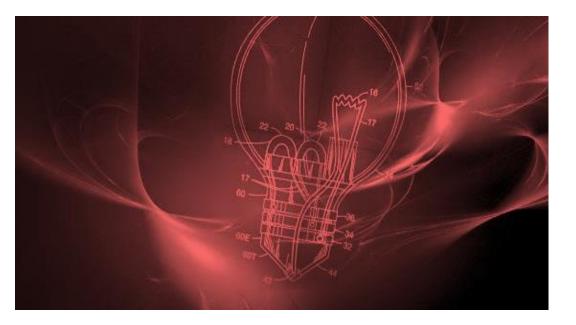
 heighten your personal creative thinking

discern leadership and management roles in establishing direction and processes of innovation

 identify ways to nurture creativity and innovation within a company's culture Psychology of creativity

Disciplined creativity leading to innovation

Nurture the cultural ecosystem



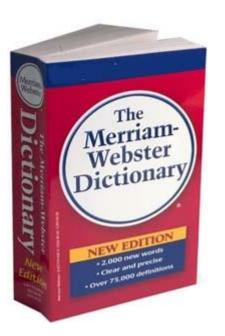
# Disciplined creativity leading to innovation

### What is innovation? Is it the same as creativity?



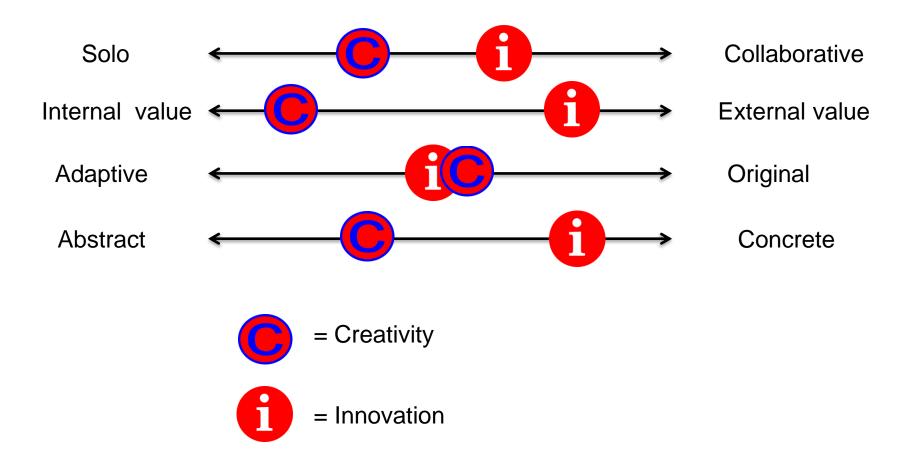
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### in-no-va-tion noun \i-nə-vā-shən\



- 1: the introduction of something new
- 2: a new idea, method, or device : novelty

# Broad average paradigms



## Value can come from ...

#### New Products or Services







## Value can come from ...

#### New Processes



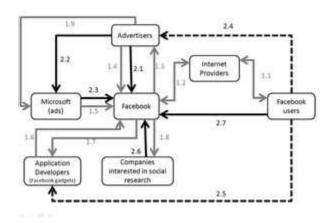






### Value can come from ...

#### New **Zusiness** Models











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# Xiameter business model innovation



# Innovation: my definition

Innovation is the

process and/or

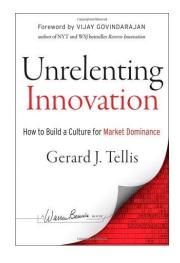
output of creating

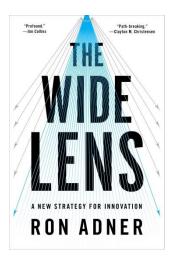
and realizing

external value from

that which is new.



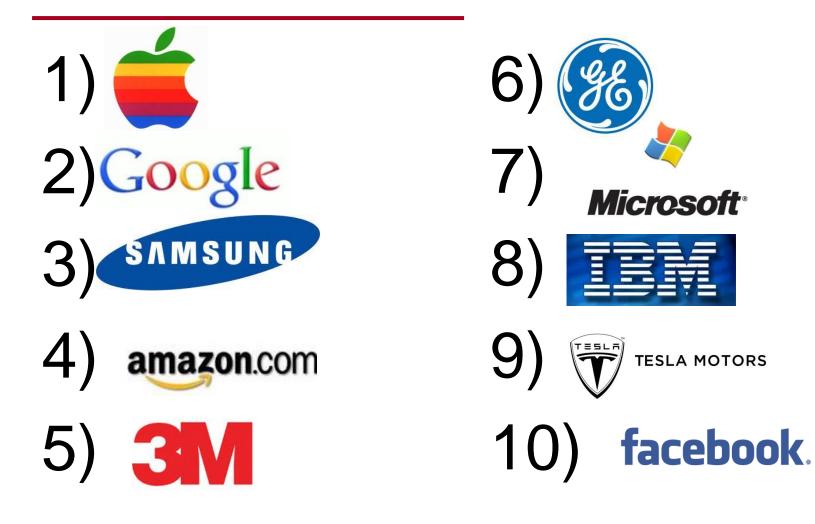






# Most innovative companies

(Booz & Co 2013)

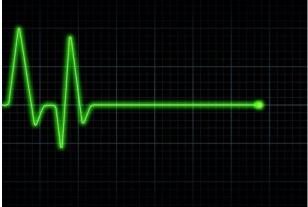


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# The 10 Most Innovative Companies 2013 – Booz & Co



- Growth rates in many mature industries
   have stagnated
  - Customer value propositions are becoming less clear
  - Almost all sales are coming from existing offerings



- New entrants are disrupting the status quo of incumbents
  - Organizations may (unknowingly) become less responsive to market shifts





 Globalization and competency mismatch create an urgency to do a better job of organizational learning and unlearning

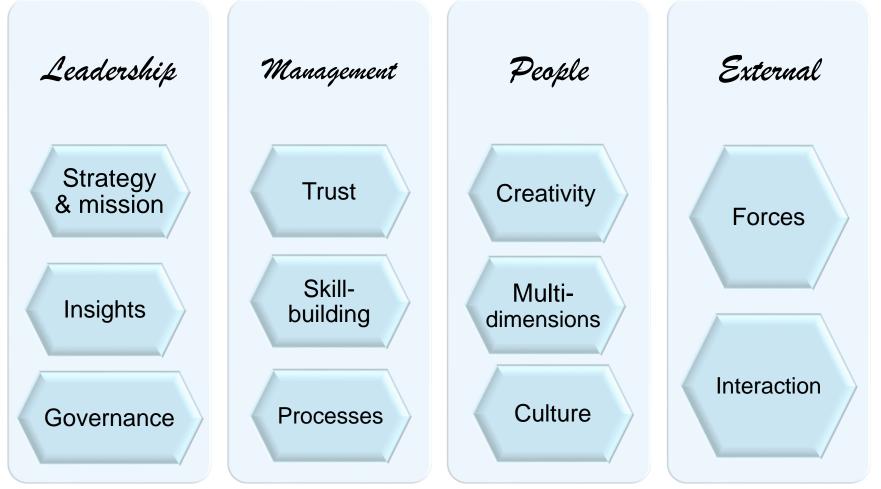


 Society is challenging long-held assumptions

# So how do we move from individual creativity to corporate innovation?



## Interrelated organizational factors



Adapted from Peter van den Brink, "Organizational Competencies for Radical Innovation" University of Twente, 2005.

# Lead through strategy/mission

Leadership

**Strategy &** mission

Define what types of innovation are core to your strategy and mission. If there are several, determine what role each plays.





## Simon Sinek: Start with Why



#### Gorchels' innovation growth portfolio

	Boost existing customer markets	Move into adjacent customer markets	Create new customer markets
Cultivate and reframe existing products, offerings, revenue streams and competencies	<b>Sustaining Growth</b> (shorter-term planning horizon; mining the core)		
Cultivate and collaborate with external partners for products, offerings, revenue streams and competencies	Transformative Growth (intermediate-term planning horizon; advancing into adjacencies)		Disruptive Growth (long-term planning horizon; incite breakthroughs)
©Linda Gorchels			

# Mission/vision statements

 According to the Economist, Steve Jobs' mission statement for Apple in 1980 was:

"To make a contribution to the world by making tools for the mind that advance humankind."

