Brainstorming

Tools:
Brainstorming Toolbox  http://www.brainstorming.co.uk/extra/productservices.html

From:  http://en.wikipedia.org/wiki/Brain-storming

Brainstorming

Brainstorming is a creativity technique of generating ideas to solve a problem. The main result of a brainstorm session may be a complete solution to the problem, a list of ideas for an approach to a subsequent solution, or a list of ideas resulting in a plan to find a solution. Brainstorming was originated in 1953 in a book called Applied Imagination by Alex F. Osborn, an advertising executive[1]. Other methods of generating ideas are individual ideation and the morphological analysis approach.

Brainstorming has many applications but it is most often used in:

- New product development - obtaining ideas for new products and improving existing products
- Advertising - developing ideas for advertising campaigns
- Problem solving - issues, root causes, alternative solutions, impact analysis, evaluation
- Process management - finding ways of improving business and production processes
- Project Management - identifying client objectives, risks, deliverables, work packages, resources, roles and responsibilities, tasks, issues
- Team building - generates sharing and discussion of ideas while stimulating participants to think
- Business planning – develop and improve the product idea.
- Trial preparation by attorneys.

Approach

Brainstorming can be done either individually or in a group. In group brainstorming, the participants are encouraged, and often expected, to share their ideas with one another as soon as they are generated. Complex problems or brainstorm sessions with a diversity of people may be prepared by a chairman. The chairman is the leader and facilitator of the brainstorm session.

The key to brainstorming is to not interrupt the thought process. As ideas come to mind, they are captured and stimulate the development of better ideas. Thus a group brainstorm session is best conducted in a moderate-sized room, and participants sit so that they can all look at each-other. A flip chart, blackboard, or overhead projector is placed in a prominent location. The room is free of telephones, clocks, or any other distractions. In order to enhance creativity a brainstorm session has four basic rules:

Focus on quantity
This rule is a means of enhancing divergent production, aiming to facilitate problem solving through the maxim quantity breeds quality. The greater the number of ideas generated, the greater the chance of producing a radical and effective solution. An individual may revisit a brainstorm, done alone, and approach it with a slightly new perspective. This process can be repeated without limit. The result is collaboration with your past, present and future selves.

No criticism
It is often emphasized that in group brainstorming, criticism should be put 'on hold'. Instead of immediately stating what might be wrong with an idea, the participants focus on extending or adding to it, reserving criticism for a later 'critical stage' of the process. By suspending judgment, you create a supportive atmosphere where participants feel free to generate unusual ideas. However, persistent, respectful criticism of ideas by a minority dissenter can reduce groupthink, leading to more and better ideas.

Unusual ideas are welcome
To get a good and long list of ideas, unusual ideas are welcomed. They may open new ways of thinking and provide better solutions than regular ideas. They can be generated by looking from another perspective or setting aside assumptions. If an idea is too "wild" to be feasible, it can be tamed down to a more appropriate idea more easily than think up an idea.

Combine and improve ideas
Good ideas can be combined to form a very good idea, as suggested by the slogan "1+1=3". Also, existing ideas should be improved. This approach leads to better and more complete ideas than just generation of new ideas, and increases the generation of ideas, by a process of association.

The main reasons why brainstorming does not yield the expected results are faulty operation and exaggerated expectations. When the basic rules and best practices are not followed, or when the group expects miracles, the session will not give the optimal result.
A short brainstorm session
Brainstorming is very well suited for ad-hoc problem solving. A short brainstorm session can be applied in many occasions where a quick solution is needed. For example: students working on a project, a support team looking for a quick solution for their customer or a project team who have to deal with the illness of one of its members. The session contains, as depicted in Figure 1, three phases:

- **Set the problem**
  Determine and specify the problem which needs a solution. Every participant must know the problem.

- **Generate ideas**
  Generate as many ideas as possible. Keep in mind the four basic brainstorm rules and record the good ideas. Continue for five to fifteen minutes.

