

Methods for Inovation

Nicolae GOGA

Outline

- **Introduction**
- Brainstorming
- Analytic Brainstorming
- Role play brainstorming
- Quiet Brainstorming

Introduction

- Our presentation for Methods of Innovation will be based on brainstorming
- We will present in what follows basics of brainstorming
- And after that we will present different methods of brainstorming

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Brainstorming

- Brainstorming is a popular ideation technique for design teams because of the freedom they have to expand in all directions, using out-of-the-box and lateral thinking in search of the most effective solutions – rough answers they'll refine later.
- Marketing CEO Alex Osborn, brainstorming's "inventor", captured the refined elements of creative problem-solving in his 1953 book, *Applied Imagination*.

Brainstorming

- In brainstorming, one aim squarely at a design problem and produce an arsenal of potential solutions.
- By not only harvesting somebody's ideas but also considering and building on colleagues' notions, one can cover the problem from every angle imaginable.
- Before a design team gather (preferably in a room with a large board/wall for pictures/Post-Its) for a brainstorming session, the target problem must be *clearly* defined.
- A good mix of participants will expand the experience pool, thus broadening the idea space.

Brainstorming

- Brainstorming may seem to lack constraints, but success depends on the observance of eight house rules and someone acting as facilitator.
 - Set a time limit – depending on the problem’s complexity, 15–60 minutes is normal.
 - Begin with a target problem/brief – members should approach this sharply defined question, plan or goal and *stay* on topic.
 - Refrain from judgment/criticism – no-one should be negative (including via body language) about any idea.
 - Encourage weird and wacky ideas – further to the ban on killer phrases like “too expensive”, keep the floodgates open so everyone feels *free* to blurt out ideas, as long as they’re on topic.
 - Aim for quantity – remember, “quantity breeds quality”; the sifting-and-sorting process comes later.
 - Build on others’ ideas – it’s a process of *association* where members expand on others’ notions and reach new insights, allowing these ideas to trigger their own. Say “and”—rather than discourage with “but”—to get ideas closer to the problem.
 - Stay visual – diagrams and Post-Its help bring ideas to life and help others see things in different ways.
 - Allow one conversation at a time – keeping on track this way and showing respect for everyone’s ideas is essential for arriving at concrete results.

Brainstorming

- Once ideas are collected, a team with expertise in the problem domain analyze it
- All the ideas are analyzed
- Any idea that can be considered for the solution will be taken into account.
- In what follows we will discuss different branches of brainstorming

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Analytic Brainstorming

- When brainstorming focuses on problem solving, it can be useful to analyze the problem with tools that lead to creative solutions.
- Analytic brainstorming is relatively easy for most people because it draws on idea generation skills they've already built in school/research place and in the workplace.
- In what follows we will discuss different types of Analytic Brainstorming

Analytic Brainstorming – Gap Filling

- It is started with a statement of where the research team are.
- Then a statement where the team wants to arrive is created
- How can the team fill in the gap to get to the goal?
- Participants will respond with a wide range of answers from the general to the particular.
- All of them are collected ,and then they are organized to develop a vision for action.

Analytic Brainstorming – Drivers Analysis

- Brainstorming group works to discover the drivers behind the problem that is addressed.
- What's driving client loyalty down?
- What's driving the competition?
- Why the team is interested in a given research problem.
- What's driving a trend toward lower productivity?
- As the team uncover the drivers, the team begin to catch a glimpse of possible solutions.

Analytic Brainstorming – SWOT Analysis

- Swot Analysis identifies organization strengths, weaknesses, opportunities and threats.
- Usually, it's used to decide whether a potential project or venture is worth undertaking.
- In brainstorming, it's used to stimulate collaborative analysis.
 - What are the real strengths of the company/product/ etc?
 - Does it has weaknesses that are rarely discuss?

New ideas can come out of this tried-and-true technique.

