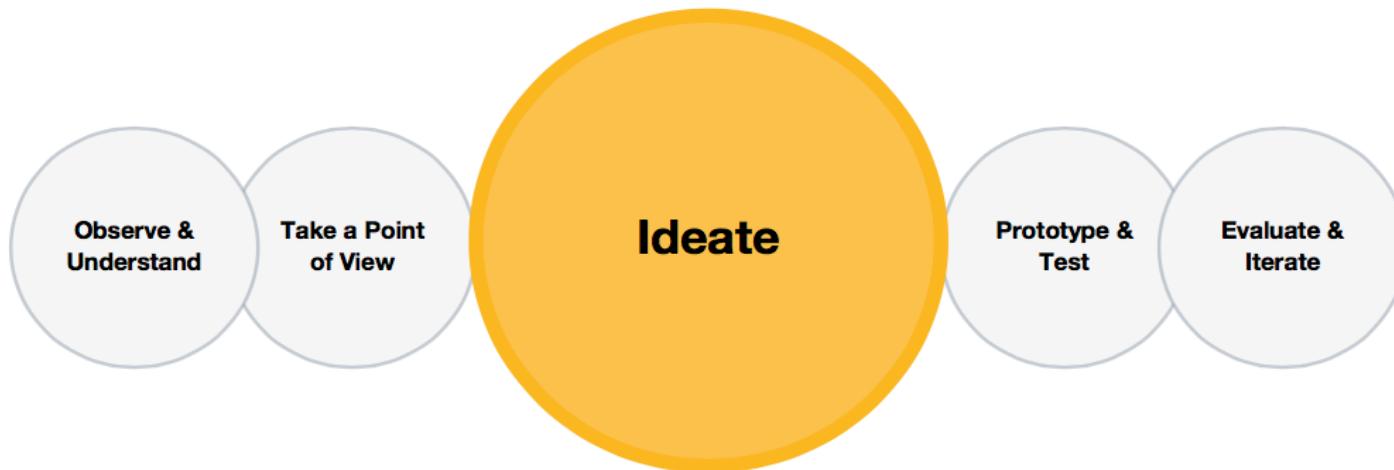


Ideation, Design Thinking and Evaluation for New Venture Creation



**Genius is one percent inspiration and
ninety-nine percent perspiration.**

Thomas Edison, inventor

**Inspiration is for amateurs. The rest of us
just show up and get to work.**

Chuck Close, artist

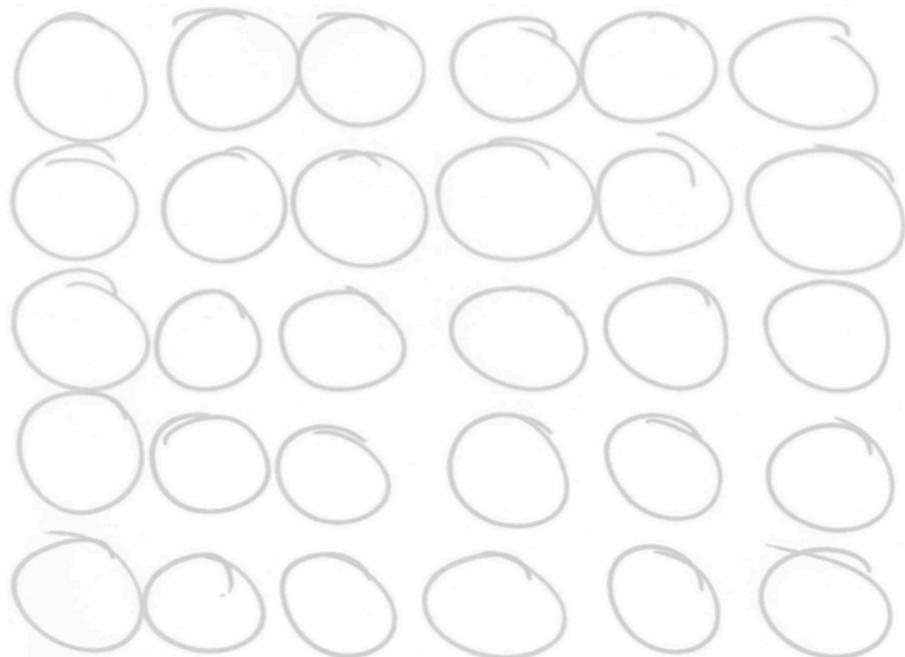
Exercise – Thirty Circles

You have a sheet with 30 circles

1. When I say GO!

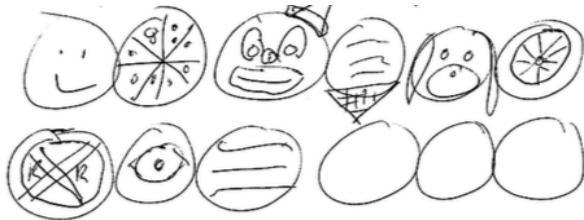
Transform each circle into something recognizable, such as a ball, a planet, bicycle wheels, etc.

2. It's OK to draw outside the lines.
3. The goal: transform all **30** circles in **TWO** minutes.

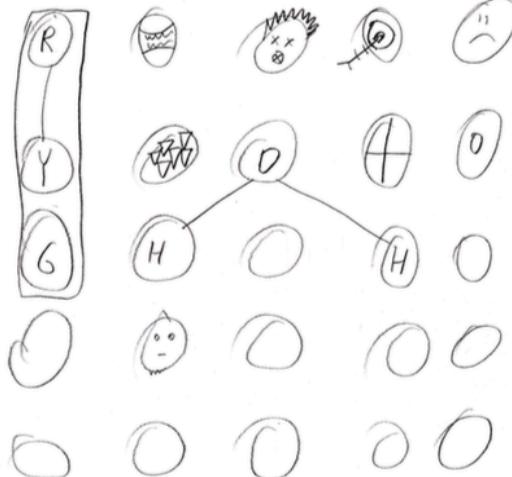


Examples

9 different ideas



21 circles
Some combining



Extra time



Your experience?

- If < 30, why?
- ■ Not clear about the rules
 - Can circles be combined?
 - How different should they be?
 - Don't like deadlines
 - Couldn't draw fast enough
 - Not sure how much I wanted to get into this

Ideation as a System



Idea generation and evaluation

Overview

- **Identifying and evaluating new ideas**
- Avoiding the wrong ideas
- Some interesting trends and ideas
- Using brainstorming to generate ideas

Identifying and evaluating new ideas

Sources of new business ideas

- ÿ Forces, trends and mega-trends tech, macro, social, political
- ÿ Changing market structures and needs