- **Select best idea**
  Select the most appropriated idea from the suggested ideas.

A complex brainstorm session

**Preparation**
The preparation described here contains the basic activities, but depending on the situation more activities can be added. Figure 2 depicts the preparation activities in an activity diagram.
Set the problem

One of the most important things to do before a session is to define the problem. The problem must be clear, small enough, and captured in a perfectly definite question such as *What service for mobile phones is not available now, but needed?*. If the problem is too big, the chairman should split it up into smaller components, each with its own question. Some problems seem to be multi-dimensional and non-quantified, for example *What are the aspects involved in being a successful entrepreneur*. Finding solutions for this those can better be done with morphological analysis.

Create a background memo

The background memo is the invitation and information letter for the participants, containing the session name, time, date and place and the problem. The problem is described with its question, and some example ideas are given. The ideas are solutions to the problem, and used when the session slows down or goes off-track. The example ideas also give the participants an idea of the direction upfront. The memo is sent to the participants at least two days in advance, so that they can think about the problem beforehand.

Select participants

The chairman composes the brainstorm panel, consisting of the participants and an idea collector. Many variations are possible but the following composition is advised:

- Five core members of the project who have proved themselves.
- Five guests from outside the project, with affinity to the problem.
- One idea collector who records the suggested ideas.

Create a list of lead questions

During the brainstorm session the creativity may decrease. At this moment, the chairman should boost creativity by suggesting a lead question to an answer, such as "Can we combine those ideas?" or "How about a look from another perspective?". It is advised to prepare a list of such leads before the session.

Session conduct

The chairman: leads the brainstorm session and ensures that the basic brainstorm rules are followed. The activities of a typical session are:

1. A warm-up session, to expose novice participants to the criticism-free environment. A simple problem is brainstormed, for example *What should be the next corporate Christmas present?* or *What can be improved in Microsoft Windows?*.
2. The chairman presents the problem and gives a further explanation if needed.
3. The chairman asks the brainstorm panel for their ideas.
4. If no ideas are coming out, the chairman suggests a lead to encourage creativity.
5. Every participant presents his or her idea, and the idea collector writes down the idea.
6. If more than one participant has ideas, the chairman lets the most associated idea be presented first. This selection can be done by looking at the body language of the participants, or just by asking for the most associated idea.
7. The participants try to elaborate on the idea, to improve the quality.
8. When time is up, the chairman organizes the ideas based on the topic goal and encourages discussion. Additional ideas may be generated.
9. Ideas are categorized.
10. The whole list is reviewed to ensure that everyone understands the ideas. Duplicate ideas and obviously infeasible solutions are removed.
11. The chairman thanks all participants and gives each a token of appreciation.

Best practices

- Participants who have an idea but no possibility to present it should write down their idea and present it later.
- The idea collector should number the ideas, so that the chairman can use the number to encourage quantitative idea generation, for example: *We have 44 ideas now, let’s get it to 50!*.
- The idea collector should repeat the idea in the words she has written it, to confirm that it expresses the meaning intended by the originator.
- When more participants are having ideas, the one with the most associated idea should have priority. This to encourage elaboration on previous ideas.
- During the brainstorm session the attendance of managers and superiors is strongly discouraged, as it may radically reduces the effect of the four basic rules, especially the generation of unusual ideas.

The process of conducting a brainstorm session is depicted in Figure 3.
Uses
Brainstorming can be used as a supplement for:
- Individual **ideation** for quickly generating many potentially useful ideas
- A **business conference** to stimulate creative thinking in a judicial and relatively unproductive atmosphere.
- Creative training: brainstorming improves the creative attitude towards solving problems and improves the creative ability in groups and individuals.

Although the main purpose of brainstorming is to generate ideas, it has additional benefits:
- **Improves initiative** that can last after the session, as participants are encouraged to constantly throw in their ideas, to take initiative all the time.
- **Improves creative thinking**: participants learn to approach problems creatively and use association to create ideas, which they can use after the session.
- **Improves morale**: Participants work together to find a solution to a problem and every participant is encouraged to take initiative. This can improve the morale of the team and its members.
- **Enjoyment**: participants usually like the interactive and creative atmosphere.