- <u>Google</u>
- <u>Samsung</u>
- <u>Amazon</u>
- <u>3M</u>
- Walmart

# Sustaining growth innovation



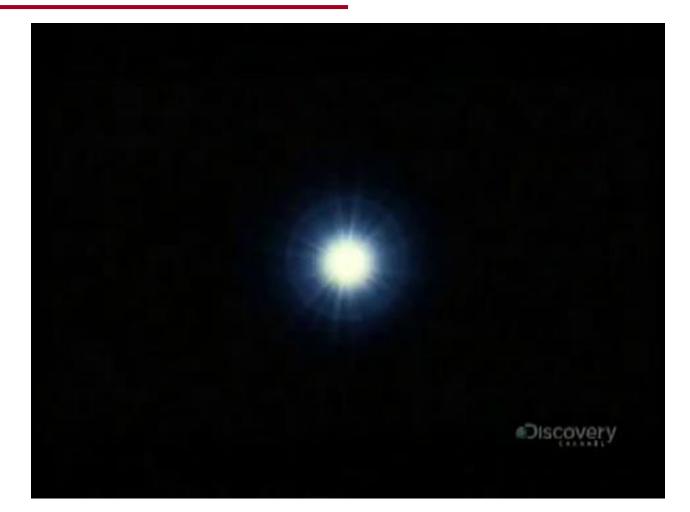
#### Strengthen and defend the core! Consciously sustain the core through continuous, incremental innovations.

#### What are the relevant benefits?





#### Saw Stop Demo explained

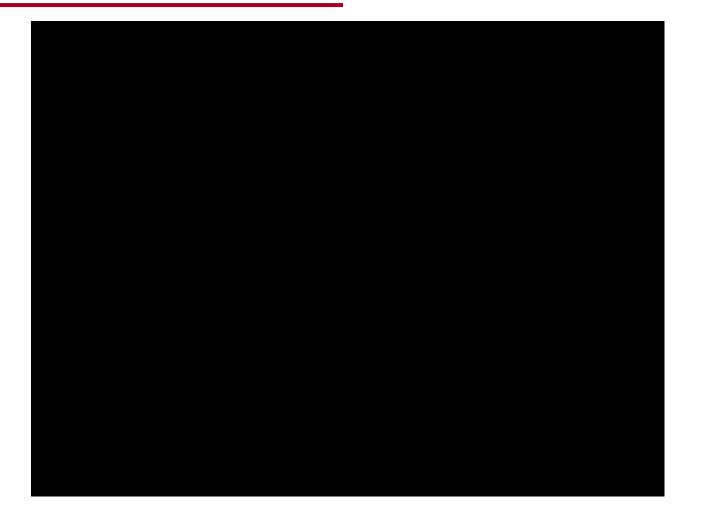




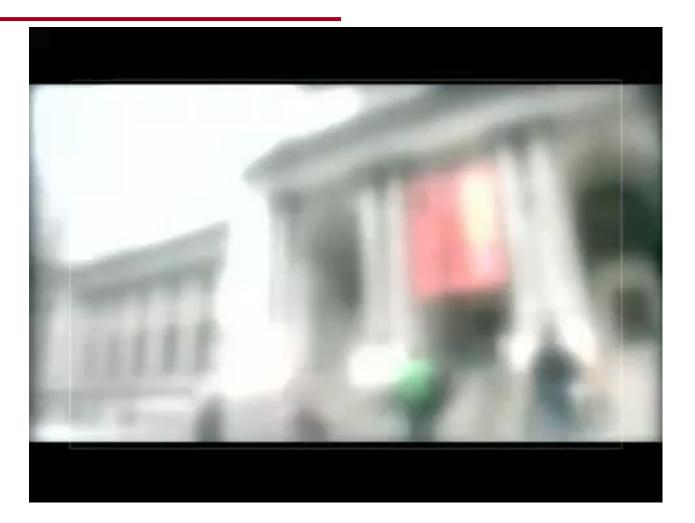
# Transformative growth innovation

Look for innovative ideas to create value in markets adjacent to your core customers, and/or with products, services and processes that move beyond incremental improvements. Build on relationships and assets you already have. Broaden your areas of collaboration.

#### Blue Ocean Strategy & the World

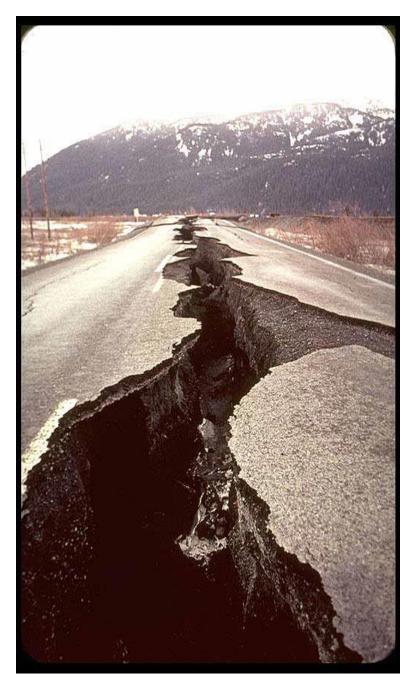


#### Blue Ocean Strategy & the World



#### Disruptive Growth Innovation

- Implies more dramatic breakthroughs
- Often enabled by new technology or significant social discontinuities
- May be triggered by new demands (e.g., legislation)
- Generally favors new entrants over incumbents



#### What is disruptive innovation? Scott Anthony

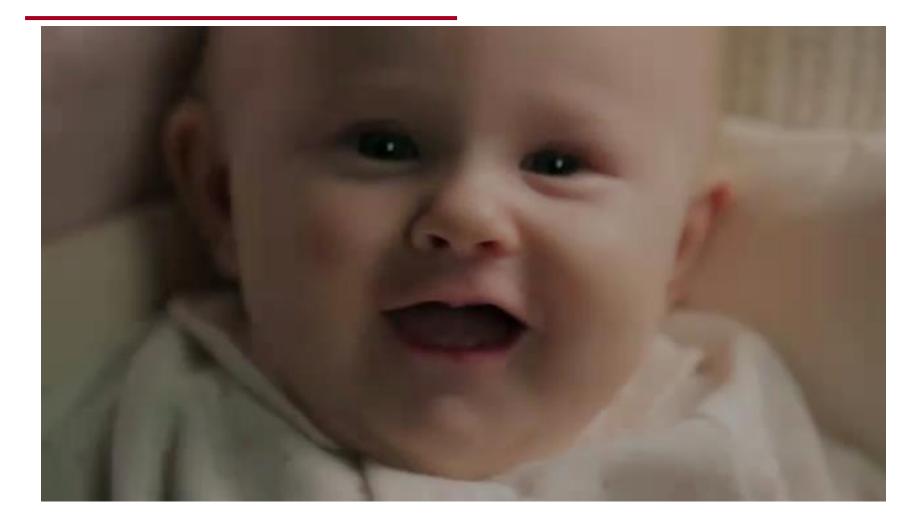


Innovation is the process and/or output of creating and realizing external value from that which is new -

ВИТ ...

How can you sustain it?

### **IBM's Century of Renewal**



#### **IBM's Century of Renewal**



#### The Innovation Paradox Robert C. Wolcott



# Lead through Insights



- Become more intentional about sharing visions and direction.
- Keep communication as dynamic as changes in the environment.
- Codify and disseminate stakeholder hindsight and foresights.



