

Complex Negotiations in Agent-Based Modelling (ABM): Insights from Model Building

Wednesday, 21 March 2018 15:00 (30 minutes)

Negotiation is one of the most common things in the world. Everyone negotiates something every day. People negotiate even when they don't think that they are doing so. As negotiation is part of social life, it is also undeniable of its complex essence. Complexity arises when there are a lot of variables interacting, such as the variety of interests, the number of agents and issues.

Complex negotiations actually have been studied for quite a long time. However, only recently the complex negotiation's fundamental nature, essential elements, and the causal effect relations among elements, etc., are discussed through a "descriptive five-level framework", namely, (1) negotiation structure, (2) context, (3) structure and relationships, (4) process and (5) decision making. Nevertheless, the "descriptive five-level framework" only can provide basic understanding of the complex nature such as the background, critical timing, elements and structures of a negotiation case.

With this regard, this paper will introduce a new approach – Agent-Based Modelling (ABM) – to further analyze complex negotiations such as how agents interact and how a consensus is reached. The three-year work experience as the coordinator of Taiwan to the Asia-Pacific Economic Cooperation (APEC) SME Working Group (SMEWG) allows me to deeply involve in international negotiations and collective decision-making process. Therefore, a specific complex negotiation case from APEC SMEWG will be introduced and examined by the built ABM model through NetLogo.

To sum up, in this preliminary study, I will firstly review the academic literature of complex negotiation and display how an ABM model can be designed for analyzing a complex negotiation. After that, a systematically review of the case study will be presented for further discussions regarding insights from model building of ABM.

Keywords: Complex Negotiations, Agent-Based Modelling (ABM), NetLogo, Model Building, Asia-Pacific Economic Cooperation (APEC), Small and Medium Enterprise Working Group (SMEWG)

Primary author: Mr WANG, Shih-Chieh (Taiwan Institute of Economic Research)

Presenter: Mr WANG, Shih-Chieh (Taiwan Institute of Economic Research)

Session Classification: Humanities, Arts & Social Sciences Session

Track Classification: Humanities, Arts, and Social Sciences (HASS) Application