Variations

**Nominal group technique**
Nominal group technique is a type of brainstorming that introduces structure to the process. It is useful in ensuring that all participants have an equal say and can be used to generate a ranked list of ideas.
Typically each participant is asked to write down their ideas. Then the moderator asks each participant in turn to express one of their ideas. The moderator writes down each idea on the flip chart. Then each participant copies the group's final list on a blank page giving each idea a score. The pages are collected from each participant and the scores summed, providing a rank-ordered list.

**Group passing technique**

Each person in a circular group writes down one idea, and then passes their piece of paper to the next person in a clockwise direction, who adds some thoughts. This is repeated until everybody gets their original piece of paper back. By this time, it is likely that the group will have created some powerful ideas.

A popular alternative to this technique is to create an "Idea Book" and post a distribution list or routing slip to the front of the book. On the inside cover (or first page) is the problem definition statement. The first person to receive the book lists his/her ideas and then routes the book to the next person on the distribution list. The second person can log new ideas or add to the ideas of the previous person. This continues until the distribution list is exhausted. A follow-up "read out" meeting is then held to discuss the ideas logged in the book. This technique does take longer, but allows individual thought whenever the person has a spare minute to think deeply about the problem.

**Team Idea Mapping Method**

This method of brainstorming leverages the natural associative process of the brain. It improves collaboration, increases the quantity of ideas, and is designed so that all attendees participate and no ideas are rejected.

The process starts with a well-defined topic. Each participant creates an individual brainstorm around the topic. All ideas are then merged into one large idea map. During this consolidation phase the participants discover a common understanding of the issues as they share the meanings behind their ideas. As the sharing takes place, the brain will naturally think of additional ideas based on the conversations. Those ideas are added to the large map as well. Now ideas are generated on both the individual and group levels. Once all ideas are captured, the group can prioritize and/or take action.

**From:  http://www.businessballs.com/brainstorming.htm**

**Brainstorming Process**

**Brainstorming technique for problem-solving, team-building and creative process**

Brainstorming with a group of people is a powerful technique. Brainstorming creates new ideas, solves problems, motivates and develops teams. Brainstorming motivates because it involves members of a team in bigger management issues, and it gets a team working together. However, brainstorming is not simply a random activity. Brainstorming needs to be structured and it follows brainstorming rules. The brainstorming process is described below, for which you will need a flip-chart or alternative. This is crucial as Brainstorming needs to involve the team, which means that everyone must be able to see what's happening. Brainstorming places a significant burden on the facilitator to manage the process, people's involvement and sensitivities, and then to manage the follow up actions. Use Brainstorming well and you will see excellent results in improving the organization, performance, and developing the team.

**Brainstorming process:**

1. Define and agree the objective.
2. Brainstorm ideas and suggestions having agreed a time limit.
4. Assess/analyse effects or results.
5. Prioritise options/rank list as appropriate.
6. Agree action and timescale.
7. Control and monitor follow-up.

In other words:

**Plan and agree the brainstorming aim:**

Ensure everyone participating in the brainstorm session understands and agrees the aim of the session (eg, to formulate a new job description for a customer services clerk; to formulate a series of new promotional activities for the next trading year; to suggest ways of improving cooperation between the sales and service departments; to identify costs saving opportunities that will not reduce performance or morale, etc). Keep the brainstorming objective simple. Allocate a time limit. This will enable you to keep the random brainstorming activity under control and on track.