#### Interface



# Which are category originals?

- Nintendo wii
- Facebook
- Kindle
- Apple iPad

#### Apple's brilliance was not in being the first to put down a piece of the puzzle.

# Apple's brilliance was in being the first to put down the LAST piece of the puzzle.

Source: Ron Adner, "Match Your Innovation Strategy to Your Innovation Ecosystem," Harvard Business Review, April 2006

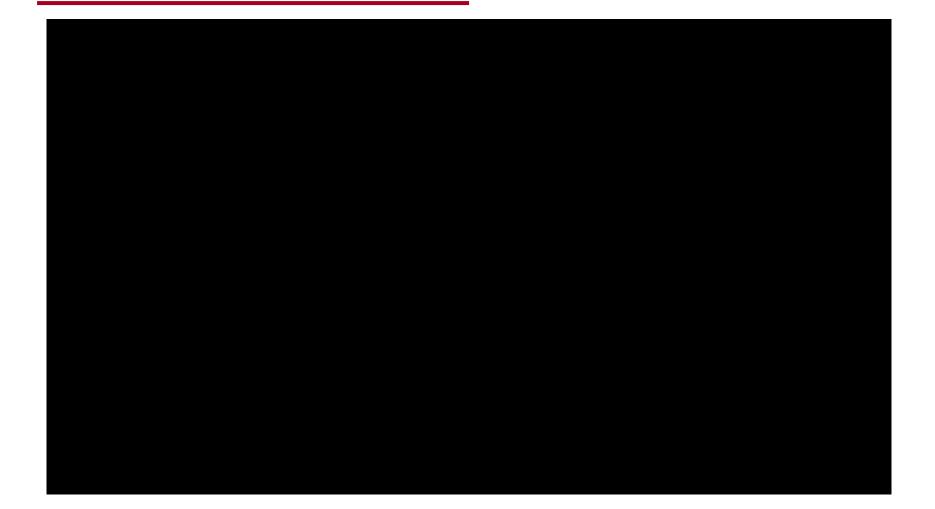
#### Apple Newton ad: mid-1990s



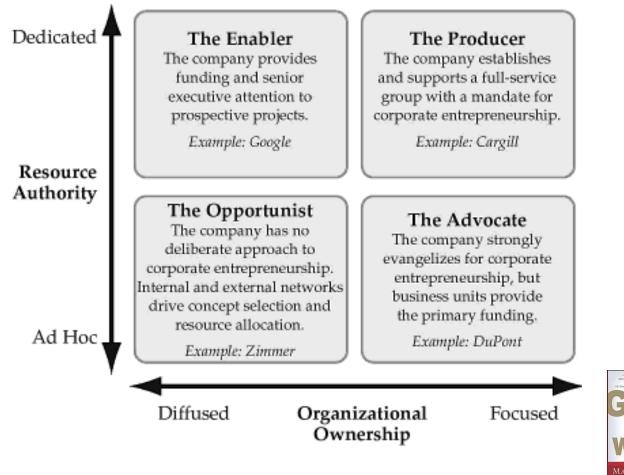
## Lead through governance

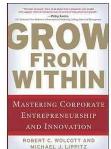


# David Kester, Design Council

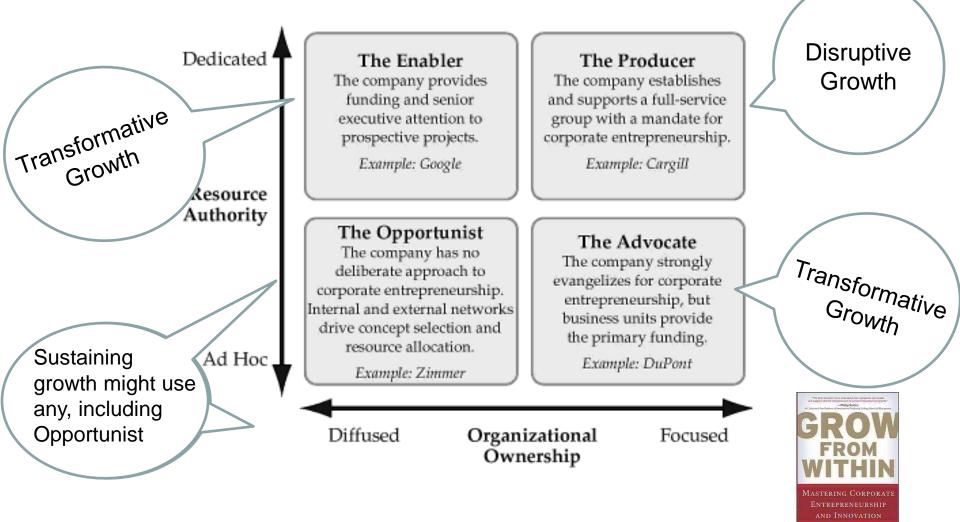


#### Wolcott-Lippitz Governance Model

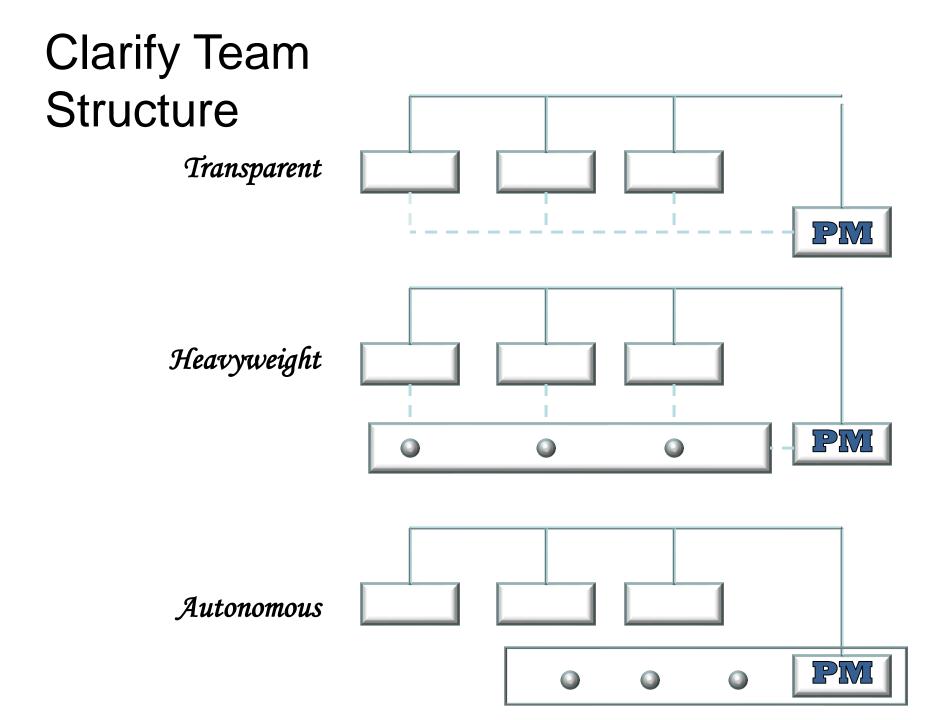




#### Link governance to growth arena



ROBERT C. WOLCOTT AND

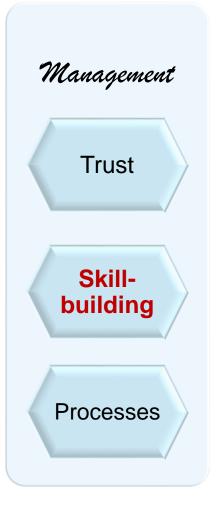


# Manage (dis)trust



- Recognize the right people and avoid exploitation of ideas
- Don't allow attention to process or errant metrics to get in the way of communication
- Avoid devaluation of nondominant disciplines

