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Hindle, Giles A., Kotiadis, Kathy, Kunc, Martin, Lane, David C., López-Garay, Hernán, Ochoa Arias, Alejandro, Smith, Chris, Vilalta-Perdomo, Eliseo, Yearworth, Mike and Paucar-Caceres, Alberto (2026) ***Commentaries on "Discussing five decades of legacy of soft systems methodology in operational research and other fields of knowledge" — Alberto Paucar-Caceres.*** **Journal of the Operational Research Society, 77 (9). pp. 2355-2374. ISSN 0160-5682.**

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The Continuing Legacy of Soft Systems Methodology in Shaping Processes of Enquiry for Facilitated Hard Operational Research

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Paucar-Caceres (2026) demonstrates that over the past five decades Soft Systems Methodology has become an established Operational Research approach whose citations continue to grow year on year. His analysis documents the steady international expansion of SSM, making it one of the UK's most significant methodological exports in Operational Research. As SSM originated at Lancaster University, Paucar-Caceres, himself a former Lancaster student, is particularly well placed to provide this historical account.

Paucar-Caceres (2026) emphasises the importance of using SSM as a process of enquiry. It is this aspect that I wish to build upon, focusing not on SSM solely as a standalone methodology, but as an enabler for the evolution of other Operational Research approaches addressing increasingly complex real-world problems. In particular, I focus on the influence of SSM on quantitative OR, beginning with discrete event simulation (DES) modelling.

There are several early examples of studies incorporating SSM into the DES modelling process (Lehaney and Paul, 1996; Kotiadis, 2007), particularly to address limitations associated with conceptual modelling in complex real-world applications such as healthcare. These challenges frequently involve multiple stakeholders holding differing perceptions of the problem situation. In seeking structured approaches to support collective learning and stakeholder engagement, DES modellers increasingly turned to SSM and especially its tools to help make sense of problematic situations and develop shared understandings of systems and problems to be addressed.

Over the years, SSM played an important role in supporting the evolution of DES from a predominantly expert-led approach (Kotiadis et al., 2014) to PartiSim (Tako and Kotiadis, 2015; Kotiadis and Tako, 2018), a facilitated simulation modelling framework. More recently, similar developments are emerging within optimisation and mathematical modelling through facilitated optimisation (Noorain, 2024; Noorain et al., 2026), building upon both SSM and PartiSim principles.

The continuing influence of SSM therefore extends beyond its direct application as a Soft OR methodology. Its broader legacy lies in shaping processes of enquiry that have enabled quantitative OR methods, including simulation and optimisation, to become more participative, accessible, and responsive to complex healthcare and other organisational contexts.

I will now reflect on the role of educational lineages in the continued development of SSM. My own understanding of SSM was strongly influenced by Professor John Mingers, another former student of Lancaster, during my PhD studies at the University of Kent. Through his guidance, links between SSM and DES were further developed (Kotiadis and Mingers 2006). Several years later a subsequent collaboration with Maria Paola Scaparra, at the University of Kent, extended these ideas into optimisation through our joint supervision of Sheema Noorain's work on facilitated optimisation (Noorain 2024). This perhaps illustrates how SSM has continued to evolve through networks of research, supervision, and education beyond its original institutional base.

Over time, Soft Systems Methodology has developed well beyond its origins at Lancaster and has become embedded in a geographically dispersed and intellectually diverse international research community. Rather than remaining institutionally concentrated, SSM has been taken up and developed across a range of countries, for example in Chinese organisational contexts (Wang et al., 2015), and Sweden (Mirijamdotter and Bergvall-Kåreborn, 2006). Importantly, this international uptake has also been shaped by a strong and growing contribution from women scholars who have actively applied and developed SSM, including Sue Holwell (Checkland and Holwell 1998) who worked with Peter Checkland on SSM, and Anita Mirijamdotter and Birgitta Bergvall-Kåreborn's contributions to methodological critique and refinement. It would be remiss of me not to mention my own SSM collaborations with women such as Antuela A. Tako (Kotiadis et al., 2013), as well as Scaparra and Noorain mentioned earlier in my commentary. Together, these contributions illustrate that SSM is no longer defined by a single geographical or institutional centre, but instead by a distributed global community in which both male and female scholars have sustained and extended its use for understanding and intervening in complex real-world problems.

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