- ÿ Market inefficiencies
- ÿ Products in the market
- ÿ Personal experience, hobbies and pastimes, personal passions
- ÿ Cross regional, discipline or industry

Identifying and evaluating new ideas

Characteristics of successful new business ideas

- Ŷ Not necessarily a new invention
- Ŷ Not necessarily a new idea
- Ŷ Notion that is poised to be taken seriously in the market place
- Ŷ Idea that is a tiny push away from general acceptance

Identifying and evaluating new ideas

Assessing feasibility of a new venture

FIGURE 11.3 KEY AREAS FOR ASSESSING THE FEASIBILITY OF A NEW VENTURE



How do you evaluate innovative ideas

How do you evaluate
innovative ideas?



Identifying and evaluating new ideas

Analyze strengths and weaknesses

1. Is the venture proprietary?
2. Are the initial production costs realistic?
3. Are the initial marketing costs realistic?
4. Does the product have potential for high margins?
5. Is the time required to get to the market and to reach the break-even point realistic?

Identifying and evaluating new ideas

Look at both internal and external factors

- Ŷ Is the potential market large?
- Ŷ Is the product the first of a growing family?
- Ŷ Does an initial customer exist?
- Ŷ Are the development costs and calendar times realistic?
- Ŷ Is this a growing industry?
- Ŷ Can the product and the need for it be understood by the financial community?