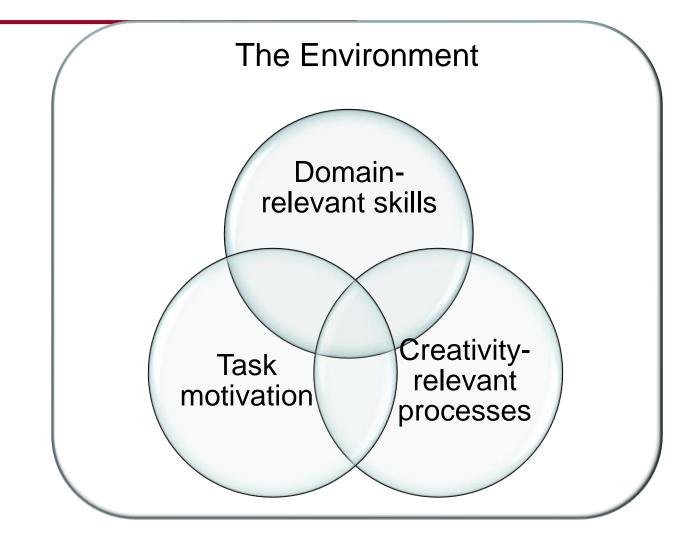
# Manage skill-building



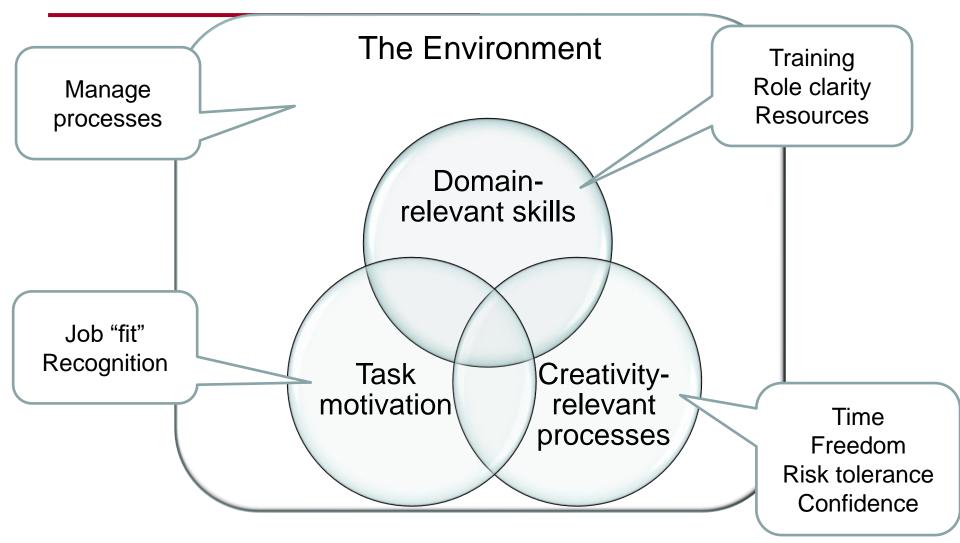


#### Try to build a "whole brain" company.

### **Componential Model of Creativity**



#### Managers contribute to each area



#### Manage processes

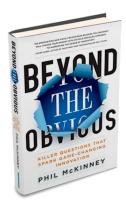


## Too many processes?



- What can you streamline?
- Automate?
- Simplify?
- Eliminate?
- Combine?

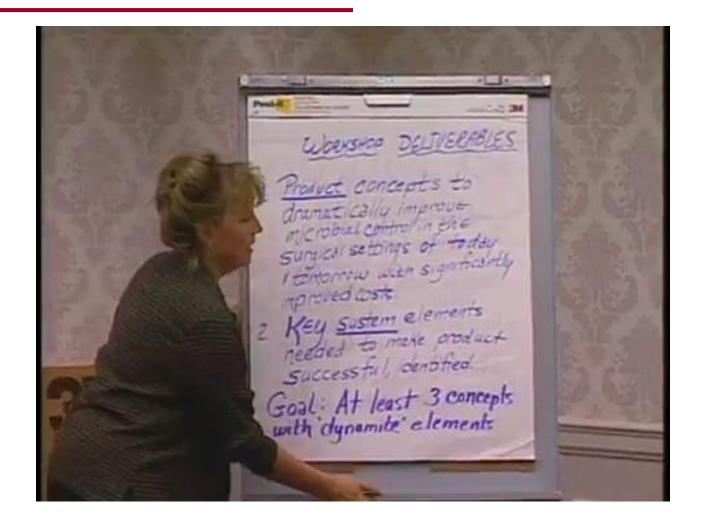
## Focus

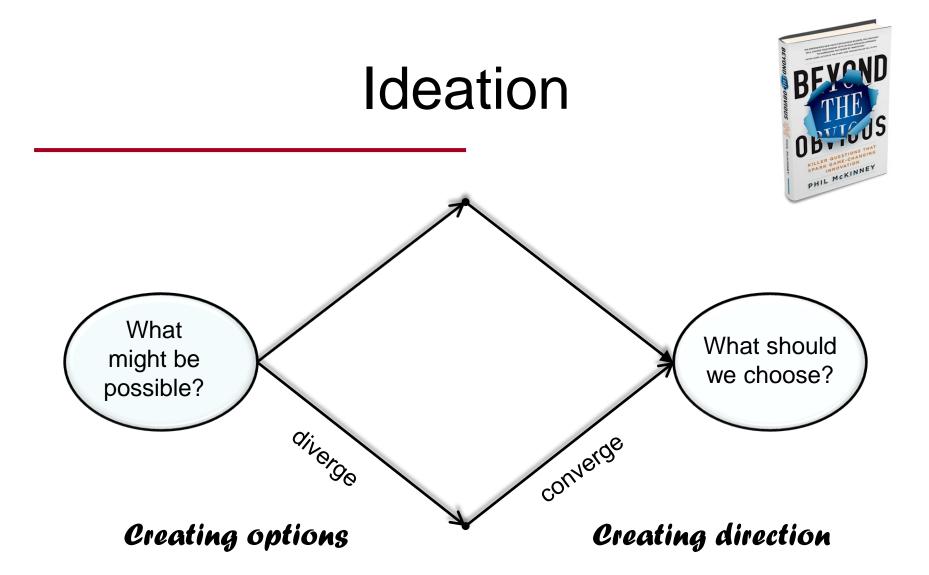


- Define the issue to be explored
- Establish boundaries with gates

# The Paradox of Structure

## Providing ideation focus



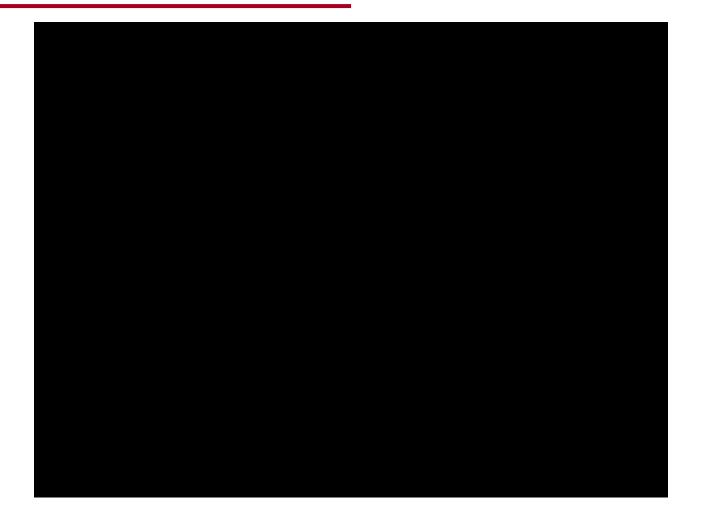


#### EXPERIMENTATION: THE CATALYST OF CREATIVITY

- Inspire active experimentation
- Think in terms of "enlightened trial-and-error"

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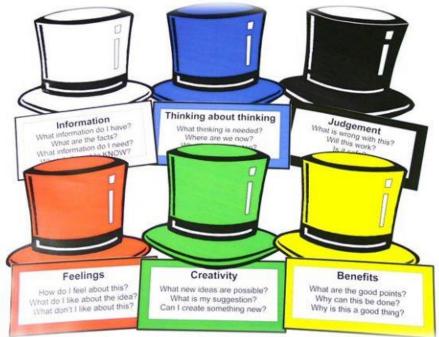
## **IDEO** Deep Dive



# Ranking



- Evaluate potential from a variety of perspectives.
- One potential tool:
  - De Bono's Six Hats



# White hat



The information-seeking hat

- What are the facts?
- What information is available? What is relevant? What is missing?
- Wearing the white hat allows you to present and consider information in a neutral and objective way.

Pure facts, figures and objective information

# Blue hat



The reflective hat

- Sets the focus, calls for the use of other hats
- Monitors and reflects on the thinking processes used
- Blue is for planning
- Wearing the blue hat, you might: set the agenda, suggest the next step, or ask for a summary.

Cool and controlled; rule over other hats.

## Black hat

The cautious hat



- Does the suggestion fit the facts, the experience or the system?
- What are the risks or dangers involved?
- Wearing the black hat allows you to consider information critically and logically.
- Do not overuse or use too early!

Devil's advocate; logical negative judgment; why it won't work

# Red hat



The intuitive hat

- What do you feel about the suggestion?
- What are your gut reactions? Don't think too long or too hard
- What intuitions do you have?
- Putting on the red hat, you express how you *feel* about the information.

Emotions and feelings; hunches and intuition

# Green hat



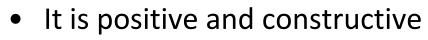
The creative hat

- Green represents growth and movement.
- What new ideas or additional alternatives might we consider?
- Can we do this in a different way?
- Wearing the green hat encourages creativity, possibilities, new perceptions and lateral thinking.

