

# LEADING INNOVATION

## From Idea to Execution

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## What is Innovation?

- What are some examples of innovation that you have observed?
  - Within your industry
  - In general
- Why do you consider the example to be an innovation?
- How well does your organization innovate? Why is that the case?

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## Definitions of Innovation

### Origin

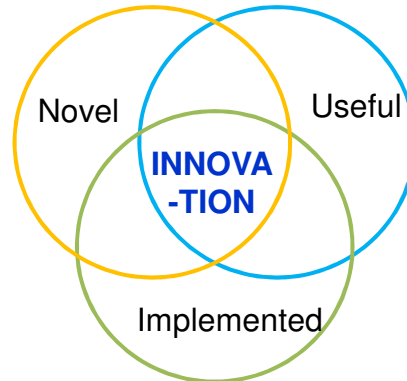
Latin *innovatus*, past participle of *innovare*, from *in-* [into] + *novus* [new]

### Innovation

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

### Innovate

1: to introduce as or as if new  
2 *archaic* : to effect a change in



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## Why Innovation

- Given the potential for innovation, it is no surprise that corporate leaders seek innovation as a means to stimulate growth and profitability
  - The surface area is vast
  - There are proven methods that can be used to generate innovation
  - Therefore, we must innovate!

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## The Innovation Imperative: Theory

- “Making innovation work is the single most important business issue of our era.”  
-- *Business Week*, June 2006
- Innovation “is now recognized as one of the most important contributors to economic growth.”  
-- *Economist (Technology Quarterly)*, December 2009
- “Innovate or die!”  
-- *Forbes*, July 2011

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## The Innovation Imperative: Facts

- “... innovative companies are especially adroit at continually responding to change of any sort in their environments” – Peters & Waterman, *In Search of Excellence*, 1982
  - Within two decades, most of these innovative companies had gone bankrupt or had been acquired



- They saw it coming, but didn't do anything about it!  
Why does this happen over and over again?

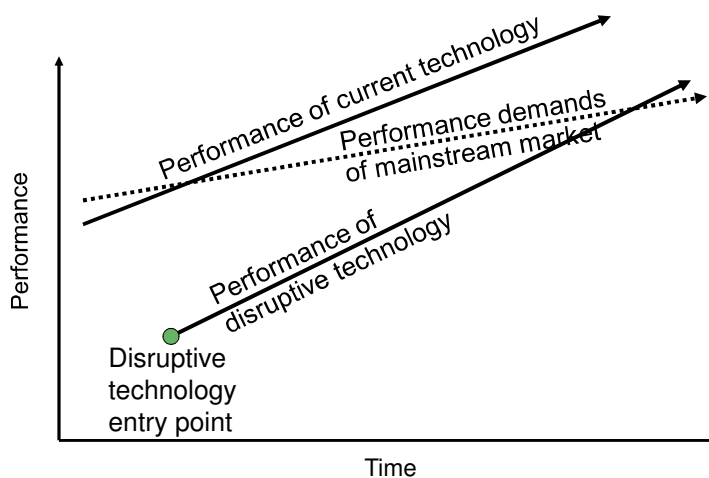
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## A Closer Look at Kodak

- Market leader in photographic film
- Developed a digital camera in the 1970s, but kept it on the shelf
- Introduced the digital camera in response to competitors; late to the market
- After growing a sizeable market share, folded the unit into its consumer products unit; it languished
- [Filed for bankruptcy protection in January, 2012](#)
- Exited digital camera market in February, 2012

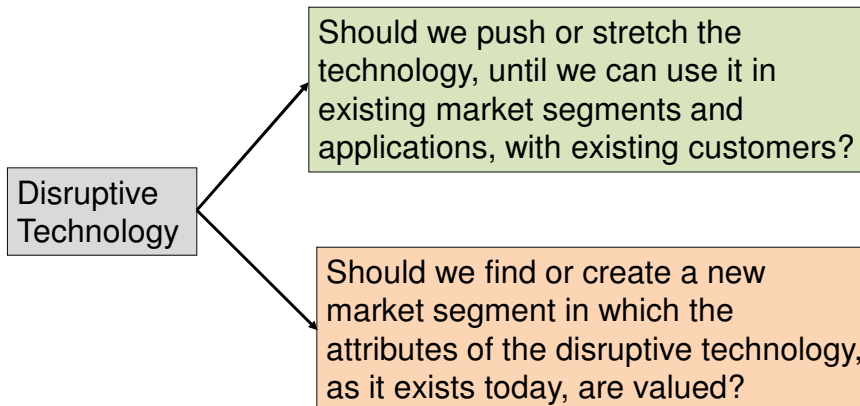
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## Disruptive Technologies and the Threat to Market Leaders



