Why Creativity is a Team Sport

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Perception: Jony Ive is the creative genius behind the design of Apple's iMac, iPod, iPhone and more. *Reality:* Most of Apple's products are designed by the Apple Industrial Design Group, a team Ive formerly headed.

The disconnect between perception and reality of how creativity occurs is a common one, according to organizational psychologist Markus Baer, PhD, who studies innovation.

Speaking at a Knoll k. talk, Baer, a professor of organizational behavior at Olin Business School at Washington University in St. Louis, shared research to show that more often than not, creativity is a team sport.

Using academic research featuring examples from the worlds of technology and entertainment, Baer debunked four common myths on how creativity happens among knowledge workers.

Myth 1: The Lone Genius

Most innovation comes from teams rather than individuals, according to Baer. Yet the myth of the "lone genius" persists. This was proven in a study in which people viewed photos of Apple's Ive alone and in a group setting.[1]

Ive was perceived as more creative when viewed as an individual.

Baer shared similar findings from a second study in which images of musical artists Kanye West, Lady Gaga, John Legend and Taylor Swift were used. Artists were intentionally selected to show varied genres and remove potential bias.

Each musician had collaborated with one or more individuals to create a particular work. Yet, when their process was described as being done independently, it led to higher ratings of creativity.[2]

"Now there is some element of truth to that," Baer noted. "Independence, even in a group, is helpful."

"But the belief is that when people work by themselves, disconnected from others, they're more likely to be creative. And this is in stark contrast to what we see currently as a trend in both creative and knowledge work."

Not only has more work been done in teams over the last 40 years, but the teams have grown larger and their work more impactful and influential, as evidenced in another study Baer presented. It showed teams produce more new knowledge than individuals, as measured by the number of highly cited work of each.[3]

Creativity is often considered to be a process of combination or recombination of ideas from different knowledge sets that have not been fused together.

The nature of problems we're facing are getting more complex and knowledge is becoming more specialized, which requires the assembly of multidisciplinary teams to address these more complicated problems, Baer explained.

Myth 2: Diverse Teams are More Successful

When considering whether diversity matters within team makeup, the answer is … it depends. Baer shared a study in which researchers looked at diversity of expertise within a team (as opposed to race or gender).[4]

"This type of diversity is particularly useful for creativity because the benefit of teams is that they can combine non-redundant knowledge sets. That means different people know different

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things, and in the combination of these knowledge sets, oftentimes that's the genesis of new idea," Baer explained.

Researchers sought to understand what might be learned from studying varying levels of expertise within teams, and whether that affected how creative that team can be. They looked at teams within an oil and gas company in the Netherlands comprised of different subject matter experts such as geologists, chemists and engineers.

The sought to understand whether they could predict ratings of effectiveness and creativity (new ideas) by exploring the optimal number of team members and level of expertise diversity. Researchers also measured the level of commitment within the team, and how much focus was on creativity. Supervisors were asked to rate the team's effectiveness.

The results showed a downside to overdiversifying a team's expertise, discovering that two to four disciplines were optimal for creativity, new ideas and peak team effectiveness. Several additional studies have come to a similar conclusion, denoting a high degree of confidence for this strategy.

Smaller teams are generally more effective
For extremely complex problems that might require even greater diversity of knowledge from more than two to four disciplines, Baer advised creating two teams who work in parallel, and adding a mechanism to integrate their efforts, rather than assemble a larger team with too many different voices.

"It's similar to how Jony Ive spoke about working with small groups of individuals and parallel groups working together," Baer related. "And that is reflective of this insight that making teams

too large is extremely counterproductive. Just coordinating, overcoming problems of agreement on goals, processes, the purpose of the team…all of that is much more difficult to do in a larger group or team."

When possible, keep teams to five to eight members, Baer advised, in order to avoid too much conflict early on, too much misunderstanding and too much time to invest in laying the groundwork.

While large teams can succeed, it may take too much time, lowering effectiveness, Baer added.

Diversity works when individuals are invested in the group
Moreover, diversity is in and of itself is not beneficial unless individuals are invested within the group and care about what the other person has to say, Baer explained. When members of a team believe in what they're doing as a team together, they capitalize on their diversity.
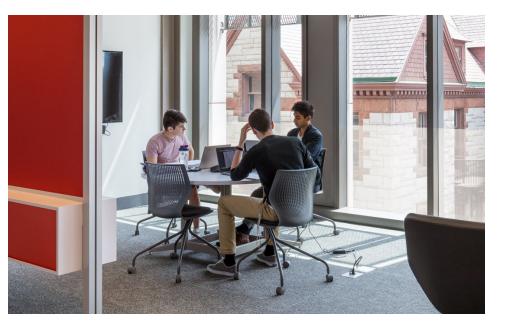
Even a perfectly composed, ideally sized team of experts will not be effective if people aren't willing to listen, give the other person the benefit of the doubt and accept their point of view, Baer explained. Thus, paying attention to what others have to say and keeping an open mind are key.

