

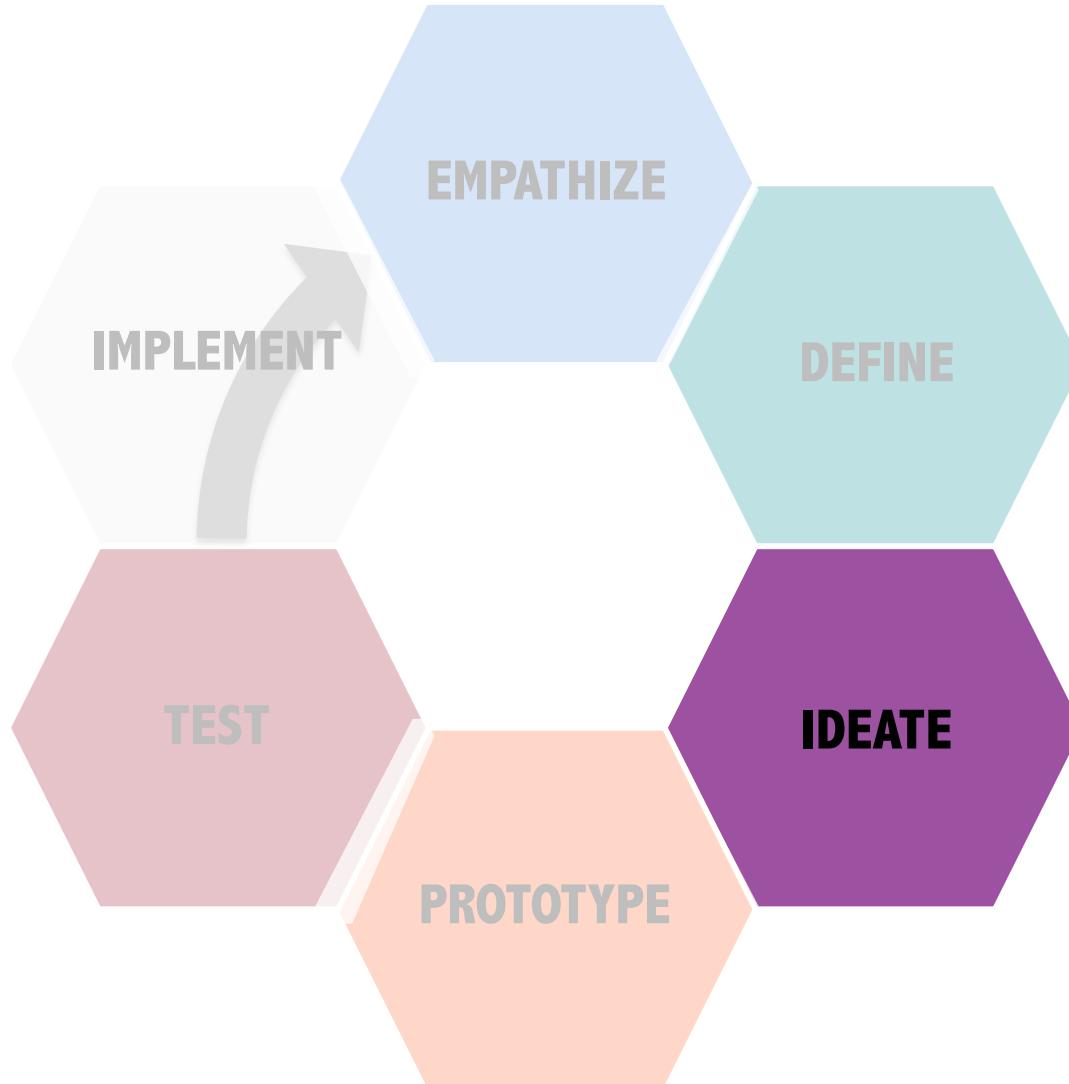
# Improving Idea Generation

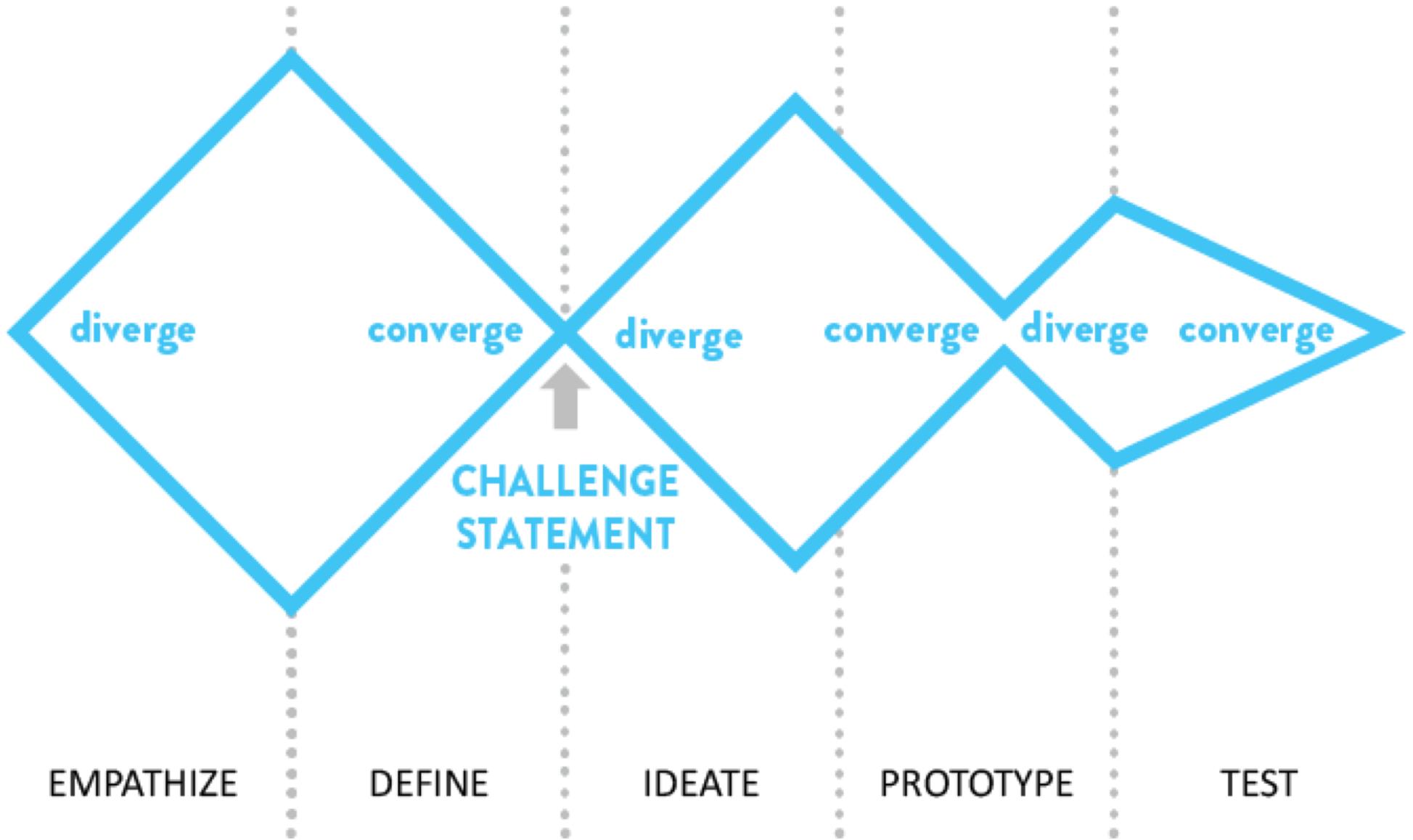


**Design Methods**  
**Stephen Walls, Ph.D.**



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# Tips for Ideation

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- **Be prepared. Do your homework.**
  - As best you can, know your room, your participants, and have a plan.
- **Bring a suite of ideation tools.**
  - Mixing things up will get to better ideas.
- **Suspend disbelief & work to master the art of the critique.**
  - Yes, there are bad ideas. When ideating, though, don't seek to kill them.
- **Diverge. Converge. Rinse, Repeat.**
  - Action-oriented people want to cut to the chase, but avoid the straight line.
- **Quantity can drive quality.**
  - Sometimes, you have to get the base ideas out first; they will help push to bigger ideas.



