



Strategic Modelling to Support Decision Making for the North

UK Chapter of the International System Dynamics Society and
THINKLab, University of Salford

Tuesday 22nd October 2019, 15:00 to 17:40 (followed by informal networking)

University of Salford, Manchester - Old Fire Station G05 (Council Chamber)

In a complex world making good decisions is difficult. Creating models, whether qualitative or quantitative, improves our understanding of complex situations enabling us to make better informed decisions. Systems Thinking (ST) and System Dynamics (SD) approaches can be used for qualitative and quantitative modelling. For example, SD can be used to map the cause and effect relationships that drive performance and then project their behaviour over time using computer simulation. The presentations at this event will describe instances where ST and SD based approaches have, and are, being used in the North.

Agenda

15:00	Arrivals and Refreshments
15:20	Introduction <ul style="list-style-type: none">• Siôn Cave (President of the UK Chapter / Decision Analysis Service Ltd)• Hisham Tariq (THINKLab)
15:30	Applying System Dynamics to support strategic decision making within the Nuclear Sector <ul style="list-style-type: none">• Siôn Cave (President of the UK Chapter / Decision Analysis Service Ltd)
16:00	A polycentric pan-Northern economy – Modelling economic transformation through transport connections <ul style="list-style-type: none">• Jack Snape (Transport for the North)
16:30	Public Sector Integration - Understanding and monitoring complex pathways <ul style="list-style-type: none">• Leo Wall, Kasia Noone & Paul Holme (Manchester City Council)
17:00	Whaley Bridge Dam Emergency: How SD can help decision makers understand evacuation behaviour <ul style="list-style-type: none">• Hisham Tariq (THINKLab)
17:30	Event close
17:40	Informal networking at The Old Pint Pot



Abstracts

Applying System Dynamics to support strategic decision making within the Nuclear Sector

Siôn Cave (President of the UK Chapter / Decision Analysis Service Ltd)

The Nuclear sector is a key economic driver for the North of England. Siôn will describe some examples where system dynamics has been applied to support strategic decision making in the nuclear sector, including workforce modelling and the management of radioactive waste. He will discuss how the stages of the system dynamics modelling approach were utilised to support robust policy analysis.

A polycentric pan-Northern economy – Modelling economic transformation through transport connections

Jack Snape (Transport for the North)

There is a growing consensus on the need to re-balance the economy away from London and the South East to other parts of the country, including the North of England. Key policy levers available to drive this re-balancing include skills, local industrial strategy and transport investment. Under the banner of the Northern Powerhouse, the Government and Northern leaders established Transport for the North, a new statutory body. TfN's role is to make the case for transformational transport investment that would enable the North to function as a single economic area. By pooling the economies of the North's major towns and cities, labour markets and trade networks would be expanded to a level that could begin to compete with London.

Traditional incremental economic models and appraisal methods do not capture the non-marginal market failures that have developed over decades of poor connectivity between the North's cities. TfN is developing dynamic systems-based modelling tools and a mission-oriented appraisal framework that begin to address these issues, as well as interactions with the wider policy landscape including skills and planning policy. These radical new tools and approaches have applications beyond transport investment business cases and could help strengthen analytical capability in a wide range of public bodies.

Public Sector Integration - Understanding and monitoring complex pathways

Leo Wall, Kasia Noone & Paul Holme (Manchester City Council)

This presentation will cover the approach to research and evaluation of integrated health and social care service in Manchester. This will include the approach to evaluating new models of integrated care, mapping activity and financial flows, segmenting the population based on past and likely future need to high intensity services and forecasting future demand within the health and social care system. The presentation will cover the approaches taken in Manchester and how the findings are developing understanding and being fed into commissioning and service delivery decisions.

Whaley Bridge Dam Emergency: How SD can help decision makers understand evacuation behaviour

Hisham Tariq (THINKLab)

Understanding human behaviour in response to a disaster and our ability to capture it in a dynamic model is a valuable addition to policy analysis and could help better design future emergency evacuations. A brief presentation on how evacuation decisions can be modelled using System Dynamics followed by an interactive session.