**Manage the actual brainstorming activity:**
Brainstorming enables people to suggest ideas at random. Your job as facilitator is to encourage everyone to participate, to dismiss nothing, and to prevent others from pouring scorn on the wilder suggestions (some of the best ideas are initially the daftest ones - added to which people won't participate if their suggestions are criticised). During the random collection of ideas the facilitator must record every suggestion on the flip-chart. Use Blu-Tack or sticky tape to hang the sheets around the walls. At the end of the time limit or when ideas have been exhausted, use different coloured pens to categorise, group, connect and link the random ideas. Condense and refine the ideas by making new headings or lists. You can diplomatically combine or include the weaker ideas within other themes to avoid dismissing or rejecting contributions (remember brainstorming is about team building and motivation too - you don't want it to have the reverse effect on some people). With the group, assess, evaluate and analyse the effects and validity of the ideas or the list. Develop and prioritise the ideas into a more finished list or set of actions or options.

Implement the actions agreed from the brainstorming

Agree what the next actions will be. Agree a timescale, who's responsible. After the session circulate notes, monitor and give feedback. It's crucial to develop a clear and positive outcome, so that people feel their effort and contribution was worthwhile. When people see that their efforts have resulted in action and change, they will be motivated and keen to help again.

To create more structured brainstorming activities which illustrate or address particular themes, methods, media, etc., there is a helpful set of reference points on the team building games section. Unless you have special reasons for omitting control factors, ensure you retain the the essence of the rules above, especially defining the task, stating clear timings, organising participants and materials, and managing the review and follow-up.

From: http://www.mindtools.com/brainstm.html

Brainstorming

by James Manktelow

Brainstorming is a useful and popular tool that you can use to develop highly creative solutions to a problem. It is particularly useful when you need to break out of stale, established patterns of thinking, so that you can develop new ways of looking at things. This can be when you need to develop new opportunities, where you want to improve the service that you offer, or when existing approaches just aren't giving you the results you want.

Brainstorming is particularly useful when used with your team: Here it helps you bring the experience of all team members into play during problem solving. This increases the richness of solutions explored (meaning that you can find better solutions to the problems you face, and make better decisions.) It can also help you get buy in from team members for the solution chosen - after all, they have helped shape that solution.

Brainstorming and Lateral Thinking

Brainstorming is a lateral thinking process. It asks that people come up with ideas and thoughts that seem at first to be a bit shocking or crazy. You can then change and improve them into ideas that are useful, and often stunningly original.

During brainstorming sessions there should therefore be no criticism of ideas: You are trying to open up possibilities and break down wrong assumptions about the limits of the problem. Judgments and analysis at this stage will stunt idea generation.

Ideas should only be evaluated at the end of the brainstorming session - you can then explore solutions further using conventional approaches.

If your ideas begin to dry up, you can 'seed' the session with, for example, a random word (see Random Input).

Individual Brainstorming

When you brainstorm on your own you will tend to produce a wider range of ideas than with group brainstorming - you do not have to worry about other people's egos or opinions, and can therefore be more freely creative. You may not, however, develop ideas as effectively as you do not have the experience of a group to help you.

When Brainstorming on your own, it can be helpful to use Mind Maps to arrange and develop ideas. A particularly useful way of doing this is to use computer-based mind mapping tools - at the bottom of this page you can sign up for our free course on computer-based creative problem solving, which teaches you how to do this.

Group Brainstorming

Group brainstorming can be very effective as it uses the experience and creativity of all members of the group. When individual members reach their limit on an idea, another member's creativity and experience can take the
idea to the next stage. Therefore, group brainstorming tends to develop ideas in more depth than individual brainstorming.

Brainstorming in a group can be risky for individuals. Valuable but strange suggestions may appear stupid at first sight. Because of such, you need to chair sessions tightly so that uncreative people do not crush these ideas and leave group members feeling humiliated.

To run a group brainstorming session effectively, do the following:

- Define the problem you want solved clearly, and lay out any criteria to be met;
- Keep the session focused on the problem;
- Ensure that no one criticizes or evaluates ideas during the session. Criticism introduces an element of risk for group members when putting forward an idea. This stifles creativity and cripples the free running nature of a good brainstorming session;
- Encourage an enthusiastic, uncritical attitude among members of the group. Try to get everyone to contribute and develop ideas, including the quietest members of the group;
- Let people have fun brainstorming. Encourage them to come up with as many ideas as possible, from solidly practical ones to wildly impractical ones. Welcome creativity;
- Ensure that no train of thought is followed for too long;
- Encourage people to develop other people's ideas, or to use other ideas to create new ones; and
- Appoint one person to note down ideas that come out of the session. A good way of doing this is to use a flip chart. This should be studied and evaluated after the session.

