Innovation Management

Processes that Breed Innovation: Idea Generation, Problem-Finding and Critique Strategies

CQ Dossier | Evidence-based Innovation Management

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Executive summary

In order for a work team to thrive and develop innovative, paradigm-challenging ideas, creativity must be properly fostered. Working towards that requires that you, as a manager, recognize that creative output is inherently risky and vulnerable – especially when the pressure is high and the need for a useful solution is paramount (Paulus, 2000). Unfortunately, when a team member feels risk, vulnerability, or pressure, their potential for innovation can be greatly reduced – they may freeze up and stop coming up with ideas, become afraid to share especially unusual ideas, or may feel unsafe raising concerns for fear of rocking the boat (Edmondson & Mogelof, 2006). These inhibitions can destroy a team's innovation potential.

Social psychologists and Industrial-Organizational researchers have long studied the group dynamics and processes that promote and discourage creativity. Through a bevvy of experiments inside laboratories and in real-world workplaces, they have developed best-practice recommendations for managing groups that are creative, innovative, and mold-breaking. These recommendations run the gamut from large-scale changes to an organization's culture, all the way down to precise brainstorming techniques that can be used in a single meeting to improve creative potential. Some of the leading recommendations for boosting team innovating, and the research supporting them, are described below.

It all starts with an Idea: brainstorming and idea-generating activities

The first stage of any creative process is generating a high volume of potential ideas. During this stage of the process, team members may feel a bit reticent to share their thoughts, for fear of being ridiculed or seen as unrealistic. Unfortunately, this very fear can destroy the innovation potential of a brainstorming session. As a manager, it is important that you create and facilitate brainstorming procedures that allow team members to generate a high volume of ideas, feeling free to take risk propose odd ideas, and even fail.

Brainstorming as flow

Ideally, brainstorming should be conducted in a rapid, free-flowing manner. During this stage of the process, all ideas should be accepted and considered – no editing and second-guessing should take place, as it slows down the thinking and idea-generation of everyone involved (Nielsen & Cleal, 2010). Ideally, members should list ideas in an automatic, unfiltered fashion; if they feel truly comfortable and open, they may achieve a state of "flow", where ideas come frequently and with clarity, and self-doubt is reduced. All ideas should be recorded and stored for later review.

Idea sprints

To help employees reach a state of free-flowing creativity, you can schedule short "idea sprints" where all team members are to jot down as many ideas as possible in the span of five or ten minutes. Encourage team members to write down as many ideas as they can, without concern for whether the ideas are viable. By having team members write down their ideas – a technique called "brainwriting" – you can remove inhibitions and make sure that no ideas are lost to one person talking over another (Brown & Paulus, 2002; Paulus et al, 2015).

All ideas are then compiled into a larger document; after time has passed, they can be filtered and culled. An "idea sprint" can also be performed verbally, with one member of the group jotting all ideas down – this can be useful after a large volume of ideas has already been generated via writing, to help narrow (or broaden) focus, as need be.

Reflective writing

A related brainstorming technique, called "reflective writing", involves having team members write continuously about their thoughts, and even feelings, for twenty minutes or longer. Originally developed by counseling psychologists to help improve emotionally processing, reflective writing has been demonstrated to improve mental clarity and creativity, as well as generate positive health outcomes (Pennebaker & Evans, 2014). It has proven to be a vital idea-generating activity in organizations as well.

During a reflective writing session, participants are asked to write by hand about a particular topic – in this case, the creative "problem" or innovation challenge the

organization is facing. The writing should be stream-of-consciousness and is not to be shown to anyone else even after the writing session is done. Team members should feel free to write in as casual, nonsensical, or nongrammatical a fashion as they desire, with no editing, and should be encouraged to write nonstop for the entire twenty-minute session. If a team member runs out of things to write down, they should be instructed to begin copying down what they had already written at the beginning of the session, until new ideas emerge again.

Reflective writing can help team members process their anxieties and inhibitions, and help them achieve new insights about how to address a problem or challenge at work (De Vreede, Briggs, & Reiter-Palmon, 2010). This task, when practiced regularly, has been found to boost mood and reduce anxiety – after a few days, team members may report feeling more clear-headed about the innovation challenges they are facing, or they may have a sudden "a-ha!" moment of insight.