SWOT Analysis

<p>The organisation</p>	<p>Strengths – S</p> <ol style="list-style-type: none"> Existing brand Existing customer base Existing distribution 	<p>Weaknesses – W</p> <ol style="list-style-type: none"> Brand perception Intermediary use Technology/skills X-channel support
<p>Opportunities – O</p> <ol style="list-style-type: none"> Cross-selling New markets New services Alliances/Co-branding 	<p>SO strategies</p> <p>Leverage strengths to maximise opportunities = Attacking strategy</p>	<p>WO strategies</p> <p>Counter weaknesses through exploiting opportunities = Build strengths for attacking strategy</p>
<p>Threats – T</p> <ol style="list-style-type: none"> Customer choice New entrants New competitive products Channel conflicts 	<p>ST strategies</p> <p>Leverage strengths to minimise threats = Defensive strategy</p>	<p>WT strategies</p> <p>Counter weaknesses and threats = Build strengths for defensive strategy</p>

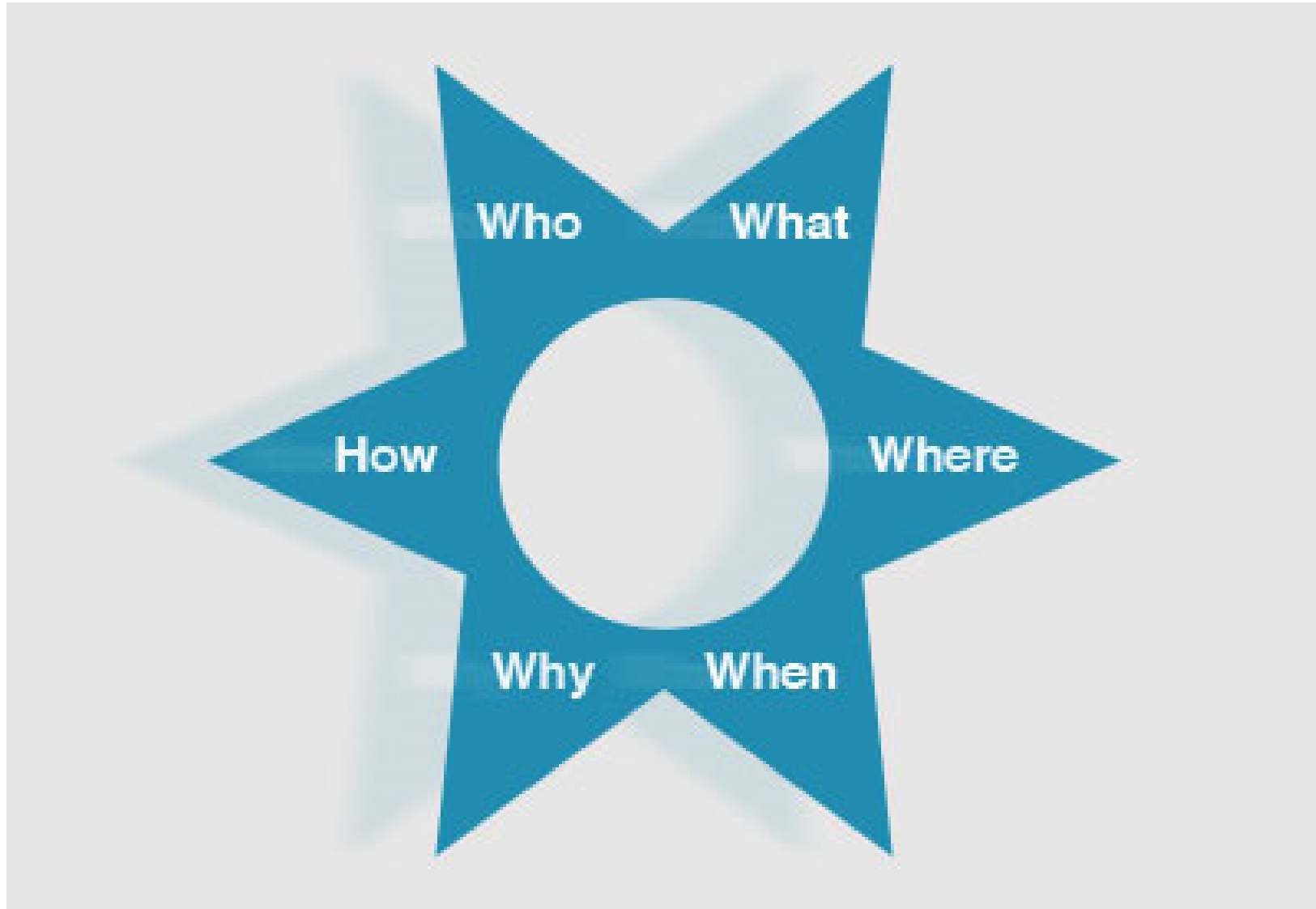
Analytic Brainstorming – The Five Whys

- Another tool that's often used outside of brainstorming, the Five Whys can also be effective for getting thought processes moving forward.
- Simply the team start with a problem that is addressed and ask "why is this happening?"
- Once some answers are discovered, it is asked "why does this happen?"
- The process is continued five times (or more), digging deeper each time until the root of the issue is discovered.

Analytic Brainstorming – Starbursting

- A six pointed star is created first.
- At the center of the star, the challenge or opportunity the team is facing is written down.
- At each point of the star, one of the following words: who, what, where, when, why, and how is written.
- These words to generate questions are used to generate questions.
 - Who are our happiest clients?
 - What do our clients say they want?
- The questions are used to generate discussion and get the brainstorming solution.

Starbursting



Analytic Brainstorming – Reverse Brainstorming

- Ordinary brainstorming asks participants to solve problems.
- Reverse brainstorming asks participants to come up with ways to **cause** a problem.
- The team starts with the problem and ask “how could we cause this?” Once a list of ways to create problems is created, the team is ready to start solving them!
- We will discuss in the next slides different types of analytic brainstorming

Analytic Brainstorming – MindMap