# Creativity Tests

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- 26=L of the A
- 7=W of the W
- 1001=A N
- 12= S of the Z
- 54=C in the D[with the J]
- 9=P in the SS
- 88=P K
- 13=S on the A F
- 32= D F at which W F
- 18= H on a G C
- 90= D in a R A
- 200= D for P G in M
- 8=S on a S S
- 3= B M [S H T R]
- 4= Q in a G
- 24= H in a D
- 1= W on a U
- 5= D in a Z C
- 57= H V
- 11= P on a F T
- 1000= W that a P is W
- 29=D in F in a L Y
- 64= S on a C
- 40 = D. and N. of the G.F.



# Creative Tests

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## Guilford's Alternative Uses Task

**Name all of the uses for a brick.**

Scoring based on :  
Originality  
Fluency  
Flexibility  
Elaboration



# Creative Tests

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## Remote Association Task

**COTTAGE : BLUE : MOUSE**

answer: cheese



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Creativity is the residue  
of time wasted

Einstein



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All great artists & thinkers  
are great workers

Nietzsche



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Art is work.

Glaser



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Creativity is just  
connecting things

Jobs



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- 1. You Have To Lose Yourself In Your Work** "My comic strip was the way that I explored the world and my own perceptions and thoughts. So to switch off the job I would have had to switch off my head. So, yes, the work was insanely intense, but that was the whole point of doing it."
  - 2. Create For Yourself** "Quite honestly I tried to forget that there was an audience. I wanted to keep the strip feeling small and intimate as I did it, so my goal was just to make my wife laugh. After that, I'd put it out, and the public can take it or leave it."
  - 3. Make It Beautiful** "My advice has always been to draw cartoons for the love of it, and concentrate on the quality and be true to yourself. Also try to remember that people have better things to do than read your work. So for heaven's sake, try to entice them with some beauty and fun."
  - 4. Every Medium Has Power** "A comic strip takes just a few seconds to read, but over the years, it creates a surprisingly deep connection with readers. I think that incremental aspect, that unpretentious daily aspect, is a source of power."

Watterson



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# The Creative Process

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- Is creativity a trait or a skill?
- Characteristics of people when they feel more creative:
  - Intrinsically motivated
  - Feel free to be more independent, unconventional, risk-taking
  - Can access their broader interests and feel more open to new experiences
    - Strong domain knowledge (and multiple domains)
    - Sufficient process knowledge (or at least intuition)
  - Capable of achieving intense focus on a given goal or objective