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## Commercializing Potentially Disruptive Technologies



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## Cultivating Disruptive Technologies

- Determine whether the technology is disruptive
- Define the strategic significance of the disruptive technology
- Locate the initial market for the disruptive technology
- Form an independent organization to build the disruptive technology business
- Keep the disruptive technology organization independent
  - Entrepreneurial spirit, experimentation
  - Freedom to attack mainstream business

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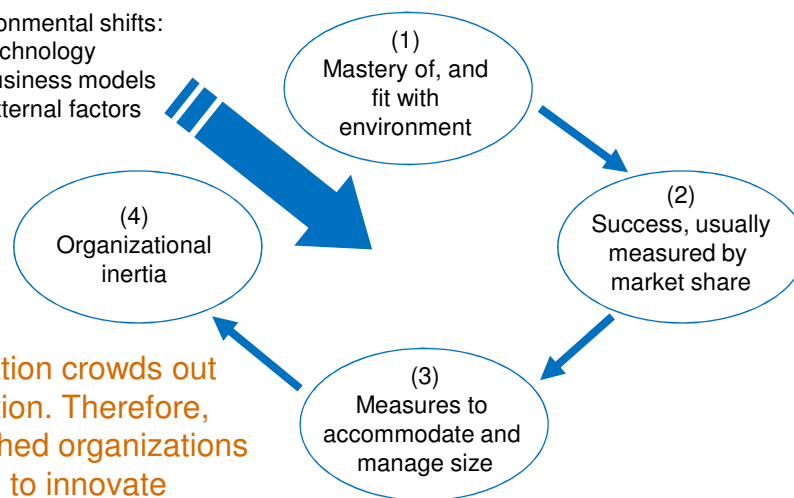
## “Cultivate Disruptive Technologies” May Be Easier Said Than Done

- Cognitive inertia and framing of the technology can affect strategic thinking
- Action inertia may limit options
  - Organizational routines can be powerful
  - Politics often trumps strategy
  - Turf wars affect resource allocation
  - Managerial short-termism may affect motivation
  - Status quo bias may affect speed of response
- Running separate sustaining and disruptive organizations effectively is challenging

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## Why Established/Big Organizations Struggle With Innovation

Environmental shifts:  
- Technology  
- Business models  
- External factors



Exploitation crowds out exploration. Therefore, established organizations struggle to innovate

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## A Little Story About Innovation

- *The setting:* The South China Sea at the end of the 1890's
- *The innovator:* Lt. Sims, an officer in the U.S. Navy
- Lt. Sims is dissatisfied with the state of naval gunnery
  - Only 1.3% of shots fired hit their marks (Bureau of Ordnance data)
  - However, this was better than most other navies; the U.S. Navy is seen as a benchmark; played a critical role in winning the Spanish-American War
  - Normal process: Estimate distance to target; raise gun barrel using elevating gears; wait for the roll of the ship; fire!
  - Low hit rate is seen as a natural consequence of the complexities of firing while a ship is rolling and being tossed around by waves
  - Adding telescopic sights did not produce much of an improvement

## Innovation in Naval Gunnery (contd.)

- *The solution:* Continuous-aim gunfire
- Discovered by Admiral Sir Percy Scott of the British Navy around 1898 on the H.M.S. Scylla
  - Was observing gunners at target practice in rough seas
  - Noticed that one gunner had higher accuracy than the others
  - The gunner was unconsciously moving his elevating gears back and forth rapidly to compensate for the roll of the ship
  - *A ha! moment:* If all gunners could adjust their aim continuously to adapt to the roll of the ship, accuracy can be increased
  - Changed gear ratios, etc. and moved the telescopic sights
  - Dramatically increased (by 3000%) the accuracy of his gunners
- Scott shared his discovery with Lt. Sims, while he was posted on the H.M.S. Terrible in the South China Sea

## Innovation in Naval Gunnery (contd.)

- Lt. Sims excited at the idea of continuous-aim gunfire
- Conducts trials on his own ship; finds similar improvement
- Lt. Sims wants the U.S. Navy to implement the innovation on all ships
  - Creates detailed reports containing data from his own trials and those conducted by Scott
  - Includes lists of procedures, documentation, engineering drawings of changes to the mechanical components involved, etc.
  - Sends them to the Bureaus of Ordnance and of Navigation
  - Waits and expects an enthusiastic reception from the bureaus
- Time passes and he hears nothing
  - The bureaus simply file away this reports; later he finds out that some of them had been eaten away by insects in the file drawers

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## Innovation in Naval Gunnery (contd.)