Myth 3: The Paradox of Repeat Collaboration
Conventional wisdom advises keeping teams intact once they have completed a project, on time and in an efficient manner. Indeed, evidence shows this is often true. However, the reality is that successful repeat collaborations depend on the type of work being done and whether it is creative or not.

"If you want to stay creative as a team, turnover is your friend."

MARKUS BAER

Effect of team familiarity on repetitive (non-creative) work

Baer shared a study that investigated whether repeat collaborations would be helpful or counterproductive for routine work that is repetitive and/or of a systemized nature, such as performing surgery, auditing or piloting a plane.[5]

The study showed familiarity, developed over multiple collaborations with the same team, was a better predictor of performance than the individual experience of team members. Thus, keeping a team intact, and allowing the same set of players to work together continuously over repeat collaborations, created huge impact on efficiencies and reliability of work processes.

Therefore, Baer recommended against replacing a team member even if another individual with a superior skill set becomes available. Because when a team's focus is on execution and efficiency, replacing an individual could lead to more defects and errors, lower quality and longer completion time.

Instead, he suggests investing in setting up a team in such a way and supporting it so people have a positive experience and want to remain part of the team because the organization will reap the benefits.

However, the outcome is different when considering work of a non-repetitive nature.

Effect of team familiarity on creative work

Baer presented a study that looked at the effect of repeat collaborations among teams focused on creative work rather than process efficiency. In this case, researchers looked at more than 2,000 Broadway musicals and the relationships between contributors.

The research showed that adding newcomers to an incumbent team generally resulted in more innovation, which they measured by whether or not critics deemed the musical a hit.[6]

However, the team discovered that it took a delicate balance between how many newcomers worked best, and how many times they should repeat their collaboration.

"If you want to stay creative as a team, turnover, in small doses, is your friend," Baer advised. The sweet spot for creativity, as measured by the study of musicals, would be a team of four with one newcomer, with half comprised of incumbents who worked together previously.

"When we disband and reassemble, the setup costs for doing that are simply way too large. So, you want to keep the core intact, with some sort of variation in the periphery, which helps sustain creativity," he explained.

However, while keeping the same team completely intact over several collaborations may increase efficiency, it will likely lower creativity, explained Baer, who found a similar effect with his own publishing, where a second collaboration goes well, but becomes stale on the third go round.

"By then, you have learned what the other person knows, and have read the work they've read, and each knows the way the other thinks, leading to less friction but greater predictability."

Myth 4: Paradox of Handoffs

Creative collaborations often follow a linear process with individuals handing off their work to a teammate at a particular stage.

Baer shared research showing that the manner and timing of "passing the torch" can drive positive outcomes.[7]

In this case, the study looked through the lens of movie production, breaking down creativity into three steps.

1. Idea generation (initial story, book, or screenplay)

2. Elaboration (turning the story into the script)

3. Implementation (script being filmed)

Researchers referenced the IMDB database to identify the various players at each stage, and then evaluated success using critics' scores from Rotten Tomatoes with four possible scenarios of handoff timing. While not convinced of the effects of the first three scenarios, Baer shared that when a single person does most of the work and the transition is late in the game, it undermines the creativity of the overall project.

"The belief was that when people pass the torch too late, the next person has little investment or ownership. They don't feel that it's 'their baby' because they have less time to get familiar with it to understand it, and perhaps don't share the same vision," he suggested.

Tips for Building Creative Teams

Baer summed up with four takeways on creativity in teams.

1. **The lone creator is largely a myth.** New knowledge and new ideas are produced increasingly by teams.

2. **Too much expertise diversity in a team is as bad as too little.** Much like groupthink and having people who think alike on a team often leads to negative outcomes, having people who think very differently and having too many voices also tends to produce less-than-ideal results.

3. **Repeat collaboration is a double-edged sword**. When seeking efficiency, build a healthy team and try to keep them intact. That's going to be a greater competitive advantage. But when you care about creativity, a gentle amount of turnover is healthy as long as replacement is very, very measured. Otherwise, benefits will be offset by the negatives.

4. **If you have to hand over work, involve the other partner sooner rather than later.** Timely handoffs build psychological ownership of the work and allow for a more common vision of the project to arise so that doesn't feel like there a disconnect between the different voices in what you see.

To watch the full replay of Baer's discussion, visit knoll.com. ◪

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