# Conceptual vs. Experimental Innovators

## Conceptualists

LITERATURE: The Great Gatsby

F. Scott Fitzgerald

Age 29

PAINTING: Les Demoiselles

d' Avignon

Pablo Picasso

Age 26

FILMMAKING: Citizen Kane

Orson Welles

Age 26

ARCHITECTURE: The Vietnam War Memorial

Maya Lin

Age 23

MUSIC: The Marriage of Figaro

Wolfgang Mozart

Age 30

## Experimentalists

LITERATURE: Huckleberry Finn

Mark Twain

Age 50

PAINTING: Chateau Noir

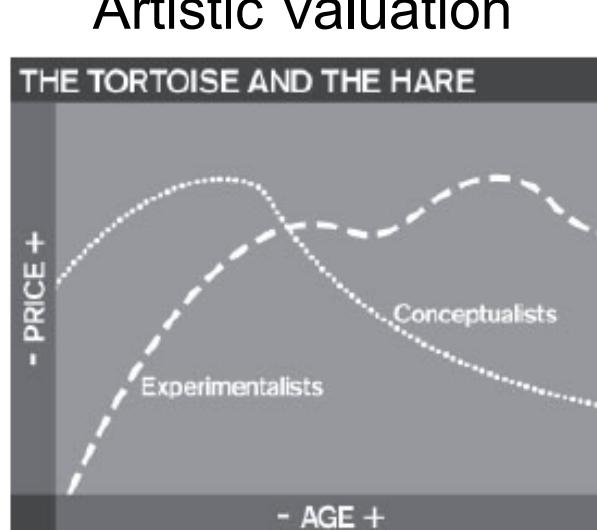
Paul Cezanne

Age 64

FILMMAKING: Vertigo

Alfred Hitchcock

Age 59



ARCHITECTURE: Falling Water

Frank Lloyd Wright

Age 70

MUSIC: Symphony No. 9

Ludwig van Beethoven

Age 54

Source: David Galenson, Univ. Chicago



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# A dichotomy or a continuum?

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## ■ Conceptualists

- Figure out in advance what they are trying to create
- They know what they want and know when they have it
- Underlying ideas matter - the rest is execution
- Swift, deductive, certain

## ■ Experimentalists

- Never know when their work is done
- Inductive, careful but willing to “sail into the wind of indifference”

Source: Daniel H. Pink in Wired, July 2006

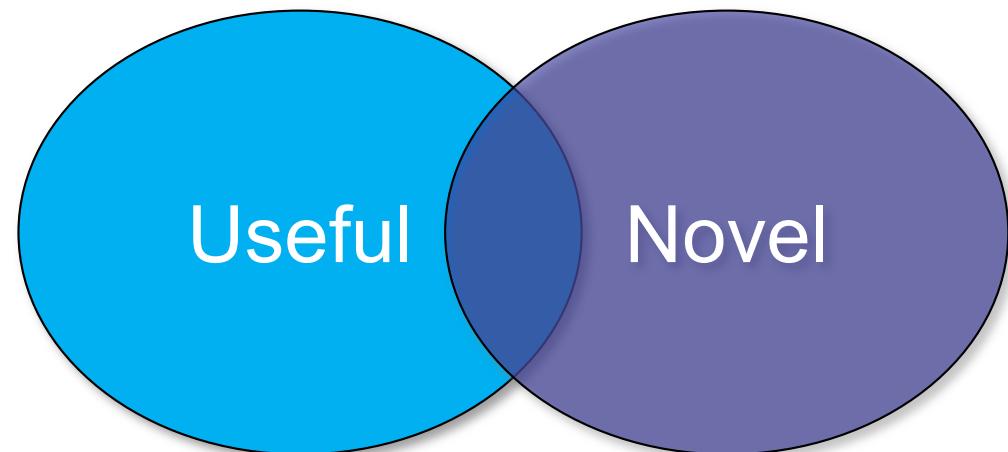


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# Creativity is...

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- An idea that is both “useful” and “novel”
  - Or “appropriate” and “original”
  - Emphasis is often on the latter
- Both a process and a product
- Typically studied by psychologists
  - Cognitive Psych.
  - Social Psych.
  - Ed Psych.



# Creativity is...

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- **One perspective: James Webb Young (1960)**

A Technique for Producing Ideas

- **Two key principles:**

1. Ideas are simply new combinations of existing elements
2. New combinations are enabled through understanding relationships

- **The Mental Digestive Process**

1. Gather raw material
2. Digest the material
3. Stop thinking about it
4. Let the idea come to you
5. Shape and develop the idea



# Creativity is... (another look)

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1. **Saturation:** Once the problem or creative challenge has been defined, the first stage of creativity is a left hemisphere activity that paradoxically requires absorbing one's self in what's already known. Any creative breakthrough inevitably rests on the shoulders of all that came before it. For a painter, that might mean studying the masters. For others, it involves reading widely and deeply, and then sorting, evaluating, organizing, outlining, and prioritizing.
2. **Incubation:** We walk away from a problem, typically because our left hemisphere can't seem to solve it. Incubation involves mulling over information, often unconsciously. Intense exercise can be a great way to shift into right hemisphere in order to access new ideas and solutions.
3. **Illumination:** Ah-ha moments - spontaneous, intuitive, unbidden – characterize the third stage of creativity. Give your left hemisphere a rest, and do something else, whether it's exercising, taking a shower, driving, or even sleeping.
4. **Verification:** In the final stage of creativity, the left hemisphere reasserts its dominance. This stage is about challenging and testing the creative breakthrough you've had. Scientists do this in a laboratory. Painters do it on a canvas. Writers do it by translating a vision into words.