- *Attempts to convince the Bureaus*
  - Produces additional data and more detailed reports. No response
  - Changes his tone – more strident and forceful. No response
  - Circulates his reports widely to other officers. This time the bureaus cannot ignore him and eventually write back
  - Lt. Sims is informed that the Bureau of Ordnance has conducted tests in the Washington Navy Yard – five men acting on the elevating gear of a typical gun could not move it enough to compensate for a roll of five degrees in ten seconds, thus proving that continuous-aim gunfire is not possible. The problem if any is with the gunners, who are the responsibility of the officers on ships
  - Sims takes the gloves off – prolonged period of arguments and name-calling back and forth
  - Bureaus suggest that Sims is delusional and is falsifying data; are comforted by the fact that he is a junior lieutenant 8000 miles away

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## Innovation in Naval Gunnery (contd.)

- *One last try*
  - Lt. Sims gives up on convincing the Bureaus – feels that the administrators in Washington are being lazy, incompetent obstructionists who refuse to see reason
  - Collects all his documentation and sends it directly to Theodore Roosevelt, the President of the U.S.; implores the President to consider the data, and informs him of his inability to get the Bureaus to pay attention to the idea
  - President Roosevelt, formerly an Assistant Secretary of the Navy, who tended to respond to such appeals when he could, is intrigued by the idea and immediately sees its potential
  - Orders Lt. Sims to Washington in 1902, where he is made the Navy's Inspector of Target Practice
  - Lt. Sims institutes continuous-aim gunfire as the standard practice for gunners in the U.S. Navy

## Case Study: Lieutenant Sims

- What type of innovation was continuous aim gunfire?
- Why was there so much resistance to the idea of continuous aim gunfire? What organizational factors worked against the attempt at innovation?
- Assess Lt. Sims's actions in pushing the continuous aim gunfire innovation. How did he overcome resistance to his innovation idea?
- What does the case illustrate about the innovation challenge? About the organizational factors and leadership skills necessary for innovation?

## Common Barriers to Innovation in Established Organizations

- Structural inertia
  - Chain of command; hierarchy; silos
  - Organizational policies and procedures
- Cognitive inertia
  - Existing mental models of top management
  - Decision-making values and priorities
- Cultural inertia
  - Top-down style
  - Organizational values
  - Power dynamics; interests of incumbents
- Action inertia
  - Resistance from dominant units
  - Resource competition with existing operations

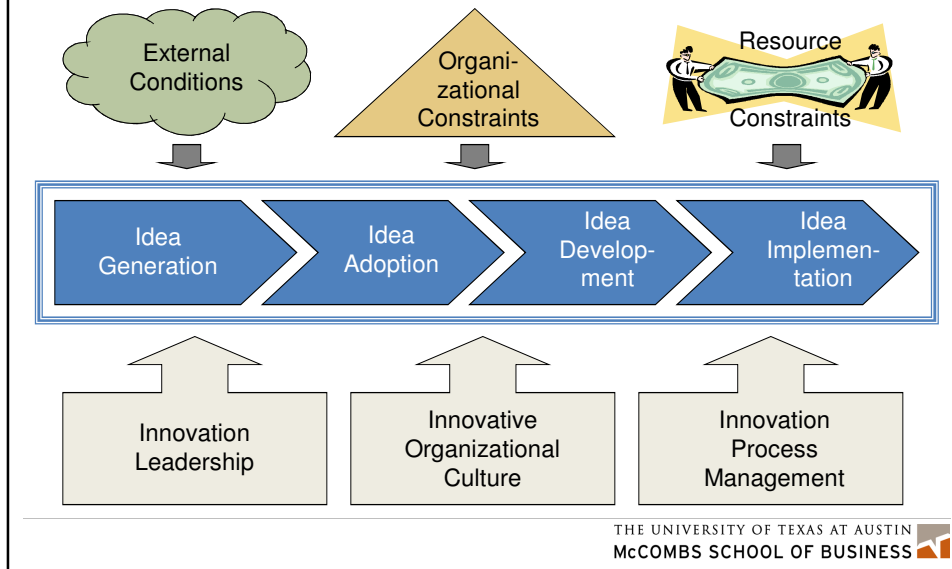
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## Lt. Sims Case Study: Lessons