Fertile, creative, new ideas, movement, provocation

# Yellow hat

The sunshine hat

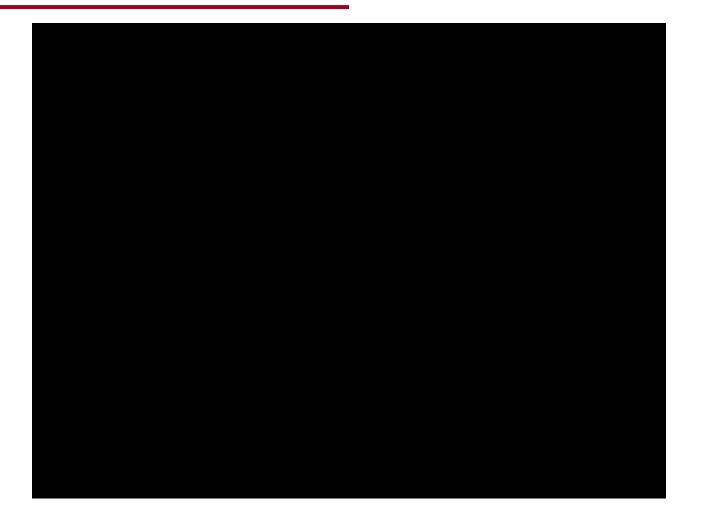


- Look for how something *can* be done, why it *could* work.
- What are the benefits, the advantages?
- Yellow hat thinking is a deliberate search for the positive; it searches for benefits that are not always immediately obvious.

Sunshine, brightness and optimism; positive constructive thought



### Edward de Bono



## Execution



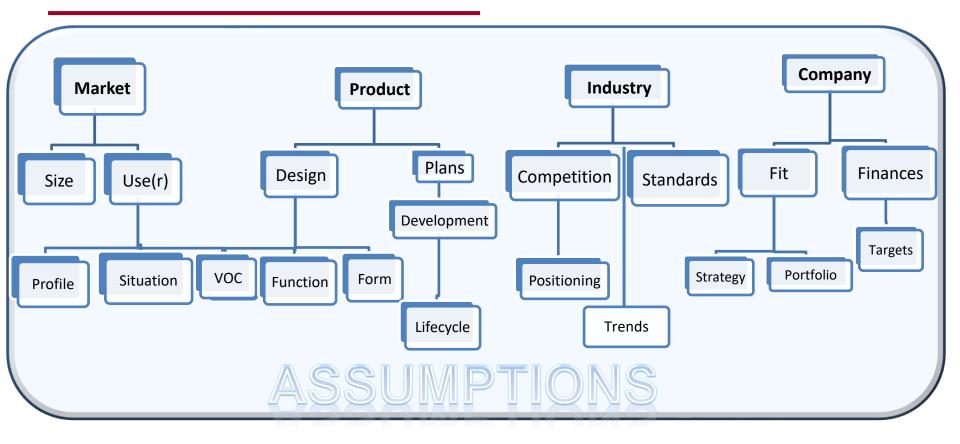
- Put the ideas into action to create value.
  - Project management
    - Stage-gate
    - Agile
    - Informal
    - Function-specific
  - Resources
  - Financial validation
  - Market validation

## **Roadmap basics**

- A product roadmap is the business plan for the product owner
  - Containing probable scenarios based on current expectations, forecasts & assumptions
    to aid in managing a product line's growth
- A roadmap is not a project plan, but rather a strategy, business planning and communication tool.



#### **Business case components**



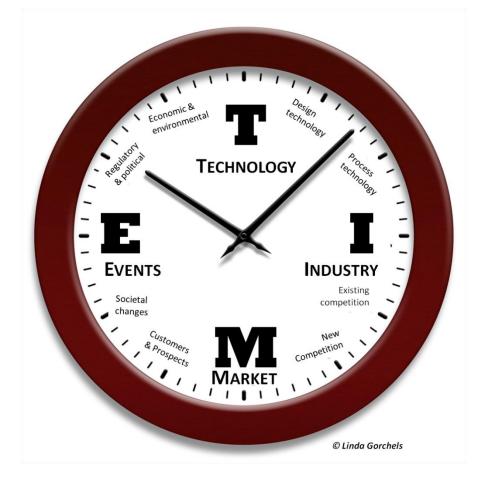
#### Study external forces, interactions

External

Forces

Interaction

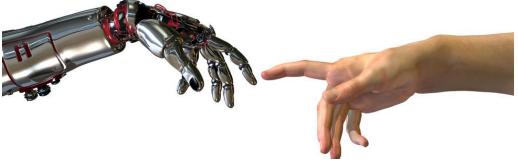
Embrace a long-term outside-in approach to innovation







- Describe technology, science & innovation in your industry and in similar industries.
  - Can technologies from other industries be adapted?
  - Are novel applications possible?
- What technological changes are expected or anticipated?













































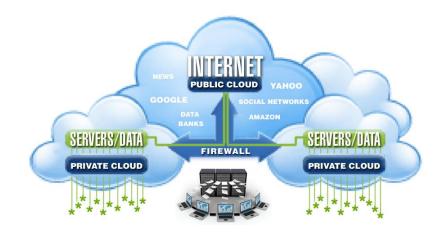


















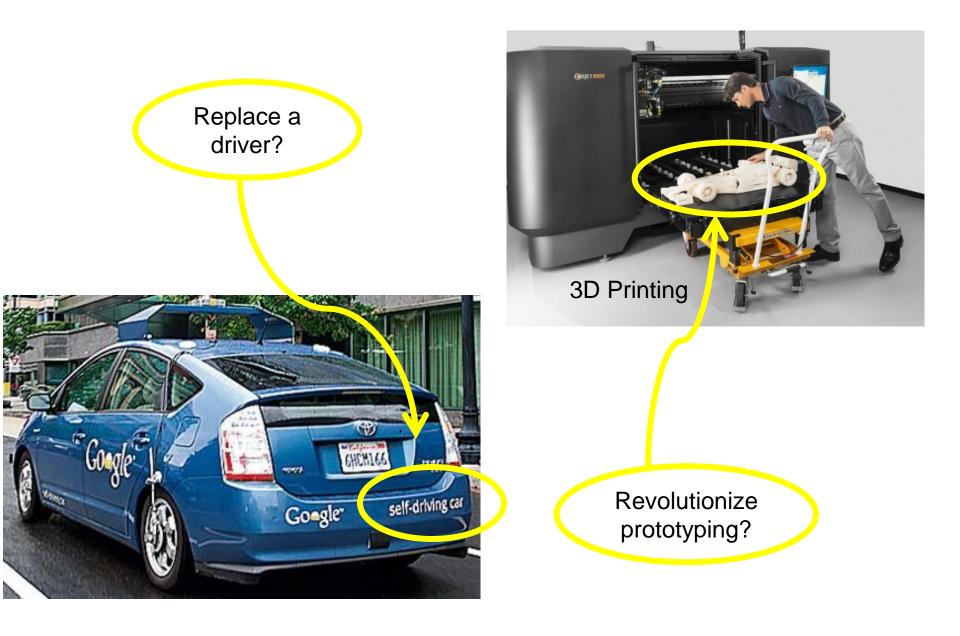
A self-serve world is changing the nature of jobs.



#### Meet Baxter



Interacting with Baxter is more like working with a person than operating a traditional industrial robot.



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- Think about your current or prospective industry. What changes are occurring that might trigger innovation for your firm? How might product life cycles affect innovation?
- Who are your direct competitors and why?
- How are you uniquely positioned compared to these competitors? What is your value proposition and how will you innovate to maintain it in the future?

### Institutional blindness



#### Stages of the Industry Life Cycle

The value is not as a predictive tool but rather as an insight tool.

Stage Factor	Introduction	Growth	Maturity	Decline
Generic strategies	Differentiation	Differentiation	Differentiation Overall cost leadership	Overall cost leadership Focus
Market growth rate	Low	Very large	Low to moderate	Negative
Number of segments	Very few	Some	Many	Few
Intensity of competition	Low	Increasing	Very intense	Changing
Emphasis on product design	Very high	High	Low to moderate	Low
Emphasis on process design	Low	Low to moderate	High	Low
Major functional area(s) of concern	Research and development	Sales and marketing	Production	General management and finance
Overall objective	Increase market awareness	Create consumer demand	Defend market share and extend product life cycles	Consolidate, maintain, harvest, or exit

Unit Sales

Profits

Time

Sales/ Profits

#### Adjust strategies for ILC/PLC link

Industry life cycle (ILC)	Decline		Harvest; look for niches		Retire
	Maturity	Positioning & differentiation	Reinforce	Market expansion & renewal efforts	Evaluate for renewal, relaunch or retirement
	Growth	Shared market growth	strengths		
	Introduction	Market creation			
		Introduction	Growth	Maturity	Decline

**Product life cycle (PLC)** 







- Is your primary market stable, growing, or declining? Have you saturated this market, or is there room for profitable growth?
- How might this change in the future, and what will be the implications for the types of innovation?
- Are there adjacent markets that offer opportunities for the future innovations?
- How do you get market inputs for innovations?