Tony Schwartz - HBR



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# 10 Quick Creativity Hacks

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- 1. Color Me Blue**
- 2. Get Groggy**
- 3. Daydream Away**
- 4. Think Like a Child**
- 5. Laugh It Up**
- 6. Imagine That You Are Far Away**
- 7. Keep it Generic**
- 8. Work Outside the Box**
- 9. See the World**
- 10. Move to a Metropolis**

Lehrer, 2012 HBR



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# Innovation is...

- **Innovation is:**
  - Applied creativity
  - Relevant to processes, products and services
  - Typically studied in marketing & management departments
- **Characteristics of innovative organizations:**
  - Complex & challenging jobs
  - Sense of urgency
  - Diversity of thought & experience

## ■ BUSINESS MODEL

Negotiated a way for musicians, music publishers, and Apple to profit from downloads. Apple also gains from sales of iPods.

## ■ NETWORKING

Partnered with publishers to sell music online legally and worked with accessory producers to extend iPod's market and brand.

## ■ ENABLING PROCESS

Built interfaces and software for people to connect with Apple that can be emulated.

## ■ CORE PROCESS

Based core strengths on culture and talent that are open to rivals smart enough to match them.



## ■ PERFORMANCE

Created a line of hardware that is easy to use, wonderful to see and touch, and is clearly differentiated in the marketplace.

## ■ PRODUCT SYSTEM

Has a seamless web of iPod hardware and software, iTunes Internet commerce, and retail Apple stores—plus, a world of accessories.

## ■ SERVICE

Has great Genius Bars but there are problems servicing iPod batteries.

## ■ CHANNEL

Made a breakthrough deal to sell music legally over the Web and build a multichannel network to sell hardware on the Web, electronics, and Apple stores.

## ■ BRAND

Bolstered Apple's image with great interface and intuitive iTunes music software.