- Innovations struggle against the status quo in existing organizations
- Those closest to the action may be in the best position to have insights and ideas
- In the absence of a felt need, managers may not always see the value of an innovation
- Structural and cultural barriers may pose significant hurdles to innovation
- Successful innovation requires effective leadership, culture, and process management

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## Making Innovation Work in Existing Organizations



## Innovation Leadership Roles: Project/Unit Leaders

- Building the innovation team
- Developing/motivating the team
- Building team's/unit's capabilities
- Creating and pursuing growth opportunities
- Making a business case
- Selling up
- Managing boundaries

## Innovation Leadership Roles: Division and Corporate Leaders

- Providing vision
- Establishing and monitoring innovation goals
- Managing an innovation portfolio
- Coaching/consulting; providing discipline
- Providing support and resources
- Managing inter-unit dynamics
- Developing and nurturing an innovative culture

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## Leading Innovation: Creating a Supportive Culture

- Respect for the individual
- Listening to new voices; openness to new ideas
- Broad definition of innovation
- Innovation as a norm
- High standards and stretch goals; focus on a cause or on an enemy to beat
- Learning and venturing orientation; focus on speed
- Attitude toward risk-taking and failure

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## Failure: The Foundation of Success

- Individuals/organizations learn more from their failures than from their successes
- Need to emphasize that failure is natural in the innovation process
- Encourage smart failures
- Emphasize learning from and building on “failures”



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## Attitudes Toward Innovative Ideas

**A Wide Range**



**Sure Things**

“Letting a hundred flowers blossom and a hundred schools of thought contend is the policy for promoting progress in the arts and the sciences and a flourishing socialist culture in our land”

– Mao Zedong, 1957

Vs.

“Show me the money!”

– Rod Tidwell (Cuba Gooding Jr.)  
in Jerry Maguire, 1996

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## “Let’s Find the Best Ideas”

“At any given time, 3M has about 1,500 products in the development pipeline. McNerney thinks that’s too many. His idea is to funnel more money toward the most promising ideas - - say, those with a potential market of \$100 million or more -- while culling the weakest-looking ones earlier. This Darwinian approach, McNerney believes, will make better use of 3M’s \$1 billion R&D budget and could halve the time that it takes to bring new products to market.” – *Fortune*, 8/2/2002, p. 132.

“‘Invent Wisely’ is New Mantra at Sober H-P ... Determined to set a middle course, H-P has been moving away from invention for its own sake and focusing its research-and-development spending on projects that promise faster profits.” – *Wall Street Journal*, 8/16/2004, p. B1

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## Easier Said Than Done: Errors in Making Decisions on New Ideas

<b>Decision</b>	Support	<b>Type I or <math>\alpha</math> Error: Support a bad idea (False Positive)</b>	<b>Correct Decision: Support a good idea</b>
	Reject	<b>Correct Decision: Reject a bad idea</b>	<b>Type II or <math>\beta</math> Error: Reject a good idea (False Negative)</b>
		Bad	Good

**Quality of Idea**

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## The Success Fixation (Wanting/Needing to Be in the Green Boxes)

- Pressure to succeed (be right) all the time
- However, succeeding all the time can mean that:
  - A. You are incredibly lucky
  - B. You are not trying hard enough
- How success impedes learning and innovation
  - Self-serving attributions
  - Reinforcement of schemas
  - Complacency; non-questioning attitude
- Need to focus on the “failure” (error) categories (understanding and managing the red boxes)

## The Organizational Realities of the Errors

<b>Decision</b>	Support	<b>The Goat</b> Backs a failure; poor decision-making	<b>The Hero</b> Picks good ideas that become innovations
	Reject	<b>The Steward</b> Protects organization from bad ideas	<b>The Slacker</b> Misses out on opportunities
		Bad	Good
<b>Quality of Idea</b>			

Most organizations celebrate heroes, punish goats, reward stewards, and tolerate slackers

## Balancing the Red Boxes

- The errors are related ... inversely
- And one of them is visible
- Dealing with the invisible error – making people try and stretch

