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Recipe for building 'dream teams' revealed

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19:00 28 April 2005
NewScientist.com news service
Shaoni Bhattacharya

A “universal recipe” for building a “dream team” has been devised by scientists studying the make-up of the groups behind hit Broadway musicals and successful science projects.

The perfect creative team contains just the right mix of veterans and rookies, suggests the mathematical modelling study, carried out by Luís Nunes Amaral at Northwestern University in Evanston, Illinois, US, and colleagues.

“All the best teams seem to have a certain number of newcomers,” says Amaral, who works on complex systems and network analysis. But he adds: “The successful teams also have a fair number of people who are established.”

Taking completely new people into a team is risky, he explains, as the wrong mix could lead to failure. But experienced people can help nurture newcomers, who bring with them novel approaches and a tendency to challenge dogmas.

The researchers “offer powerful insights into the mechanisms governing collective human behaviour,” writes Albert-Laszlo Barabasi, at the Center for Complex Network Research at the University of Notre Dame, Indiana, US, in a perspective accompanying the paper in *Science*.

Amaral says the results suggest that businesses could recruit outside their industry to produce a successful team, provided the newcomer is surrounded by established colleagues.

Impact factor

The research team - itself a mix of vastly different collaborators ranging from physicists to sociologists - set about analysing the production teams responsible for Broadway musicals between 1877 and 1990, and scientific research teams from 1955 to 2004.

The found they could predict success largely looking at just two parameters - the likelihood of a newcomer being in the team, and the likelihood of a collaboration being repeated. “We were very surprised because it worked. We were able to reproduce what was going on very nicely,” Amaral told **New Scientist**.

The researchers rated the success of scientific teams by examining the impact of the journals they published their work in, spanning ecology, astronomy, social psychology and economics.

“The teams publishing in good journals were built in a different way,” he says. Research teams publishing in lower impact journals tended to repeat collaborations again and again. The most

successful teams did work with the same colleagues too, but only 75% of the time, he says.

Equal pressure

“When forming a dream team make an effort to include the most experienced people, whether or not you have worked with them before. The temptation to work mainly with friends will eventually hurt performance,” notes Barabasi.

The study found a similar team make-up for the musical production teams, assumed to be successful simply by having made it to Broadway. These tended to increase in size from about two to an average of seven per production between 1877 and 1929 and has stayed fairly constant since then. For academic research, team sizes are still growing.

Amaral notes that although Broadway and academic research appears very different, the pressures of the creative process are the same. “People have to respond in the same way - with increases in size and collaborating with people you have never collaborated with before.”

Journal reference: *Science* (vol 308, p 697)

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Printed on Sat Apr 30 22:36:52 BST 2005