Where possible, participants in the brainstorming process should come from as wide a range of disciplines as possible. This brings a broad range of experience to the session and helps to make it more creative.

And again, it's worth exploring the use of computer-based tools for group brainstorming. As long as you're reasonably quick with keyboard and mouse, these significantly improve the quality and effectiveness of a brainstorming session.

**Key points:**

Brainstorming is a great way of generating radical ideas. During the brainstorming process there is no criticism of ideas, as free rein is given to people's creativity (criticism and judgment cramp creativity). This often makes group brainstorming sessions enjoyable experiences, which are great for bringing team members together.

Individual brainstorming is best for generating many ideas, but tends to be less effective at developing them. Group brainstorming tends to develop fewer ideas, but takes each idea further. Group brainstorming needs formal rules for it to work smoothly.

From:  [http://edweb.sdsu.edu/triton/Guides/Brainstorming.html](http://edweb.sdsu.edu/triton/Guides/Brainstorming.html)

**Brainstorming**

Brainstorming is a group technique for generating new, useful ideas and promoting creative thinking.

It can be used to help 1) define what project or problem to work on, 2) to diagnose problems, 3) remediate a project by coming up with possible solutions and to identify possible resistance to proposed solutions.

**Roles**

There are three roles for participants in a brainstorming session: leader, scribe and team member.

**Leader**

This person needs to be a good listener.

Before the session they need to refine a statement to help the others on the team focus on the reason for the brainstorming, and prepare the warm up activity.

During the session the leader will need to relay the ground rules of the session, and to orchestrate the session.

**The Problem Statement**

- needs to be specific enough to help participants focus on the intent of the session, but it must be open enough to allow innovative thinking.
- should not be bias so it favors a particular solution or excludes creative ideas.

**Ground Rules for Brainstorming**

1. All ideas are welcome. There are no wrong answers. During brainstorming, no judgments should be made of ideas.
2. Be creative in contributions. Change involves risk taking, it's important to be open to new, original ideas. Every point of view is valuable.
3. Attempt to contribute a high quantity of ideas is a short amount of time.
4. Participants should "hitch hike" on others' ideas.

**Scribe**
This person needs to write down EVERY idea - clearly and where everyone in the group can see them. Check to be sure the materials provided will allow you to write so everyone in the group can clearly see what you are writing. The scribe could be the same person as the leader.

**Team Members**
The number of participants should be no less than five, and no more than ten. The ideal group number is usually between six and seven. Sometimes it is helpful to include a person on the brainstorming team who has worked with the subject in the past.

Team members will follow this brainstorming procedure:
1. Team members will make contributions in turn.
2. Only one idea will be contributed each turn.
3. A member may decline to contribute during a particular round, but will be asked to contribute each round.
4. Participants should not provide explanations for ideas during brainstorming. Doing so would both slow the process down, and allow premature evaluation of ideas.

**Set the Stage**
- If possible the group should know what the brainstorming session is about before the session begins. This will allow them to think about the session.
- Provide appropriate places and ways to record ideas. This could include: flip charts, chalk or white boards, Post-Its, or large monitored computers.
- Provide a mental and physical environment which allows for creativity. Putting out thing such as magazines, clay, books, water colors, slates, a kaleidoscope, or jacks.