Identifying and evaluating new ideas

Evaluate technical feasibility

- Functional design and attractiveness
- Flexibility, durability, reliability
- Product safety
- Ease and low cost of maintenance
- Ease of processing and manufacturing
- User friendliness

Identifying and evaluating new ideas

Evaluate marketability

- Investigate the full market potential and identifying customers
- Analyzing the extent to which the potential market can be exploited
- Determine opportunities and risks
- Information sources include
 - General economic trends
 - Market data
 - Pricing data
 - Competitive data

Identifying and evaluating new ideas

Use an idea checklist

✓ Basic Feasibility

- Will it work? Is it legal?

✓ Competitive Advantage

- Advantages, competitors

✓ Buyer Decisions

- Who are the likely customers?
- How will they be serviced?

✓ Marketing of Goods & Services

- How much budget for advertising and selling? Pricing? Distribution?

✓ Production of Goods & Services

- Make or buy or both? QA?

Ŷ Staffing Decisions

- Who, when and competence?

Ŷ Financing

- How much is needed, where will it come from, ROE, exit strategy?

Identifying and evaluating new ideas

Do you have these critical success factors?

Ŷ Uniqueness

- Amount of innovation required during pre-start-up
- Length of time a non-routine venture remain non-routine

Ŷ Investment

- Capital investment varies from industries
- Extent and timing of funds needed

Ŷ Sales Growth

- Growth pattern anticipated for new-venture sales and profits

Ŷ Product Availability

- Product and service still in development?
- Products released too soon be have to be recalled for further modifications, affecting company's image

Ŷ Customer Availability

- Critical consideration to determine who the customers are and what their buying habits are.

Identifying and evaluating new ideas

Ask the right 10 questions about your idea

1. Is the product or service idea new?
2. What are its weak points?
3. What reaction has it received from the public?
4. Is it easily understood?
5. Can the product penetrate different market segments?
6. Has market research been conducted?
7. What sales and distribution methods will be used?
8. How will the product be made?
9. Will the business concept be developed and licensed to others or sold away?
10. Can the company get or does it already have the necessary skills to operate?

Avoiding the wrong ideas

Idea generation and evaluation

Ŷ Identifying and evaluating new ideas

Ŷ Avoiding the wrong ideas

Ŷ Some interesting trends and ideas

Ŷ Using brainstorming to generate ideas

HomeHero

Shutdown in February 2017

Raised \$23.02 million in 3 Rounds from 7 Investors.



HomeHero

Shut down in February 2017

Raised \$23.02 million in [3 Rounds](#) from [7 Investors](#).

- HomeHero shut down in February 2017 after its bid fell through to provide non-medical home care. CEO Kyle Hill blamed switching to W2 employees from 1099 contractors as the reason why the company lost its core identity, calling it an “inferior employment business” [in a post on Medium](#).
- The company had raised \$23 million to connect home care workers with the families that need them. Along the way, [it partnered with hospitals](#) and launched a service that helps people monitor the health of their family members under the care of providers hired by HomeHero.
- The eventual goal was to work directly with insurance providers, which could help cover the cost of a service like HomeHero in order to reduce the risk of hospitalization, but that clearly didn’t save the company.

Juicero

Shut down in September 2017

Raised \$118.5 million in 4 Rounds from 17 Investors.



Juicero

Shut down in September 2017

Raised \$118.5 million in 4 Rounds from 17 Investors.

- Juicero shut down after launching just 16 months prior. The company managed to raise more than \$118 million from prominent VCs like Google Ventures, Kleiner Perkins and even Campbell Soup Company.
- Yet the company suffered greatly from a Bloomberg article that revealed the company's proprietary juice packs did not require the \$400 machine and could be squeezed by hand.
- Inspired by the popularity of Keurig coffee cups, some venture investors have been looking for other kitchen appliances that could gain significant traction. Juicing is a growing trend, and the idea was that the Juicero would make it easier for people to make juice at home. But the upfront cost of the machine was high and people had to pay an added cost for the refillable packets instead, of you know, just buying fresh fruit and juicing them.

