

BrainSwarming

Because Brainstorming Doesn't Work

BASED ON A HARVARD BUSINESS REVIEW WEBINAR FEATURING

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BECAUSE BRAINSTORMING DOESN'T WORK

OVERVIEW

Have you ever been disappointed in how a brainstorming session went? The problem isn't the facilitator or the participants but the *method*. The reality: Brainstorming doesn't work. The ideas of introverts are squelched, and rarely does anyone emerge feeling clarity about the way forward.

The good news is that there is another model for problem solving and idea generation that avoids the drawbacks of brainstorming; it is called BrainSwarming. When BrainSwarming, people work in silence, collaboratively fleshing out a structured graph as they build off of each other's ideas. BrainSwarming can yield better ideas faster and more reliably than brainstorming. The method is versatile, able to spur innovative thinking in product development, marketing and advertising, engineering, or any other area of business.

CONTEXT

Tony McCaffrey explained how BrainSwarming generates ideas efficiently and quickly to solve problems and spur innovation.

KEY LEARNINGS

There is a better idea-generation model than brainstorming: "BrainSwarming."

Typically when groups need an innovative solution fast, they brainstorm. But even with a roomful of smart people, more often than not the output is disappointing. That's because brainstorming doesn't work. After 65 years of scientific testing, there is plentiful evidence that brainstorming is no more effective at generating more or better ideas than people working alone, McCaffrey said.

Also per McCaffrey, the core problem with brainstorming is the talking. It is inefficient for everyone to be spilling ideas simultaneously. Extroverts drown out introverts despite a facilitator's best efforts. The conversation digresses. Ideas are critiqued, which generates debate. Interpersonal politics come into play. Those hesitant to enter the fray don't contribute. Amid the unstructured chatter, it is tough to keep in mind the ideas that were on-target and worth thinking more about.

A new model for problem solving and innovation has emerged from the study of three phenomena: 1) ants' problem-solving activity; 2) human social and cognitive psychology; and 3) artificial intelligence. BrainSwarming, said McCaffrey, keeps what is good about brainstorming and avoids the bad.

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Here's how BrainSwarming works: the process is conducted in silence, so there is no critiquing of ideas, removing any fear of judgment and reluctance to contribute. No dominant voices drown out the rest. (In fact, introverts frequently shine since they often excel at observing others, and thinking about others' ideas is key to BrainSwarming.) Moreover, people needn't work simultaneously but can do the work when the time suits them.

In BrainSwarming, participants build off of each others' ideas, adding sticky notes on a white board (a physical or virtual one). As people add ideas, a graph takes shape, a visualization of the creative process unfolding. Unlike in brainstorming, there is no need to remember the ideas suggested; they are right there on the graph, accessible to all.

The beauty of BrainSwarming isn't just that it beats brainstorming; it also:

- Brings science to the art of innovation.
- Structures the creative process.
- Facilitates parallel problem solving.
- Leverages visualization to reveal novel ideas.

BrainSwarm participants collaboratively build out a structured diagram of their ideas.

Here's how the building out of the BrainSwarm graph actually works:

- **First define the problem and the resources available for solving it.** The goal is written at one end of the white board (often the top), and the resources used to solve it at the opposite end. If during the build-out process, it becomes apparent that a wider or more narrow definition of the goal would serve the purpose better, it can be refined.
- **Add ideas as offshoots of these.** Top-down thinkers might add ideas stemming off of the goal (these would start with verbs). Bottom-up thinkers might work off of the resources, listing all of the associated attributes or components (adjectives or nouns) they can think of for each.
- **Eventually, the two ends meet in a solution.** As the two ends of the graph grow out toward each other, they tend to become connectable. Where they connect, solutions emerge. Typically, the entire process takes only about 40 minutes.

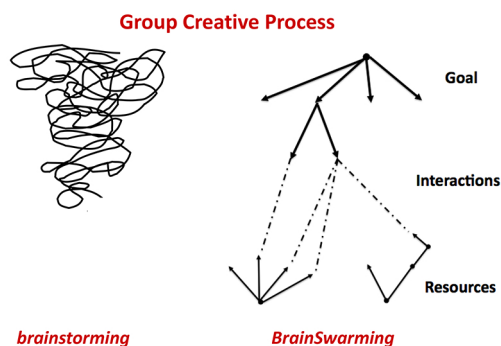


Figure 1

It is easy to see which process is more likely to yield great ideas.

“Common to all BrainSwarming sessions is silence and a graph.”