- Mind mapping is a visual tool for enhancing the brainstorming process. In essence, the team is drawing a picture of the relationships among and between ideas.
- The team starts by writing down the goals or challenge, and ask participants to think of related issues.
- Layer by layer, the team add content to the map so that everyone can visually see how, for example, a problem with the telephone system is contributing to issues with quarterly income.
- It can be done with a tool or paper based.
- Based on MindMap the solution to the problem is worked out



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Role Play Brainstorming

- This is another Brainstorming group of methods!
- What do customers/clients/managers really want?
- What are the challenges the company/team/product... face internally or externally?
- Very often, those questions are best answered by internal and external clients.
- Role play allows teams to “become” their own clients, which often provides surprisingly potent insights into challenges and solutions.
- Another plus of role play is that, in some cases, it lowers participants’ inhibitions.
- Variants of role play include Rolestorming, Reverse Thinking, and Figure Storming.

Role Play Brainstorming- Role Storming

- Participants are asked to imagine themselves in the role of a person whose experience relates to brainstorming goal (a client, upper management, a service provider).
- Team acts out a scene, with participants pretending to take the other's point of view.
 - Why might they be dissatisfied?
 - What would it take for them to feel better about their experience or outcomes?
- Answers to the questions are then analyzed to get the solution

Role Play Brainstorming- Reverse Thinking

- This approach asks, “*what would someone else do in our situation?*”
- Then the participants imagine doing the opposite.
 - Would it work?
 - Why or why not?
 - Does the “usual” approach really work well, or are there better options?
- Answers to the questions are then analyzed to get the solution

Role Play Brainstorming- Figure Storming

- A figure from history or fiction with whom everyone from the team is familiar—Teddy Roosevelt, for example, or Mother Theresa is chosen.
- What would that individual do to manage the challenge or opportunity you're discussing?
- How might that figure's approach work well or poorly?
- Answers to the questions are then analyzed to get the solution