Hello

Shut down in June 2017

Raised \$40.51 million in 4 Rounds from 7 Investors.



Hello

Shut down in June 2017

Raised \$40.51 million in 4 Rounds from 7 Investors.

Hello, the makers of the bedside sleep tracker Sense, shut down in May 2017 after looking for a buyer, according to a blog post from the company.

The company was valued between \$250 million and \$300 million in a financing round in 2015, when it raised \$40 million in a round led by Temasek. The company raised \$2.4 million on Kickstarter for its first product, but since then has tried to roll out new features like a version with voice recognition late last year. That last unit was priced at \$149.

Hello positioned itself as a sleep tracker that you wouldn't have to wear on your wrist, instead sitting somewhere in your room with a small tracker that fits inside your pillow. Sleep tracking has increasingly become a component of a lot of fitness and health tracking, with there even being a “bedtime” function baked into iOS.

Beepi

Shut down in February 2017

Raised \$148.95 million in 5 Rounds from 35 Investors.



Beepi

Shut down in February 2017

Raised \$148.95 million in 5 Rounds from 35 Investors.

- Beepi is a textbook case of a startup with a good idea — a marketplace for people to sell and buy used cars, which would be vetted, processed and delivered to the new owner by Beepi, bypassing the costly overhead and commission structure of car dealerships. And there was some solid execution — strong customer service was a big selling point. But ultimately the company was run badly.
- It had been valued as high as \$560 million in previous rounds of funding, after raising money from 35 investors, including Yuri Milner, Comerica, Redpoint, Foundation Capital, Sherpa Capital and Fabrice Grinda.
- But Beepi, a source tells us, was run with the wrong priorities. One ex-employee said Beepi was burning through around \$7 million a month when it had its peak of 300 employees (before laying off 200 in December as part of its bid to sell to Fair.com).

Pearl

Shut down in June 2017

Raised \$50 million in 1 Round from 4 Investors.



Pearl

Shut down in June 2017

Raised \$50 million in 1 Round from 4 Investors.

- Pearl came out of stealth in 2016 with a back-up camera embedded in a license plate cover. It shut down one year later in June 2017, though raised \$50 million from four investors along the way.
- Founded by a team of ex-Apple engineers, the company made, what some have said, is the best back-up camera available. It came at a steep \$500 price, though, which was apparently too much for buyers to swallow in an age when the back-up camera is nearly standard in most vehicles.

Pitfalls in selecting new ventures

Pitfalls

- ÿ Lack of objective evaluation
- ÿ No real insight into the market
- ÿ Inadequate understanding of technical requirements

Ways to avoid

- ÿ Subject all ideas to rigorous study and investigation
- ÿ Project the life cycle of the product; timing is critical
- ÿ Study the project thoroughly before initiating it

More pitfalls in selecting new ventures

Pitfalls

- Ŷ Poor financial understanding
- Ŷ Lack of venture uniqueness
- Ŷ Ignorance of legal issues

Ways to avoid

- Do not underestimate development costs
- Ensure customer awareness of product superiority through product differentiation
- Patents, trademarks and copyrights to protect one's inventions

Idea generation and evaluation

- „ Identifying and evaluating new ideas
- „ Avoiding the wrong ideas
- „ **Some interesting trends and ideas**
- „ Using brainstorming to generate ideas

Examples of current tech trends and megatrends

Technology will become ubiquitous

- ◊ Broadband and wireless broadband
- ◊ Convergence, Integration and interoperability
- ◊ Worldwide, instant, always-on connectivity with no external devices
- ◊ Mobile computing, PC no longer sole computing device, speech and voice recognition
- ◊ Experience-based transactions (VR) Automation

Examples of current tech trends and megatrends

Computers will move beyond silicon chips

- Ŷ 20-ghz nano-silicon chips with 1 billion transistors
- Ŷ 3-dimensional chips
- Ŷ Optical computers
- Ŷ DNA computers
- Ŷ Nanotube computers
- Ŷ Quantum computing

