



How to design and undertake quantitative research in the built environment Workshop 2: Exploring the impacts of quantitative research

Tuesday, 26 February 2019, UCL, Bartlett School of Construction and Project Management, 1-19 Torrington place, London, WC1E 7HB

This is the second of two workshops aimed at bringing together researchers, policy-makers and practitioners who are interested in and/or engaging in quantitative research in the built environment. The emphasis for the first workshop held in December 2017 was on how construction management researchers can better design quantitative research by reflecting on the kinds of research questions asked, and the methods used for data collection and analysis. The first workshop was therefore designed to consider the *what*, *how*, and *why* questions associated with quantitative research in the built environment. In this second workshop, concern shifts towards answering the *so what* question, as we seek to debate and discuss the impacts of quantitative research and of quantitative data in the field.

To frame the discussion at this workshop, a number of areas is of particular interest, in particular:

- Despite over twenty years of methodological debates (see Seymour and Rooke, 1995) that raise interesting questions about the nature and culture of the field, construction management research is still dominated by positivistic and quantitative research (see e.g. Taylor and Jaselskis, 2010). How do we mobilise theoretical and methodological pluralism (cf. Dainty, 2008) in the production and use of numbers in built environment research?
- The relevance of quantitative research has recently been called into question. Koskela (2017) in his provocative piece entitled '*Why is management research irrelevant?*' argued that mathematical representations offer only an idealised version of industry practice, a product of researchers dreaming up problems in Ivory Towers so divorced from the realities of practice. He maintained that while quantitative researchers offer (at times, flawed) descriptions of reality, they are less adept at offering solutions to the problems of production. In what ways can and do we make quantitative research relevant to industry practice? To what extent do the numbers produced by such research offer fresh solutions (or even new problems) to industry practice?
- In today's *Audit Society* (see Power, 1997) dominated by quantitative metrics and rankings, what type of numbers do construction professionals and policy-makers rely on? How do numbers shape our understanding of construction projects, firms and the sector? What aspects do they highlight and what do they obscure? How do people engage with these numbers, and with what effects? How do numbers influence policy-making, industry practice and researchers' behaviours, and in what ways are these effects oppressive or empowering (see e.g. Shore and Wright, 2015)?

References

- Dainty, A. (2008) Methodological pluralism in construction management research. In: A. Knight and L. Ruddock (Eds.) *Advanced Research Methods in the Built Environment*. Chichester: Wiley-Blackwell. pp. 1-13.
- Koskela, L. (2017) Why is management research irrelevant? *Construction Management and Economics*, **35**(1-2), 4-23.
- Power, M. (1997) *The Audit Society: Rituals of verification*. Oxford: Oxford University Press.
- Seymour, D. and Rooke, J. (1995) The culture of the industry and the culture of research. *Construction Management and Economics*, **13**(6), 511-523.
- Shore, C. and Wright, S. (2015) Governing by numbers: Audit culture, rankings and the new world order. *Social Anthropology*, 22-28.
- Taylor, J. E. and Jaselskis, E. J. (2010) Editorial: Introduction to the special issue on research methodologies in construction engineering and management. *Journal of Construction Engineering and Management*, **136**(1).

Workshop Programme on Tuesday 26 February 2019

Time	Description
09:30am	Arrivals and refreshments
10:00am	<p>Welcome, Introductions and Setting the Scene</p> <p>Counting Improvements: Reflections from a systematic review of evidence on the relationship between project management and productivity <i>Paul W Chan, The University of Manchester</i></p>
10:20am	<p>Project-related failures, and problems of quantitative-only enquiry <i>Danstan Chiponde, Barry Gledson and David Greenwood, Northumbria University</i></p> <p>Comparing the social value and sustainable development goals agendas: An application in large-scale infrastructure case studies <i>Cara Mulholland and Paul W Chan, The University of Manchester</i> <i>Sarah Fitton, Arup</i></p>
11:00am	Break
11:20am	<p>Performance measurement for construction projects <i>Kejun Meng, The University of Manchester</i></p> <p>Influence of co-creation practices on ambidextrous learning in project settings: PLS-SEM approach <i>Yan Liu, Erik-Jan Houwing and Marcel Hertogh, TU Delft</i> <i>Ningshuang Zeng, Ruhr-Universität Bochum</i></p> <p>System integration in digitally-enabled modular construction <i>Ruoheng Zhang and Jennifer Whyte, Imperial College</i></p> <p>Using hybrid simulation to model construction operations <i>Orsolya Bokor, Northumbria University</i></p> <p>Multiple linear regression models to predict embodied carbon emissions during early design of buildings in Sri Lanka <i>Amalka Nawarathna, Northumbria University</i></p>
12:00pm	Reflections from the morning
12:15pm	Lunch
1:00pm	<p>The inexact science of construction statistics and the impediments to accurate measurement in the real world <i>Stephen Gruneberg, UCL</i></p>

Time	Description
1:20pm	Responses, reflections followed by a panel discussion Exploring the quirks when comparing regional data on “activity” <i>Brian Green, Brickonomics</i> Construction statistics: What are we trying to measure? <i>Noble Francis, UCL</i>
2:00pm	Break
2:20pm	Workshop
3:45pm	Plenary discussion
4:30pm	Summary and workshop closing with a book launch