## Innovation and Two Types of Failure

<b>Decision</b>	Support	<p style="text-align: center;"><b>The Goat</b></p> <p style="text-align: center;">Backs a failure; poor decision-making</p>	<p style="text-align: center;"><b>The Hero</b></p> <p style="text-align: center;">Picks good ideas that become innovations</p>
	Reject	<p style="text-align: center;"><b>The Steward</b></p> <p style="text-align: center;">Protects organization from bad ideas</p>	<p style="text-align: center;"><b>The Slacker</b></p> <p style="text-align: center;">Misses out on opportunities</p>
		Bad	Good

**Quality of Idea**

Most organizations celebrate heroes, punish goats, reward stewards, and tolerate slackers

Innovative organizations actively manage “failure” as a path to success, and reward/require smart risk-taking

**Excerpt from Interview with Sara Blakely (Spanx):  
“The World's Youngest Self-Made Female Billionaire”  
Fareed Zakaria GPS, CNN 8/26/13**

ZAKARIA: So, what do you think when you look back at this? You have no business training. You have no business education. What do you think was the key to your success?

BLAKELY: I mean I would have to say one of the biggest keys to my success was my upbringing and my father. And he was very determined growing up to encourage me to fail.

ZAKARIA: Encourage you to fail.

BLAKELY: So, my dad, at the dinner table, he would ask my brother and me what we had failed at that week. And if we didn't have a story to tell him, he would actually be disappointed.

And I can distinctly remember coming home and saying, "Dad, dad, I tried out for this and I was horrible." And he'd high-five me and say "Way to go." And so what happened was he reframed my thinking on failure. So, failure for me became not trying versus not succeeding.

And I think, more than anything, what stifles entrepreneurship and this risk-taking that all these people are sitting on million dollar ideas is the fear of failure.

And so that was a real big gift I got from the I was raised was not to fear that.

## **Fostering Employee Innovation and Creativity: Examining the Process**

- How wide is the net cast for ideas?
  - Proprietary vs. open innovation mindset
- How receptive is the organization to new ideas?
  - Encouraged vs. tolerated vs. stifled; volume; etc.
- Where do ideas that are implemented come from?
  - Hierarchically constrained? Biased toward HQ?
- What is the path from idea to implementation?
  - Process for pitching, assessing, adopting
  - How does it address the uncertain, controversial, and boundary-spanning aspects of innovation?

## Managing the Innovation Process



Innovation talent pool  
 Time and resources for experimentation  
 Knowledge management system  
 Connecting internally and externally

Appropriate screens and hurdle rates  
 Multiple avenues for pitching ideas  
 Acceptance of bottom-up and outside-in wisdom

Technical capabilities  
 Project management capabilities  
 Prototyping and learning  
 Partnering with suppliers and customers

Resource commitment  
 Follow-up and monitoring  
 Tinkering and adjustment  
 Assessment and rewards  
 Leadership

## Recommended Reading: *BCG Perspectives Reports*

- Rethinking Your Innovation System. *BCG Perspectives*, October, 2014
- A Breakthrough Innovation Culture and Organization. *BCG Perspectives*, October, 2014
- Setting a Foundation for Breakthrough Innovation. *BCG Perspectives*, October, 2014

## What Does This Mean for Me?

- Leadership
  - Innovation leadership at various organizational levels
  - Creating the right team and a solid business case
  - Effectively navigating the organizational system to implement innovation
- Culture
  - Understanding the organizational climate for innovation
  - Creating an innovative climate within your team
- Process
  - Designing a process to foster innovation
  - Paying attention to each step in the innovation process

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## LEADING INNOVATION From Idea to Execution

A Deeper Dive Into Innovating  
Within An Established Organization

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## Innovating Systematically Using Design Thinking

- Key steps in a design thinking approach to innovation
- Organizational conditions required in order to foster design thinking within an organization or team
- Applying design thinking in a variety of organizational domains

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## Effective Innovation Leadership in Action: IDEO

A rigorous process based in design thinking, supported by a supportive culture and leadership

### Why Design Thinking

- Limits of traditional market research approaches such as surveys and focus groups
- Insufficient attention to customers' latent needs
- Inside-out, technology-push tendencies
- Tendency to replace market and technical wisdom with managerial wisdom
- Conceptual blocks to creativity

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## Design Thinking: [IDEO Deep Dive](#)