Examples of current tech trends and megatrends

Technology and biology will merge

- Micro-machines and Nano-technology
- Biometric security
- Bio-informatics
- Exponential growth of machine intelligence leads to intelligent, conscious (?) machines
- Neural implants to extend human intellectual capability
- Merging of human and machine intelligence creates substrate-independent minds

Idea generation and evaluation

- Ÿ Identifying and evaluating new ideas
- Ÿ Avoiding the wrong ideas
- Ÿ Some interesting trends and ideas
- Ÿ **Using brainstorming to generate ideas**

Brainstorming

- **Defined by Alex Osborn in 1939**
- “*Storming a problem in a commando fashion*”
- ■ “Your Creative Power,” 1949 ■ “Applied Imagination,” 1953
- **Took on a life of its own**
- ■ BBDO - Alex Osborn
 - MIT Creative Engineering Lab - John Arnold ■ Stanford Design Division - Bob McKim
- ■ IDEO
 - d.school at Stanford and Potsdam

Brainstorming



The Osborn Rules for Brainstorming

Osborn Rule #1

DEFER
JUDGEMENT

Say Yes!

Source: Doré

Fifty phrases that kill creativity

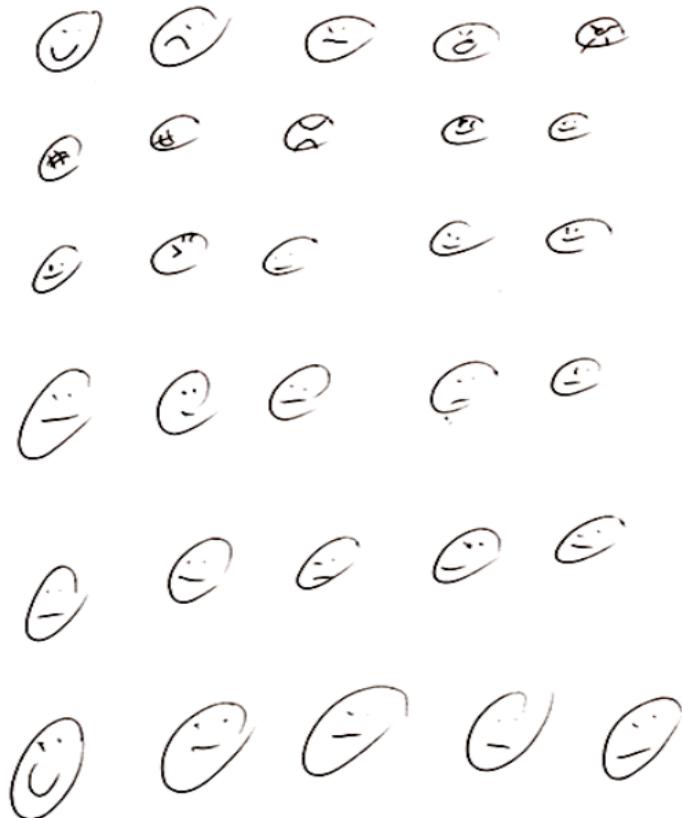
- Our place is different.
- We tried that before.
- It costs too much.
- That's not my job.
- They're too busy to do that.
- We don't have the time.
- Not enough help.
- It's too radical a change.
- The staff will never buy it.
- It's against company policy.
- The union will scream.
- That will run up our overhead.
- We don't have the authority.
- Let's get back to reality.
- That's not our problem.
- I don't like the idea.
- I'm not saying you're wrong but...
- You're two years ahead of your time.
- Now's not the right time.
- It isn't in the budget.
- Can't teach an old dog new tricks.
- Good thought, but impractical.
- Let's give it more thought.
- We'll be the laughingstock of the industry.
- Not that again.
- Where'd you dig that one up?
- We did alright without it before.
- It's never been tried.
- Let's put that one on the back burner for now.
- Let's form a committee.
- It won't work in our place.
- The executive committee will never go for it.
- I don't see the connection.
- Let's all sleep on it.
- It can't be done.
- It's too much trouble to change.
- It won't pay for itself.
- It's impossible.
- I know a person who tried it and got fired.
- We've always done it this way.
- We'd lose money in the long run.
- Don't rock the boat.
- That's what we can expect from the staff.
- Has anyone else ever tried it?
- Let's look into it further.
- We'll have to answer to the stockholders.
- Quit dreaming.
- If it ain't broke, don't fix it.
- That's too much ivory tower.
- It's too much work.

