The Dual Influence of the Number of Prior Ideas on Solvers’ Creative Performance in Open Ideation Contests

Andreas Herrmann, University of St.Gallen, Switzerland
Darren Dahl, University of British Columbia, Canada
Reto Hofstetter, University of Lugano, Switzerland
Suleiman Aryobsei, University of St.Gallen, Switzerland

We investigate the role of prior ideas in open ideation contests and their influence on individual levels of creative performance. We propose that prior ideas can both stimulate and hinder creative performance depending on the number of prior ideas a solver views before posting his or her own idea.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/1017560/volumes/v42/NA-42

[copyright notice]:
This work is copyrighted by The Association for Consumer Research. For permission to copy or use this work in whole or in part, please contact the Copyright Clearance Center at http://www.copyright.com/.
The Dual Influence of the Number of Prior Ideas on Solvers’ Creative Performance in Open Ideation Contests

Suleiman Aryobsei, University of St. Gallen, Switzerland
Reto Hofstetter, University of Lugano, Switzerland
Andreas Herrmann, University of St. Gallen, Switzerland
Darren Dahl, The University of British Columbia, Canada

EXTENDED ABSTRACT

In ideation contests, solvers generate ideas for innovation problems and hereby compete for financial rewards provided by the seekers based on the quality of the ideas (Boudreau et al. 2011; Girotra et al. 2010). Such contests integrate external sources to find ideas with a high degree of novelty and customer benefits. Our research is related to an emerging stream of literature that is concerned with the optimal design of ideation contests. This stream mostly emphasizes financial rewards (Cason et al. 2010; Berthon et al. 2008; Toubia 2006) or nonfinancial aspects such as the optimal number of participants (Boudreau et al. 2011), the optimal duration of a contest (Yang et al. 2010), or how solvers should receive feedback from seekers during the contest (Wooten and Ulrich 2013). Research focusing on the interdependence of solutions is more closely related to our work. By comparing blind and open contests, Wooten and Ulrich (2013) find that holding open contests can increase the number of submissions but at the same time they decrease the variance among submissions. Our research contributes to this literature in that we specifically investigate how prior ideas of others influence creative performance of solvers.

Conceptually, we propose that prior ideas can both stimulate and hinder creative performance and that the number and presentation of prior ideas determines how they influence creative performance. First, consider the stimulation effect. Prior ideas can stimulate creative performance by triggering access to memory. According to SIAM (search for ideas in associative memory) theory, ideas cannot be generated ex nihilo but based on previously stored knowledge that needs to be activated and retrieved first. After knowledge is activated, it can be combined or applied to a new domain (Nijstad and Stroebe 2006; Nijstad et al. 2002).

At the same time, however, individuals might become less capable to think freely and fix their ideas more closely to prior viewed ideas as a result. This effect is known as fixation. It describes a blocking of idea generation, creative problem solving, or remembering (Smith 2010; Smith and Blankenship 1989; Urbany et al. 1997). Further, a motivational factor arises from the competitive information prior ideas convey. As some levels of competition typically stimulate motivation (Harris and Vickers 1987; Raina 1968), it suffers in situations of strong and controlling competitions (Reeve and Deci 1996; Ross 1975; Ryan 1982; Shepherd et al. 1995).

We propose that these discussed effects depend on the number of prior ideas a solver views before generating his or her own idea. More prior ideas stimulate broader access to memory but at the same time they increase the risk for negatively perceived competition that enhances the degree of fixation and decreases task motivation. We investigate this possibility in four studies.

In a first study, we use clickstream data from the European open ideation platform Atizo.com that allows us to investigate the effects of prior ideas on the quality of submitted ideas in a real environment. We analyze 2,594 ideas in 20 ideation contests and use clickstream information to identify the prior ideas viewed by solvers before generating their own ideas. We measure idea quality based on seeker’s evaluation of the idea. Data reveals that the number of prior ideas is positively related to idea quality but this effect reduces with increasing numbers of prior ideas viewed. Controlling for alternative explanations, such as strategic entry of solvers, allows us to narrow down the possible explanations for this effect. We proceed with more rigorous testing of the underlying causality in an experimental study.

In Study 2, we find that the competitive environment can hinder prior ideas to stimulate creative performance. If the respondents do not compete against the presented prior ideas, creative performance increases significantly with increasing numbers of prior ideas. We fail to find such a positive effect when respondents compete against the prior ideas. Measures of the controlling nature of competition provide evidence for the possible processes underlying this effect, which we investigate in a next study.

Study 3 explicitly separates the stimulation from the competitive effect. We manipulate stimulation by the number of prior ideas presented to the respondent (2 vs. 10 prior ideas). To manipulate competition, we distinguish between the objective winning chances (low vs. high) and how competition is framed (neutral vs. competitive). First, we find a positive effect of high winning chance on the creative performance. Further, we find for the neutral presentation conditions that participants’ creative performance is higher when they are highly stimulated compared to a low stimulation. However, for the competitive framing conditions, there is no positive effect of a higher number of prior ideas. Our results suggest that controlling aspects of competition can counteract positive stimulation arising from prior ideas, but only at larger numbers prior ideas.

In a last study, we show that idea aggregation is a possible remedy for this negative impact of prior ideas. Displaying prior ideas in an aggregated form can maintain stimulation while at the same time it reduces the perceived competitive pressure in ideation contests.

These results offer novel insights into within contest dynamics that have both theoretical and practical implications.

REFERENCES