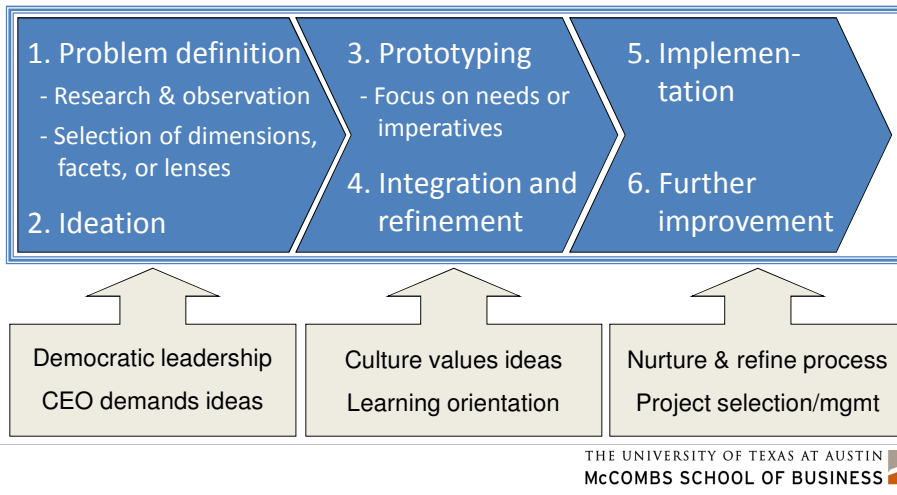
- What aspects of the leadership, structure, and culture of IDEO foster innovation?
- What steps did the IDEO team follow in the process of re-designing the shopping cart?
  - What were the key stages in the process?
  - What was the purpose of each stage?

## Divergence and Convergence

- Divergence: Expanding the surface area for innovation
  - Breaking down problem into facets/dimensions/lenses
  - Research, observation, brainstorming
  - Goal is to come up with as many ideas (as much coverage of the problem space) as possible
- Convergence: Integrating ideas into focused themes
  - Selection of themes for prototypes, integration
  - Goal is to uncover categories, meta-ideas/themes, and other avenues for aggregating ideas

## Effective Innovation Leadership in Action: IDEO

A rigorous process based in design thinking, supported by a supportive culture and leadership



## Group Exercise: Innovation Through Design Thinking

- Re-design a soda can for the “mobile drinker”
  - Break the problem down into facets/dimensions
  - Brainstorm ideas
  - Identify imperatives/“need areas”
  - Develop solutions/prototypes
  - Integrate solutions into a final sketch
- Present the design to the class
  - Final sketch of the redesigned soda can
  - One imperative/need area that the design is focused on



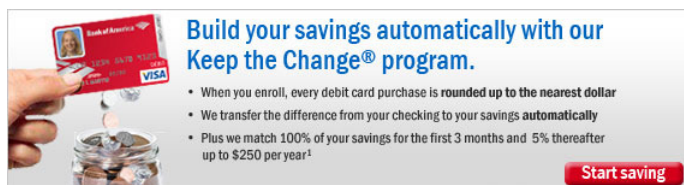
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## Innovation Through Design Thinking: Take-Aways

- Need to understand the customer, product, process, etc. through ethnographic approaches
  - Observation, discovery of latent needs
- Pay attention to divergence and convergence
- Effective brainstorming is an acquired skill
  - Focus on the problem
  - Generate a large number of ideas; stretch
  - Build on ideas, then switch to next set of ideas
  - Do not critique ideas during the process
- Design thinking can be applied broadly – to products, processes, services, etc.

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## Innovation Through Design Thinking: Services Examples



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- When you enroll, every debit card purchase is **rounded up to the nearest dollar**
- We transfer the difference from your checking to your savings **automatically**
- Plus we match 100% of your savings for the first 3 months and 5% thereafter up to \$250 per year<sup>1</sup>

[Start saving](#)

