

Engineering Systems Research Seminar

On: Methodological Innovation: Necessary Condition Analysis (NCA)

Jan Dul, Rotterdam School of Management, Erasmus University

Speaker:

Jan Dul is Professor of Technology and Human Factors at Rotterdam School of Management, Erasmus University (RSM). His research focuses on human factors (ergonomics) and specifically the interaction between people and social environment. Jan Dul has written more than 150 publications. He has developed Necessary Condition Analysis (NCA). In 2016 his publications about this method appeared in *Organizational Research Methods*, *Sociological Methods & Research*, and *Journal of Business Research*. Applications of the method are published in *Intelligence and Journal of Purchasing and Supply Management*.

When?

Wednesday, 14 March 2018, 2:00-3:00 pm

Where?

Building 424, room 025

Abstract:

Necessary Condition Analysis (NCA), is an upcoming empirical methodology, recently published in [Organizational Research Methods](#) (Dul, 2016), that is already used in articles in a variety of social science fields in particular management and business. Reactions of researchers, practitioners, editors and reviewers are very promising. For example, an editor of a top journal said: *"From my perspective, [this NCA paper] is the most interesting paper I have handled at this journal, insofar as it really represents a new way to think about data analyses"*.

How does NCA work? NCA understands cause-effect relations in terms of "necessary but not sufficient". It means that without the right level of the condition a certain effect cannot occur. This is independent of other causes, thus the necessary condition can be a bottleneck, critical factor, constraint, disqualifier, etc. In practice, the right level of necessary condition must be put and kept in place to avoid guaranteed failure. Other causes cannot compensate for this factor.

Whom is NCA for? NCA is applicable to any discipline, and can provide strong results even when other analyses such as regression analysis show no or weak effects. By adding a different logic and data analysis approach, NCA adds both rigor and relevance to theory, data analysis, and publications. NCA is a straightforward and user-friendly method that requires no advanced statistical or methodological knowledge beforehand. It can be used in both quantitative research as well as in qualitative research.