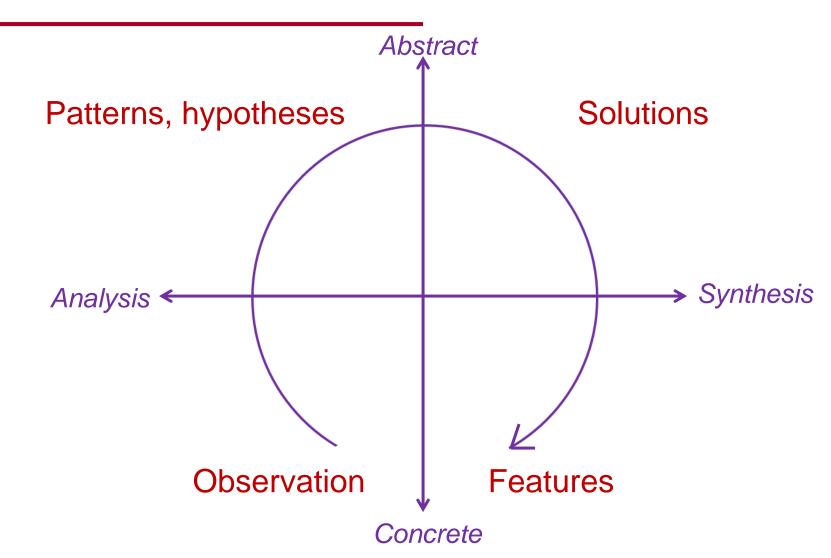
### Ethnography



# What are the benefits and drawbacks of Ethnography?

#### Gerry Katz Executive Vice President Applied Marketing Science, Inc

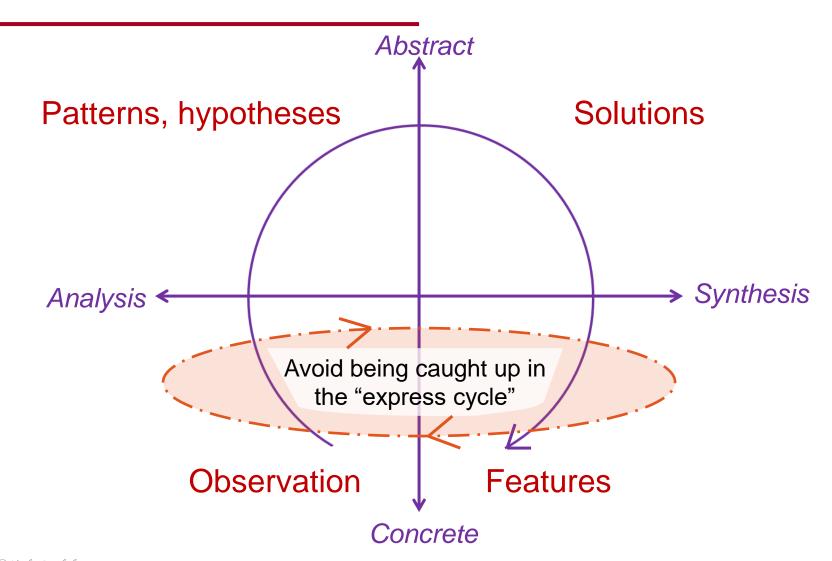
#### Seek out patterns



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Adapted from Sara Beckman: Applying Design Thinking Principles in Product Management, UC Berkley Center for Executive Education, March 4, 2009.

#### Avoid short-cuts







- What pending legislation might affect your future?
- Are there existing laws or requirements that pose opportunities or threats?
- What types of innovations might be necessary to respond to these issues?

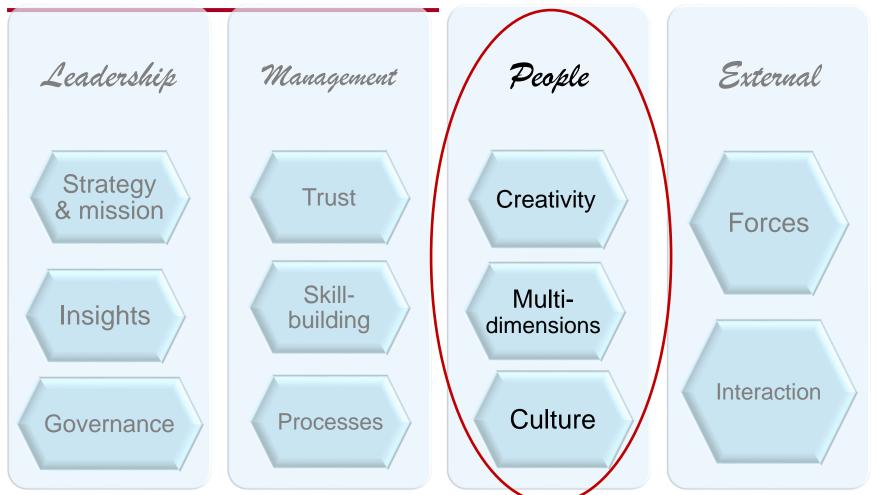
#### Here's where we are now:

 define and build on the components of creativity heighten your personal Psychology of creativity creative thinking discern leadership and management roles in Disciplined creativity establishing direction and leading to processes of innovation innovation identify ways to nurture

creativity (and innovation) within a company's culture

Nurture the cultural ecosystem

### Interrelated organizational factors

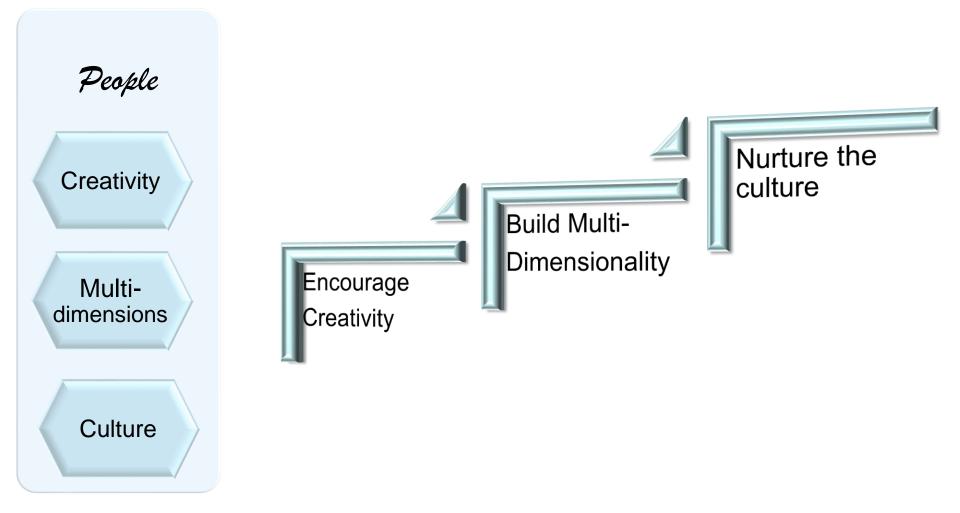


Adapted from Peter van den Brink, "Organizational Competencies for Radical Innovation" University of Twente, 2005.