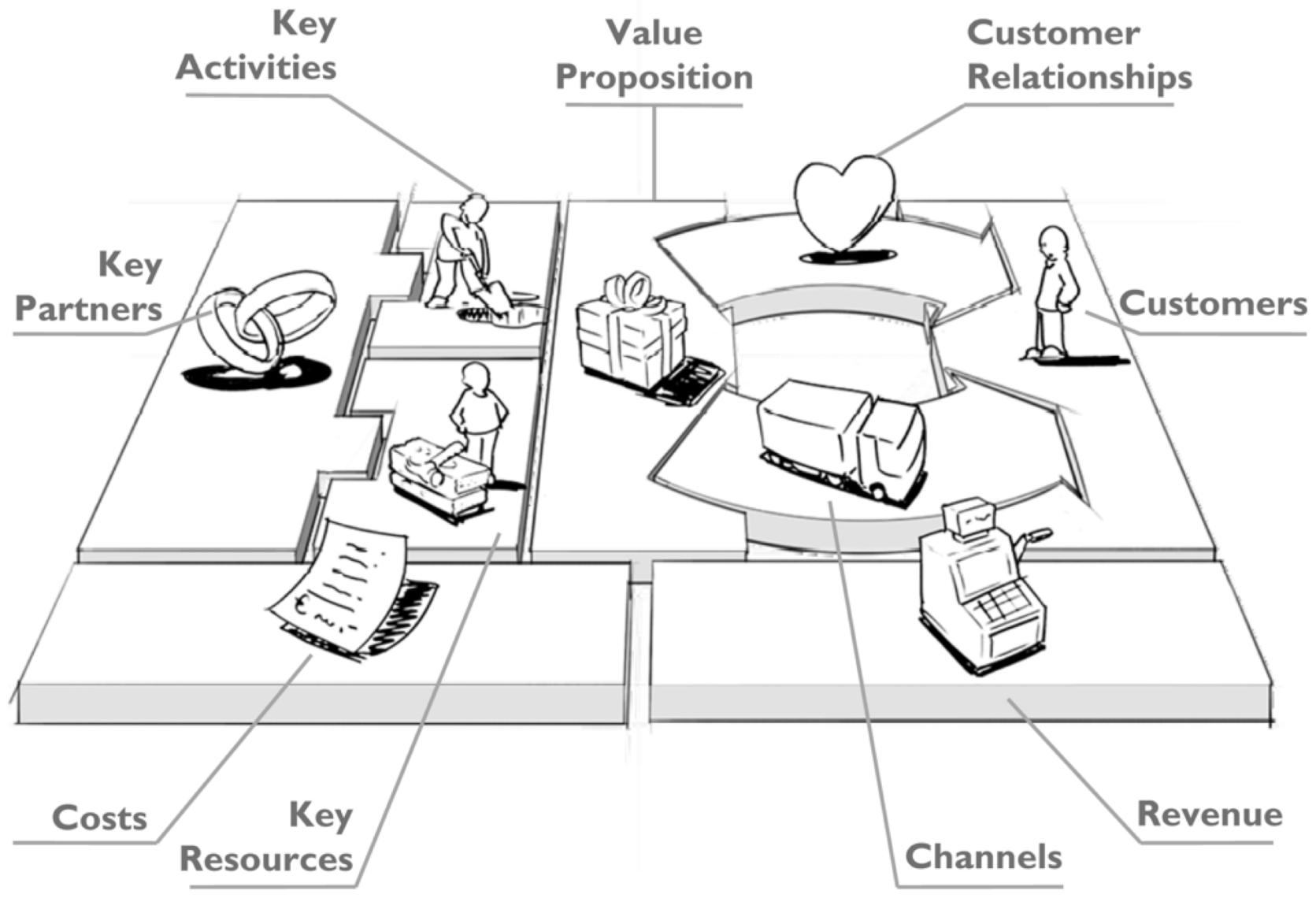
## ■ CUSTOMER EXPERIENCE

Shapes powerful emotional responses by allowing people to download, store, and share personal music collections.

Data: Doblin Group



# Business Model Canvas



drawings by JAM



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# Idea Generation



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IDEATE: GENERATE  
ALTERNATE WORLDS



How might different companies solve the problem?  
What if your idea had to cost a million dollars?  
What if you only had to delight 25 customers?

PROS:

- Fun
- Can lead to unexpected ideas
- Very easy to use
- Can come up with prompts on the fly based on ideas generated

CONS:

- Can be trivialized as unrealistic without setting expectations
- It can be difficult for some to temporarily suspend their knowledge of existing constraints

HELPFUL HINTS:

- Make these playful & provocative to get people thinking differently
- Choose conditions that differ from your organization's
- It's easy to scale a big idea down, harder to scale a small idea up



IDEATE: GENERATE

## ROLE PLAYING / BODYSTORMING



### PROS:

- Great way to build empathy and stay focused on the customer
- Can be used to find problems or explore solutions
- Great for human factors issues

### CONS:

- Very hard to get people to do this
- Not always possible (complex)