– TONY MCCAFFREY

How the process works in practice to yield solutions is best understood by example:

- The Stuck Truck Problem.** Consider the problem of a UPS driver whose truck got wedged under an underpass; how might he liberate it without help? At the top of the board goes the goal. Branching from the goal are the general possibilities, not yet thought out; for example, lower the truck, elevate the underpass. People add all that they can imagine, whether the idea seems feasible or not. (We can't assume that the driver would never be able to elevate the underpass and therefore leave it off of the diagram. Judgment of ideas is suspended because assumptions and other cognitive biases often impede innovation. So we dispense with all assumptions and write down everything that occurs.) At the bottom of the graph go the resources: truck, underpass, and road. People add sticky notes for the components of each, followed by subcomponents. As the graph develops from each end, two solutions soon emerge: lowering the truck by deflating tires or lowering the truck by stressing the suspension system (Figure 2).

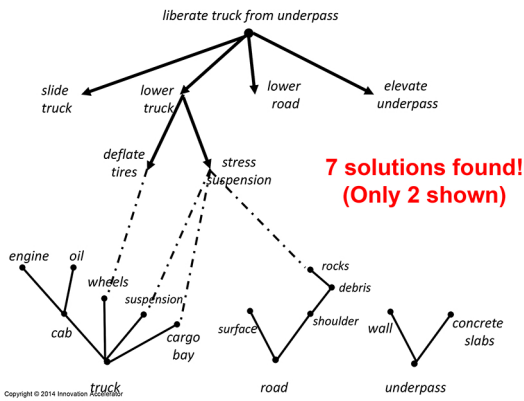


Figure 2
As the graph is built out from top and bottom, solutions become apparent.

- The College Marketing Problem.** Hampshire College wanted a new slogan that expressed the freedom it afforded students to create their own majors and chart their own academic paths. Figure 3 shows the BrainSwarm graph used to come up with the slogan, "Hampshire College: The Free Jazz of Education." The categories that were used differ from those of the stuck truck BrainSwarm graph, but suggest themselves intuitively.

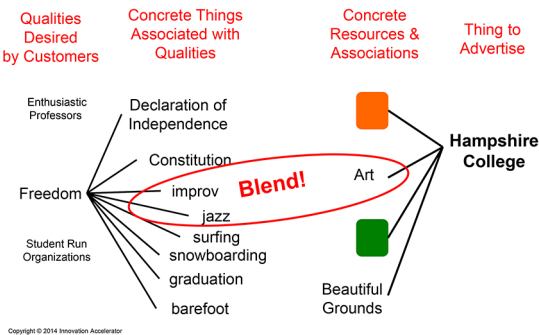


Figure 3
The categories to use depend on the nature of the problem being explored.

While the graph build-out phase occurs in silence, it is important for participants to talk together about the results afterwards. That might be after the contributions slow down or stop or after the allotted time is up. Then people vote or use some other method to evaluate the ideas generated.

BrainSwarming is widely applicable to all types of business problems requiring innovative thinking.

The BrainSwarming idea-generation model can be adapted to solve any problem with a goal, including problems of technology or engineering, marketing or advertising, strategic planning, or new product development.

For example, McCaffrey described how the method was used to discover new uses for the foil bags that hold juice. The innovation developed out of the seemingly obvious observation that as containers the bags might be full or empty. Empty foil bags may show up on supermarket shelves next to the resealable plastic bags sometime in the near future.

BrainSwarming can even be used to coordinate different business process styles (e.g., Lean, Six Sigma, TRIZ, and Theory of Constraints).

OTHER IMPORTANT POINTS

- **To learn more.** For more on BrainSwarming, see Dr. McCaffrey's [blog, Aha Universe](#).

“BrainSwarming can solve any problem that has a goal.”

– TONY MCCAFFREY

BIOGRAPHIES

**Tony McCaffrey**

*Innovation Researcher
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Tony McCaffrey (tony@innovationaccelerator.com) focuses on bringing science to the art of innovation. He researches and develops innovation tools at Innovation Accelerator, Inc. With a doctorate in cognitive psychology and a master's degree in computer science, Tony combines insights from both fields to produce effective tools to enhance both individual and group innovation. BrainSwarming is the latest tool to emerge from his research and will soon become an online platform for remote group work.

Follow him [@DrTonyMcCaffrey](https://twitter.com/DrTonyMcCaffrey).

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Angelia Herrin is Editor for Research and Special Projects at Harvard Business Review. At *Harvard Business Review*, Herrin oversaw the re-launch of the management newsletter line and established the conference and virtual seminar division for *Harvard Business Review*. More recently, she created a new series to deliver customized programs and products to organizations and associations.

Prior to coming to *Harvard Business Review*, Herrin was the vice president for content at womenConnect.com, a website focused on women business owners and executives.

Herrin's journalism experience spans twenty years, primarily with Knight-Ridder newspapers and USA Today. At Knight-Ridder, she covered Congress, as well as the 1988 presidential elections. At USA Today, she worked as Washington editor, heading the 1996 election coverage. She won the John S. Knight Fellowship in Professional Journalism at Stanford University in 1989–90.

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