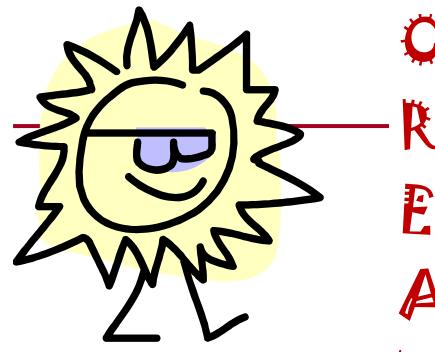


## Nurture the cultural ecosystem

#### The People Element



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How can managers encourage or promote employee creativity each of these areas? Curious Resilient Extrospective Autonomous enacious Introspective Versatile

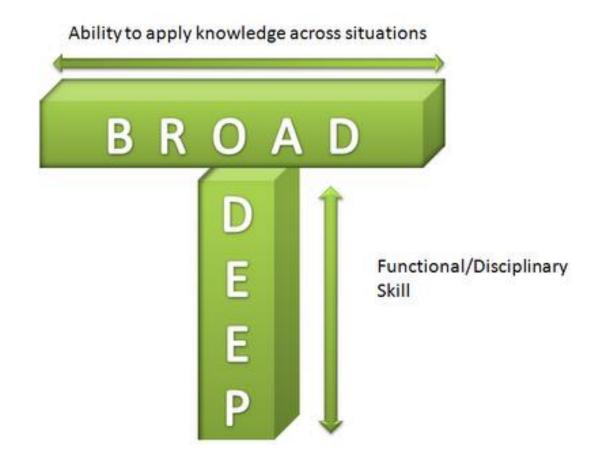


**Promote life-long learning Provide tuition assistance** and/or time off for education when possible. Fund relevant research Provide creativity and/or innovation training Hire T-shaped individuals.



## Multi-functional teams versus Multi-faceted individuals

#### T-shaped corporate entrepreneurs





## **Give employees** low-risk opportunities where failure is an option

# Extrospective



Promote information sharing / collaboration Sponsor speakers and events Test crowd-sourcing and open innovation **Consider sabbaticals** or similar activities

"...entrepreneurial triumphs aren't due to lonely, iconoclastic work– they're "eminently social."

Chip Heath. The Myth of the Garage

"Collaboration drives creativity because innovation always emerges from a series of sparks – never a single flash of insight."

Keith Sawyer. Group Genius

Group Genius

## Open innovation concepts

<b>Co-development</b>	Working with outside partners in development
Collaborative innovation	Networks, alliances, consortia
Joint venture	Formal legal arrangement
<b>Open innovation</b>	Leveraging external sources of technology & innovation
Open-source models	Informally structured collaborations

Source: M. Docherty, "Primer on Open Innovation, PDMA Visions, April 2006, p. 13.

#### Co-creation with customer



#### Henry Chesbrough: Open Innovation



### Open networks

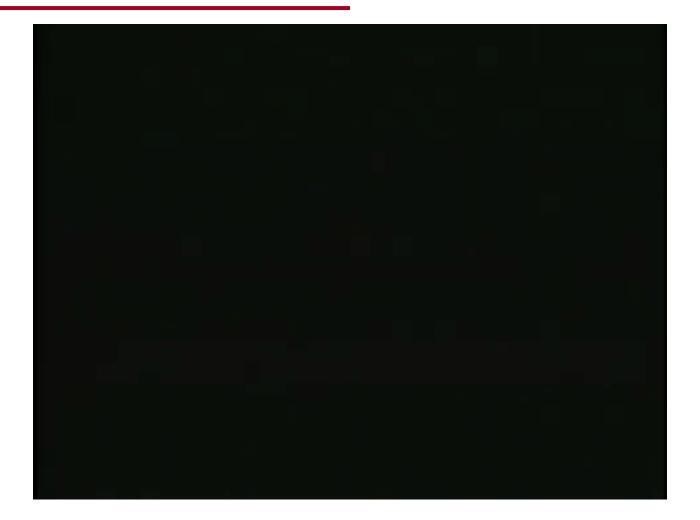
- NineSigma (<u>http://www.ninesigma.com/</u>)
- InnoCentive (<u>http://www.innocentive.com/</u>)
- YourEncore (<u>http://www.yourencore.com/</u>)
- Yet2.com (<u>http://www.yet2.com/</u>)

#### Lead user studies

- Network to identify people, industries or groups who have the greatest need (and likelihood) to have solutions for components of the problem you are trying to solve
- Collect insights from different types of lead users
- Adapt concepts to your internal requirements



#### Lead user process defined

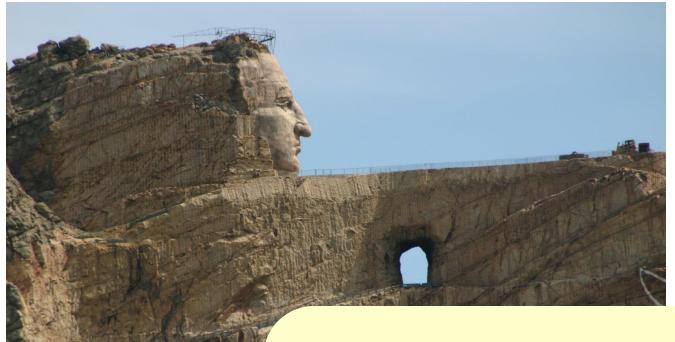






Allow (encourage?) time to focus on projects of self-interest. Provide appropriate privacy





- Role model determination.
- Showcase successful tenacity.

## Introspective

Match jobs with individual interests where intrinsic rewards are relevant.







Reward a focus on appropriate results rather than solely on processes – especially when processes need to be changed to attain agreed-upon results, or when modified goals attain better results.



- Encourage employee wellness
  - Health club memberships or internal facilities
  - Health insurance discounts for wellness
- Support breaks to recharge

• When possible, allow flextime

#### Where and how does culture fit in? What is an innovative culture?



#### Innovation is linked to culture

Innovation is the

process and/or

output of creating

and realizing

external value from

that which is new.

Culture is "the way we do things around here."

It is how creativity -

and innovation –

"happen" (or not ...).

## Henry Mintzberg on culture

"Culture is the soul of the organization — the beliefs and values, and how they are manifested. I think of the structure as the skeleton, and as the flesh and blood. And culture is the soul that holds the thing together and gives it life force."



#### Positive aspects of culture

#### Positive

- social glue
- boundary-defining
- common sense of identify
- facilitates commitment



### Negative aspects of culture



#### Negative

- can be a barrier to change
- can be a barrier to diversity
- can be dysfunctional for new business models

# What about subcultures?

#### Subcultures

- Are located throughout the organization
- Can enhance or oppose firm's dominant culture (i.e., are countercultures)

#### Countercultures can:

- provide surveillance
- be an early indicator of emerging values

#### So, how can a culture be changed?



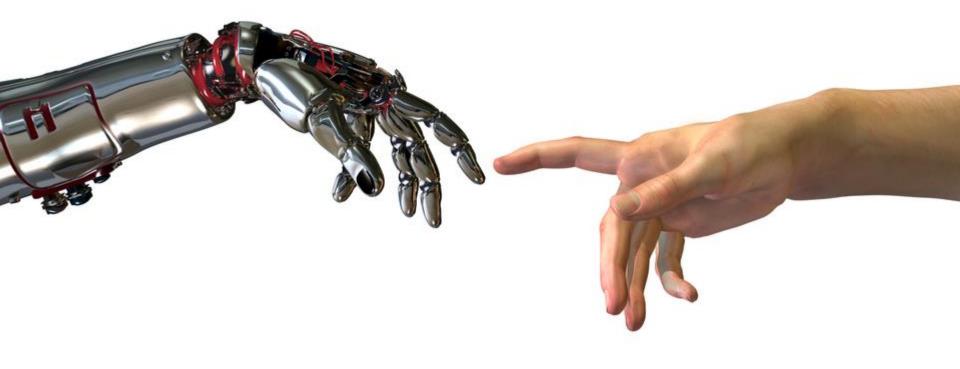
### Consider several angles

- diagnose your overall culture
- audit to understand individual styles and approaches
- build spaces for creative conversation
- establish mentor program
- provide cross-functional creativity and innovation workshops
- consider conscious, imbedded actions toward culture change, if necessary



Diagnose your culture as it relates to innovation

#### Technology- or market-focused?



#### Short-term or long-term focused?



#### Xerox PARC



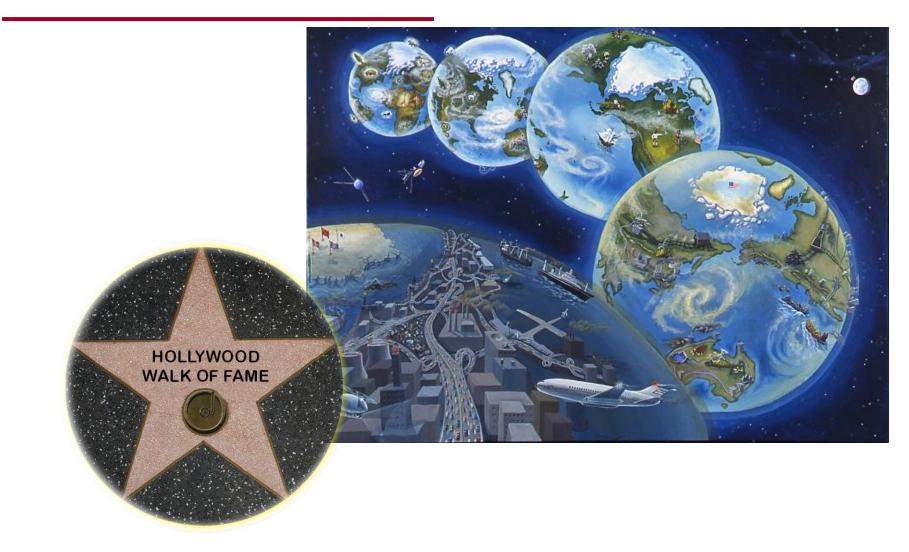
#### Internally or externally focused?