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Quiet Brainstorming

- This is another category of brainstorming techniques
- In some situations, individuals are so cramped for time that a brainstorming session would be impossible to schedule.
- In other situations, team members are unwilling to speak up in a group or to express ideas that others might not approve of.
- When that's the case, the team might be well served with brainstorming techniques that allow participants to generate ideas without meeting or without the need for public participation.
- The following types of Brainstorming deals with this kind of brainstorming

Quiet Brainstorming - Brain-Netting (Online Brainstorming)

- Brain netting involves brainstorming on the Internet.
- This requires someone to set up a system whereby individuals can share their ideas privately, but then collaborate publicly. There are software companies that specialize in just such types of systems, like Google Docs
- Once ideas have been generated, it may be a good idea to come together in person, but it's also possible that online idea generation and discussion will be successful on its own.
- This is an especially helpful approach for remote teams to utilize, though any team can make use of it

Quiet Brainstorming - Brainwriting (or Slip Writing)

- The brain writing process involves having each participant anonymously write down ideas on index cards.
- The ideas can then be randomly shared with other participants who add to or critique the ideas.
- Alternatively, the ideas can be collected and sifted by the management team.
- This approach is also called "*Crawford Slip Writing*," as the basic concept was invented in the 1920's by a professor named Crawford.

Quiet Brainstorming - Collaborative Brainwriting

- Participants write question or concern on a large piece of paper, and post it in a public place.
- Team members are asked to write or post their ideas when they are able, over the course of a week.
- Collate ideas on own's ideas or with your group's involvement.
- The ideas are analyzed further to get the solution.
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Other Brainstorming Techniques – Charrette

- *The problem:* Let us think to a brainstorming session in which 35 people from six different departments are all struggling to come up with viable ideas. The process is time consuming, boring, and—all too often—unfruitful.
- The *Charrette* method breaks up the problem into smaller chunks, with small groups discussing each element of the problem for a set period of time.
- Once each group has discussed one issue, their ideas are passed on to the next group who builds on them. By the end of the Charrette, each idea may have been discussed five or six times—and the ideas discussed have been refined.

"What If" Brainstorming

- This technique is based on questions like the followings:
 - What if this problem came up 100 years ago? How would it be solved?
 - What if Superman were facing this problem? How would he manage it?
 - What if the problem were 50 times worse—or much less serious than it really is? What would we do?

- These are all different types of “what if” scenarios that can spur radically creative thinking—or at least get people laughing and working together!
- Then apply further Brainstorming.

Conclusions

- Brainstorming is a good technique for idea generation, coming up with alternatives and possibilities, discovering fatal flaws, and developing creative approaches.
- It's only as good as its participants and facilitator
- It is one of the way in which process of innovation can be applied in a company or research context

**THANK YOU FOR YOUR
ATTENTION!**

References

- <https://www.interaction-design.org/literature/topics/brainstorming>
- <https://morethandigital.info/en/6-successful-methods-brainstorming-idea-creation/#4> De Bono 6 hats thinking
- <https://business.tutsplus.com/articles/top-brainstorming-techniques--cms-27181>

Bibliography

- The Innovator's Dictionary: 555 Methods and Instruments for More Creativity and Innovation in Your Company, Christian Buchholz, Benno van Aerssen (Edts.), De Gruyter (2020)
- Innovation Project Management: Methods, Case Studies, and Tools for Managing Innovation Projects, Harold Kerzner, John Wiley & Sons (2019)
- The Innovation Tools Handbook, Volume 1- Organizational and Operational Tools, Methods, and Techniques that Every Innovator Must Know, Harrington H. James, Voehl Frank (editors) , CRC Press (2016)
- The Innovation Tools Handbook, Volume 2- Evolutionary and improvement tools that every Innovator Must Know, Harrington H. James, Voehl, Frank, CRC Press (2016)
- The Innovation Tools Handbook, Volume 3- Creative Tools, Methods, and Techniques that Every Innovator Must Know, Harrington H. James, Voehl Frank, CRC Press (2016)