GO FOR
QUANTITY

Fluency and flexibility

We Need both

Fluency - Lots of ideas

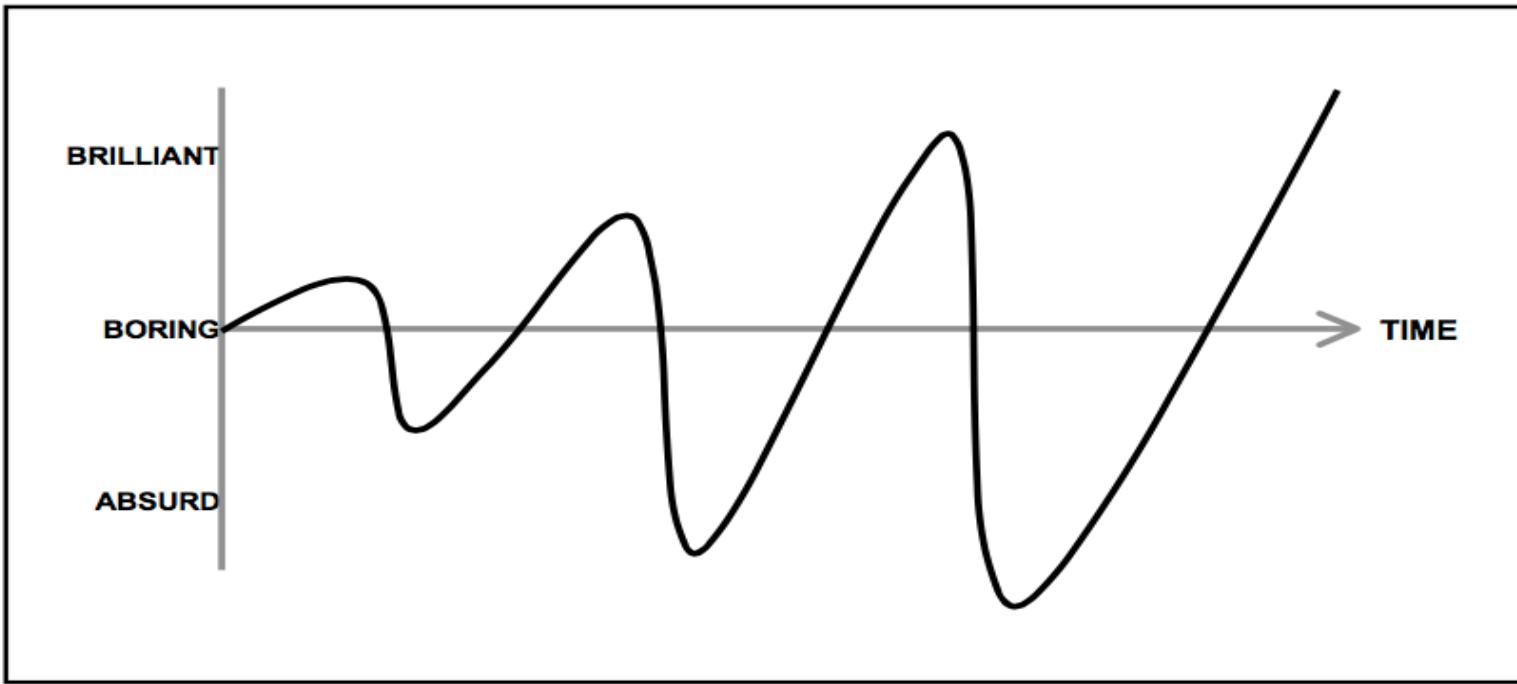


Flexibility - Lots of *different* ideas



The Idea Curve

When the going gets tough, the tough get stupid



Dev Patnaik

From *The Ebb and Flow of Ideas*, a Product Development - Best Practices Report, The Management Roundtable

Osborn's checklist for transforming ideas

Put to other uses?