Source: Bank of America



Source: Marriott

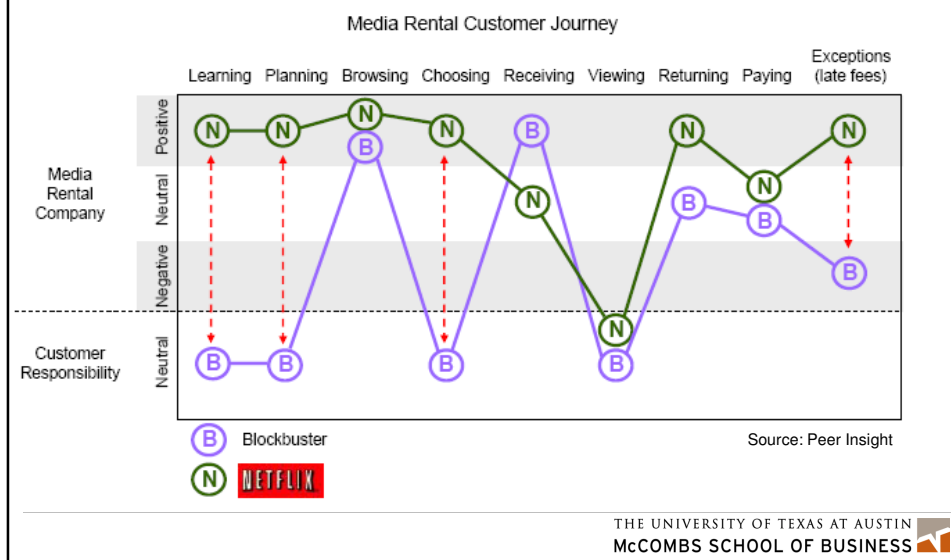
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## Service Innovation Through Journey Mapping

- Understanding the sequence of activities through which a customer interacts with the organization and its services
- Mapping the customer journey
  - Positives and negatives at each point
  - Customer emotions and “moments of truth”
  - Customer vs. firm activities
- Choosing points in the journey to change
- Designing a new customer journey

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## Media Rental Example



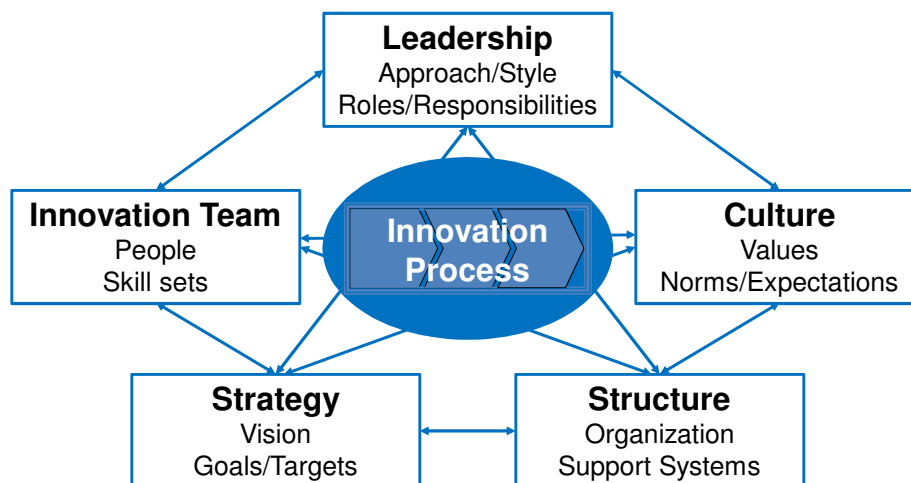
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## Using Design Thinking to Innovate in Your Own Role

- Which areas of your work could use redesigning?
  - Common problems/complaints; “pain points”
  - Opportunities
- How could you apply design thinking to redesign parts of your work?
  - Select an area (good, service, or process) to re-design
  - Define the problem; select facets/dimensions
  - Explore the problem
  - Brainstorm
  - Identify imperatives
  - Prototype solutions
  - Integrate prototypes into a final solution

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## Leading Innovation within Existing Organizations: Summary Model



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## But I Am Busy! When Will I Find the Time to do This?

- Time for innovation



Ongoing:  
3M 15 %  
Time;  
Google  
20% Time



Intensive:  
Facebook  
Hackathon;  
Atlassian  
ShipIt Day

- Continuous vs. episodic reviews
- A suggestion: “Friday afternoons” + innovation competition/market/fair days

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## Book Recommendations

- The Other Side of Innovation: Solving the Execution Challenge* by Vijay Govindarajan and Chris Trimble (2010)
- Innovation to the Core: A Blueprint for Transforming the Way Your Company Innovates* by Peter Skarzynski and Rowan Gibson (2008)
- Unleashing Innovation: How Whirlpool Transformed an Industry*, by Nancy T. Snyder and Deborah L. Duarte (2008)
- The Art of Innovation: Lessons in Creativity from IDEO, America's Leading Design Firm*, by Tom Kelly and Jonathan Littman (2001)

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