**Steps for the Leader on How to Brainstorm**
1. **Introduce the Session.**
   Review the reason for the brainstorming session, discuss the ground rules, and the team member procedure to be used.
2. **Warm-Up.**
   Provide a warm up activity (5 to 10 minutes) that helps the group get use to the excitement possible in a brainstorming session. This activity should be on a neutral subject that will encourage participants to be creative. The leader may want to end the warm up by having the members discuss what could be said about the ideas that would prevent brainstorming from being successful.
3. **Brainstorming.**
   This is the creative part! Set a time limit of 20 to 25 minutes. Sometimes it is effective to call time and then allow 5 more minutes. Stop when there is still excitement, do not force the group to work. Guide the group to generate as many ideas as possible. All suggestions made must be noted by the scribe. The scribe should use the speaker's own words. If the speaker's idea is long, the leader may need to summarize it and verify with the originator if the summary is correct.
4. **Process the Ideas.**
   Review ideas for clarification, making sure everyone understands each item. Similar ideas should be combined and grouped. At this point you can eliminate duplicate ideas and remove ideas. Next the group should agree on the criteria for evaluation. This could include: time allotments, talents and skills of the group, and more.
5. **Establish a consensus if appropriate.**
   Have the group vote on ten ideas to consider, then have the group vote on five of the ideas and tally the results to get a priority of feelings of the group.
   After refining ideas give each team member 100 points to allocate on the idea list. Team members can use their points however they wish.
   Have team members pick the five ideas they favor. Then ideas with the most picks can be prioritized.
**What is Brainstorming?**

Brainstorming is a method for developing creative solutions to problems. It works by focusing on a problem, and then deliberately coming up with as many deliberately unusual solutions as possible and by pushing the ideas as far as possible.

One approach to brainstorming is to 'seed' the session with a word pulled randomly from a dictionary. This word as a starting point in the process of generating ideas.

During the brainstorming session there is no criticism of ideas - the idea is to open up as many possibilities as possible, and break down preconceptions about the limits of the problem.

Once this has been done the results of the brainstorming session can be analysed and the best solutions can be explored either using further brainstorming or more conventional solutions.

**How to Brainstorm**

The following rules are important to brainstorming successfully:

- A leader should take control of the session, initially defining the problem to be solved with any criteria that must be met, and then keeping the session on course. He or she should encourage an enthusiastic, uncritical attitude among brainstormers and encourage participation by all members of the team. The session should be announced as lasting a fixed length of time, and the leader should ensure that no train of thought is followed for too long. The leader should try to keep the brainstorming on subject, and should try to steer it towards the development of some practical solutions.

- Participants in the brainstorming process should come from as wide a range of disciplines with as broad a range of experience as possible. This brings many more creative ideas to the session.

- Brainstormers should be encouraged to have fun brainstorming, coming up with as many ideas as possible, from solidly practical ones to wildly impractical ones in an environment where creativity is welcomed.

- Ideas must not be criticised or evaluated during the brainstorming session. Criticism introduces an element of risk for a group member in putting forward an idea. This stifles creativity and cripples the free running nature of a good brainstorming session.

- Brainstormers should not only come up with new ideas in a brainstorming session, but should also 'spark off' from associations with other people's ideas and develop other peoples ideas.

- A record should be kept of the session either as notes or a tape recording. This should be studied subsequently for evaluation. It can also be helpful to jot down ideas on a board which can be seen by all brainstormers.

**Individual vs. group brainstorming**

Brainstorming can either be carried out by individuals, groups or both:

- Individual brainstorming tends to produce a wider range of ideas than group brainstorming, but tends not to develop the ideas as effectively, perhaps as individuals on their own run up against problems they cannot solve. Individuals are free to explore ideas in their own time without any fear of criticism, and without being dominated by other group members.

- Group brainstorming develops ideas more deeply and effectively, as when difficulties in the development of an idea by one person are reached, another person's creativity and experience can be used to break them down. Group brainstorming tends to produce fewer ideas (as time is spent developing ideas in depth) and can lead to the suppression of creative but quiet people by loud and uncreative ones.

- Individual and group brainstorming can be mixed, perhaps by defining a problem, and then letting team members initially come up with a wide range of possibly shallow solutions. These solutions could then be enhanced and developed by group brainstorming.

**For further information**