#### Tolerant or intolerant of failure?



#### Stars or solar systems?

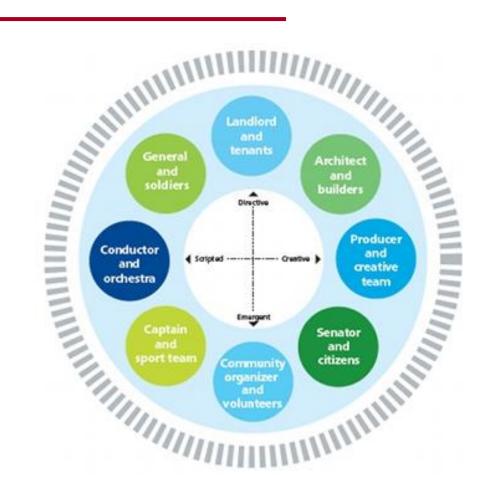


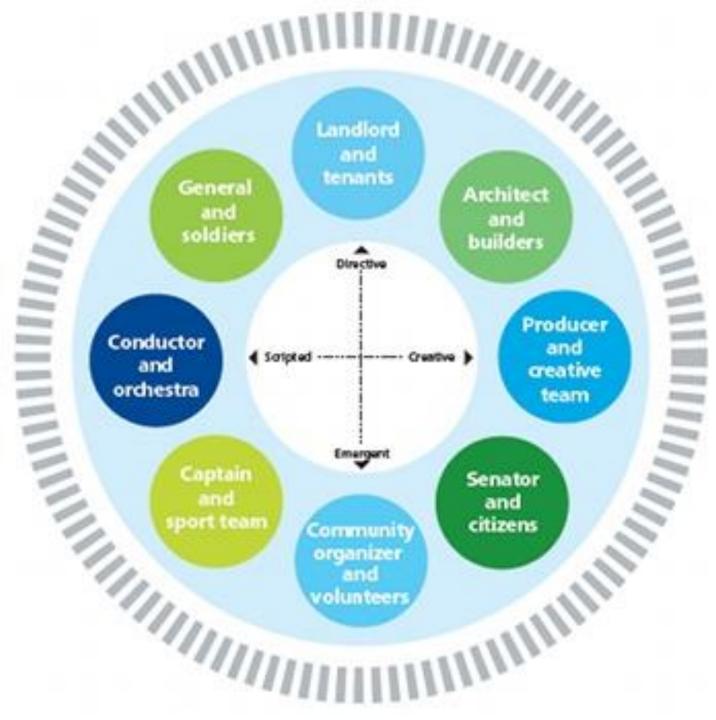
#### Rosenfeld's view on culture

High	Mercenary	Communal
Solidarity	e.g., generally short- term focused	e.g., start-ups
(common goal focus)		
	Fragmented	Networked
Low	e.g., universities	e.g., many service organizations
	$\mathcal{Low} \longleftarrow Sociability \longrightarrow \mathcal{High}$ (relationship focus)	

Robert Rosenfeld, *Culture, People and Innovation: An Interview with Robert Rosenfeld*, Research Technology Management, Mar/Apr. 2012.

#### As-One Archetype Classifier





## **Building Blocks Survey**

- Values drive priorities and decisions
- Behaviors describe how people act
- **Climate** is the tenor of workplace life
- **Resources** are people, systems, projects
- Processes are the routes that innovations follow
- **Success** refers to the measurements used to judge innovation

#### CONSCIOUS ACTIONS TOWARD CULTURE CHANGE

TIME FOR

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#### Secret of Change Management Patrick Dixon

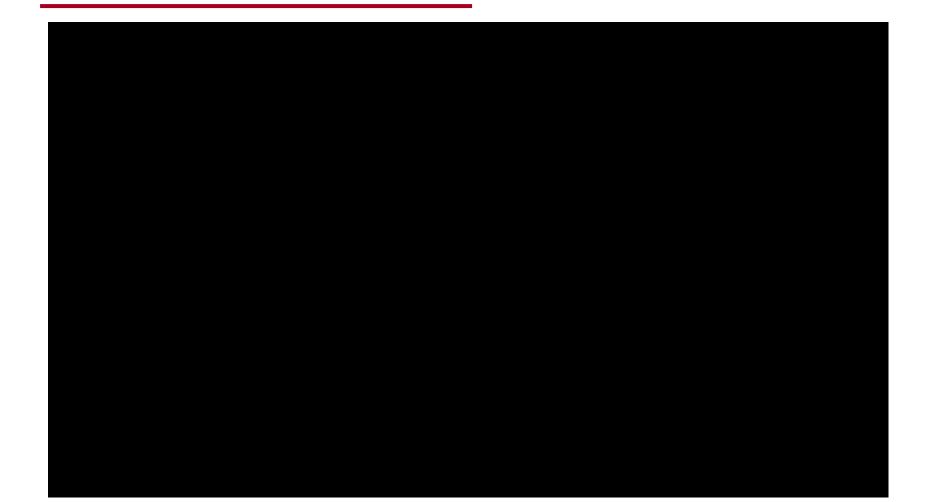


#### Encourage positive role models

**Create new** stories, symbols and rituals to build the new culture.

Change the rewards and recognition to fit the desired values.

#### **Dan Pink - Motivation**



#### Select, promote, and support employees who esponse the new values that are sought.



#### Highlight subcultures that demonstrate the desired innovative values.

## Shake up current subcultures through transfers, job rotation, and/or terminations.

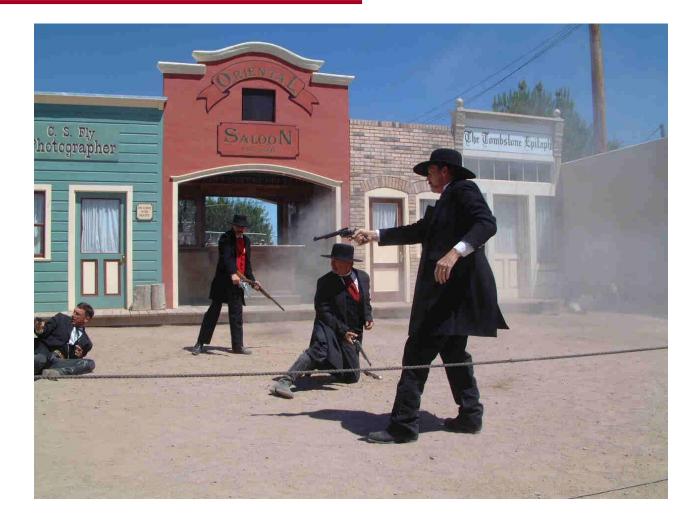
## Transfer learning to employees **Project assignments Cross-unit** Shadowing experience (CUE) Rotation/immersion

#### Reduce systemic flaws

• How well do you evaluate internal innovation decisions and processes?



#### Lower barriers to collaboration



#### Now you should be able to:

- define and build on the components of creativity
   heighten your personal creative thinking
- discern leadership and management roles in establishing direction and processes of innovation
- identify ways to nurture creativity and innovation within a company's culture

**Psychology** of creativity Disciplined creativity leading to innovation Nurture the cultural ecosystem

# "The greatest enemy of knowledge is not ignorance; it is the illusion of knowledge."

**Stephen Hawking**