Incubation

One recurring finding from research into the psychology of creativity is that innovative, insightful moments rarely come immediately. Often, an individual or team must think deeply about a problem, discuss possible solutions, and then cease consciously thinking about the problem for a few hours or a few days (Baird et al, 2012). During this "checked out" period, ideas may develop and new associations may form below the level of conscious awareness. Creativity researchers call this process incubation.

Incubation requires initial deep thinking about the problem or creative challenge, followed by relaxation and distraction from it (Tan et al, 2015). It is only when individuals are calm and detached that an idea may assert itself, seemingly unprovoked -- hence the high volume of ideas that people have in the shower. As a manager, you can cultivate insightful moments by scheduling brainstorming sessions, discussing a problem in depth with your team, and then giving them another, easier task to complete, followed by a reward or an opportunity to relax.

You can, for example, introduce a new problem or challenge to your team on Thursday, discuss it in depth through Friday, then encourage employees to forget about the problem for the weekend. You can also intentionally schedule breaks and fun,

team-building activities that can create a relaxing environment where innovation can thrive. Try reducing team workloads during a moment where innovation is needed, and make sure employees take actual breaks rather than "working lunches". Create a team culture where it is acceptable for members to go out for a walk, and to take a day off for social and family activities. It is during these "downtimes" that your team members will be engaging in the deepest innovative incubation.

Problem-finding and critique strategies

One of the key challenges of innovating as part of a work team is engaging in problem finding – that is, identifying the areas where innovation is most desperately needed. Innovative thinkers and teams can reframe and re-examine existing challenges, to find new ways of solving problems; innovation often involves seeing problems and needs that others have not yet identified, too. In addition to finding problems to solve, effective innovative teams must also be able to critique and edit one another's proposed solutions and novel ideas. Several techniques for finding problems and giving critiques have been developed and tested by psychological researchers, and have bene demonstrated to be useful in editing and shaping new innovations in organizations.

Rotating devil's advocate

On a creative team, giving and receiving criticism can be deeply perilous. Having one's ideas criticized can feel threatening or hurtful; being the one to raise concerns or criticism can lead to feeling isolated or unpopular. To help reduce the emotional threat of both activities, every group meeting can have an appointed "devil's advocate" whose primary job is to note issues and (politely) critique ideas (MacDougall & Baum, 1997). This position should rotate throughout the group, so that every member gets to air grievances and point out problems on a regular basis.

By critique a changing role, every team member can empathize with the person raising concerns, as well as the person receiving criticism (Nemeth, Brown, & Rogers, 2001). Critical comments can feel less personal and threatening as a result, and the appointed "devil's advocate" can feel free to be expressive and even creative when their job is to find problems and concerns. Having an appointed dissenting voice can help prevent

biased group thinking and the pressure to conform, as well (Nijstad, Berger-Selman, & De Dreu, 2014).

Asychronous review

Another way to improve editing of team members' ideas and reduce the potential for conflict is by having review occur in an asynchronous (independent, non-synchronized) fashion. During an in-person meeting, team members may feel pressure to appear to be contributing, and may experience pressure to generate notes on the fly. Criticisms may be aired that are poorly thought-out, or poorly expressed, and individuals may not have sufficient time to reflect on ideas and proposals being presented to the group. It can also, as noted above, be emotionally challenging to receive criticism immediately after presenting an idea.

Research suggests that it is more effective for team members to provide feedback in a private, asynchronous fashion, rather than during a live meeting. When a team member presents a new idea or innovative proposal, you can allow other team members time to reflect and write down their questions and concerns privately. Set aside private time for individuals to jot down their thoughts, and encourage team members to wait a day or two before sending the concerns, in text form, to the group. This procedure allows everyone to craft their critiques carefully, and to reflect and incubate on the solution they have been presented. Critiques may feel less threatening to the person receiving them with the benefit of time and careful writing, as well.

Key take-aways

- For innovation to thrive in a team, team members must feel free to present a large volume of ideas, including flawed ones
- During the initial, idea-generating phase of innovation, team members should be encouraged to think and share freely, without editing themselves
- Writing down ideas (and critiques) allows for individuals to create the greatest amount of output, as no one can talk over anyone else or make anyone feel inhibited
- Criticism should be aired in a non-threatening, careful way, and can be depersonalized by appointing a "devil's advocate" or by having critiques written down asynchronously

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