- New ways to use as is?
- Other uses if modified?

Adapt?

- What else is like this?
- What other idea does this suggest?
- Does the past offer parallel?
- What could I copy?
- Whom could I emulate?

Modify?

- New twist?
- Change meaning, color, motion, sound, odor, form, shape?
- Other shapes?

Magnify?

- What to add?
- More time?
- Greater frequency?
- Stronger?
- Higher?
- Longer?
- Extra Value?
- Plus ingredient?
- Duplicate?
- Multiply?
- Exaggerate?

Minify?

- What to subtract?
- Smaller?
- Condensed?
- Miniature?
- Lower?
- Shorter?
- Lighter?
- Omit?
- Streamline?
- Split up?
- Understate?

Reverse?

- Transpose positive and negative?
- How about opposites?
- Turn it backward?
- Turn it upside down?
- Reverse roles?
- Change shoes?
- Turn tables?
- Turn other cheek?

Combine?

- How about a blend, an alloy, an assortment, an ensemble?
- Combine units?
- Combine purposes?
- Combine appeals?
- Combine ideas?

Substitute?

- Who else instead?
- What else instead?
- Other ingredient?
- Other process?
- Other place?
- Other approach?
- Other tone of voice?

Rearrange?

- Interchange components?
- Other pattern?
- Other layout?
- Other sequence?
- Transpose cause and effect?
- Change pace?

Transformation Cards

PRESENTED TO YOU BY THE
M.I.T. CREATIVE ENGINEERING LABORATORY
• JOHN E. ARNOLD, PROF. IN CHARGE

"CHECK LIST SOLITAIRE"
ADAPTED FROM "APPLIED IMAGINATION"
BY ALEX F. OSBORN

• DRAWINGS BY AUSTIN R. BAER
RESEARCH ASSISTANT

COMBINE!



HOW ABOUT AN ASSORTMENT?

COMBINE!



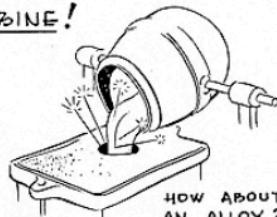
COMBINE IDEAS?

REVERSE!

REVERSE ROLES?



COMBINE!



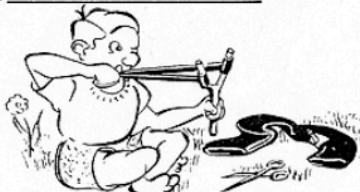
HOW ABOUT
AN ALLOY?

SUBSTITUTE!



OTHER APPROACH?

PUT TO OTHER USES!



OTHER USES IF MODIFIED?

MODIFY!



CHANGE SHAPE?

REVERSE!



CHANGE SHOES?

Osborn Rule #3

GET
RADICAL

WILD WEIRD ABSURD STUPID

Easier to tone down than pump up



Source: Obey the Pure Breed

The idea cure revisited

Illustrative representation of idea count



"Out of a hundred ideas, the first sixty ideas produced five that were actually new or different, the next twenty produced nothing but laughter, and ideas eighty to a hundred produced another ten that were amazing. Thankfully, we didn't give up when the well ran dry around idea number sixty."

LEAPFROG

Piggy-back

Build on

Let go



So other rules & tips

Stay focused on topic

- Turn it around to something that relates

One conversation at a time

- Let everyone get their idea out
- Bring side discussions onto the table

Headline it

- Get the essence and move on
- Maintain flow

Be visual

- Bring the right brain into play

And, for best results....

Explicitly agree

- “Let’s brainstorm!”
- “Yeah!”

Facilitate

- “What else....?”

Record

- Capture the ideas

Time box

- Define the play period

Six Creative Ways To Brainstorm Ideas



References

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- Woolsey, K; Kim, S; Curtis, G; *VizAbility*, Course Technology, 2004