Too much structured knowledge hurts creativity, study shows

March 22 2017

Structure organizes human activities and help us understand the world with less effort, but it can be the killer of creativity, concludes a study from the University of Toronto's Rotman School of Management.

While most management research has supported the idea that giving structure to [information](#) makes it easier to cope with its complexity and boosts efficiency, the paper says that comes as a double-edged sword.

"A hierarchically organized information structure may also have a dark side," warns Yeun Joon Kim, a PhD student who co-authored the paper with Chen-Bo Zhong, an associate professor of organizational behaviour and [human resource management](#) at the Rotman School.

The researchers showed in a series of experiments that participants displayed less creativity and [cognitive flexibility](#) when asked to complete tasks using categorized sets of information, compared to those asked to work with items that were not ordered in any special way. Those in the organized information group also spent less time on their tasks, suggesting reduced persistence, a key ingredient for creativity.

The researchers ran three experiments. In two, [study participants](#) were presented with a group of nouns that were either organized into neat categories or not, and then told to make as many sentences as they could with them.

The third experiment used LEGO bricks. Participants were asked to

make an alien out of a box of bricks organized by colour and shape or, in a scenario familiar to many parents, out of a box of unorganized bricks. Participants in the organized category were prohibited from dumping the bricks out onto a table.

The findings may have application for leaders of multi-disciplinary teams, which tend to show inconsistent rates of innovation, perhaps because team members may continue to organize their ideas according to functional similarity, area of their expertise, or discipline.

"We suggest people put their ideas randomly on a white board and then think about some of their connections," says Kim. Our tendency to categorize information rather than efficiency itself is what those working in creative industries need to be most on guard about, the researchers say.

The paper is forthcoming in *Organizational Behavior and Human Decision Processes*.

Provided by University of Toronto