### HELPFUL HINTS:

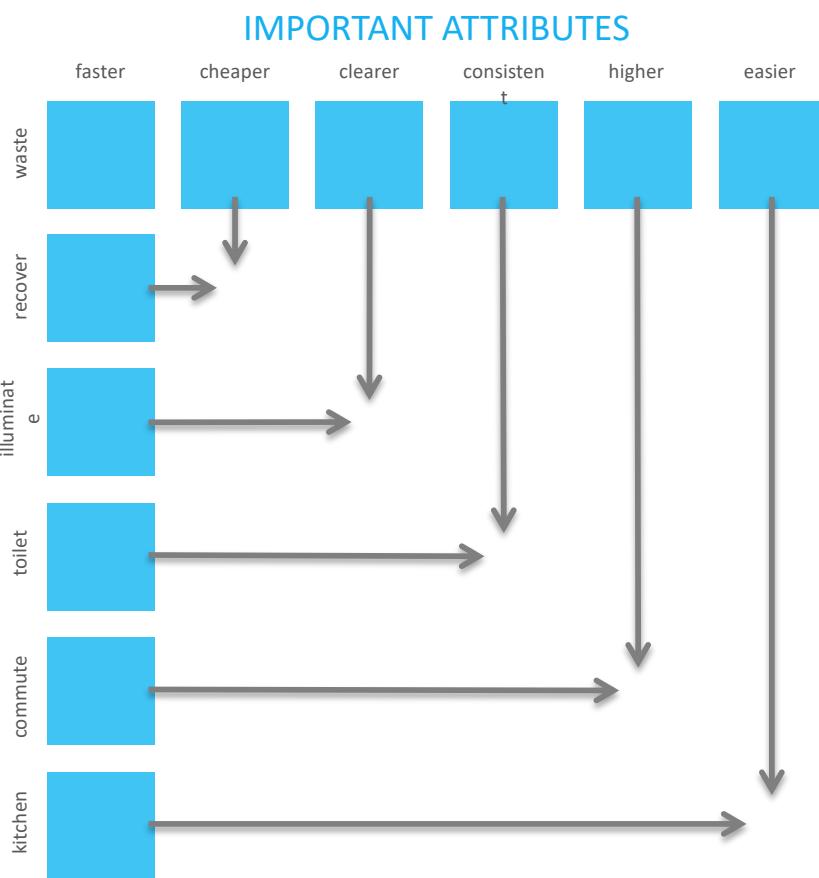
- Remember: you are not the customer - act as you would expect they might
- Use props and artifacts
- Pay attention to decision-making related to your environment and related emotional reactions
- Dig into the "why" behind what you're experiencing



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## IDEATE: GENERATE MASHUP

### IMPORTANT ACTIVITIES OR OBJECTS



### PROS:

- Fun
- Great for ideation ruts
- Takes people out of their expertise

### CONS:

- Takes people out of their expertise
- Can lead people too far off topic

### HELPFUL HINTS:

- Use attributes that will be relevant to your customer and organization
- Allow people to "pass" if nothing comes to them for a particular pairing
- Consider what pairings of attributes/parameters would be most important to your customers



# Other thoughts

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- Idea generation has historically been unstructured and somewhat random and idiosyncratic
- There is significant focus today on idea generation based on customer requirements
  - This is a great step forward
- However, a lot of ideas have and will continue to come from less structured approaches
  - While you sleep, in the shower, in the car
- Engage in idea generation using a number of approaches



# **Ways to make you more creative at work**

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- **Feed your brain (“domain knowledge”)**
  - If you are the product manager for cereal, learn about frozen foods
  - If you are the product manager for powered toothbrushes, learn about power tools
  - If you are in the airline industry, learn about the package delivery business
- **Learn creativity tools & techniques**
- **Experiment (play)**
- **Satisfy your instinct to be creative - you will be a happier (and more successful) person!**



# Some Other Best Practices

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- Accept that creativity/innovation happens across multiple phases
- Be sure you and the team understand which phase you are currently in and the needs & rules of that phase
- Understand that the people on the team, the environment in which the team operates, and the constraints under which the team is held all matter
- In general, people need solo time and group time for the team to be most effective
- In group time, establish norms to encourage engagement & focus



# Art of the Critique

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- It's natural to feel apprehensive about getting critiqued (and giving critiques) – practice helps
- Understand that it is your responsibility (not optional) to feed ideas/thoughts into the group for further processing and consideration.
  - Assume that what you are offering is not good enough yet and needs work.
  - Be the first to identify weaknesses and invite feedback from the team.
  - Remember that is about the idea and not about you.
- When providing feedback to someone else's idea, focus on the idea and NOT the person (avoid "you" and "your").
  - Be encouraging and specific in the critique.
  - Ask "why" of the person offering the idea to understand their direction of thinking.
  - Offer "...and what if we ..." statements to continue the flow of thinking.
- Consider assigning roles to people on the team to defend ideas and play devil's advocate; switch the roles up so that people don't settle into one role.

