

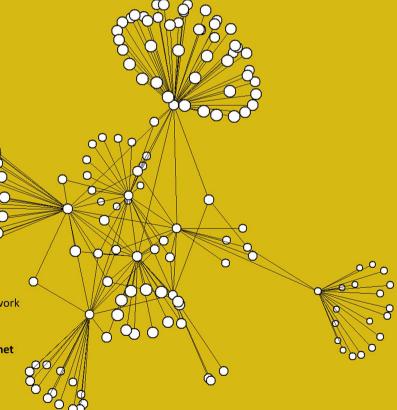
displaying and simulating mind-models, causal relations and much more.

MADDER

Is a freely available tool to analyse FCMs. It enables you to run management scenarios on FCMs and to transform matrix coded network data into files readable by other Network software for visualisation.

You can download it for free in its beta version at: www.fcmappers.net

Release of finalized version: September 29th.



In short FCM is:

A procedure **to involve stakeholders** in a research or management processes and a method to **extract and analyze different kinds of knowledge** about **complex systems** and their functioning (including relations between humans or institutions as in Social Network Analysis).

Participative Process

During the mapping process **social learning** and **understanding** of the system between the participants is fostered. In the interview phase the participant(s) create a fuzzy cognitive map (FCM). It **structures a process** in which the perception of stakeholders on a certain system (or problem) is uncovered and a representation of the system is created. This can be very valuable in the context of **conflict management**

Mapping

FCM can be used to **depict complex systems** as perceived by different stakeholders. A FCM consists of a number of elements (concepts/nodes/factors) and their causal influences on each other depicted with weighted arrows between the elements (figure 1). Concepts in a map can include **various elements** like aesthetical values, which originated in the social & cultural sphere, as well as institutions, physical structures like infrastructure, ecosystems or individual species.

Analysis:

The goal of FCM analysis is **detecting** and **interpreting relations** between entities found in a map and understanding its **structural properties** and **dynamics**. The structured way of collecting and coding data enables a comparison between different case studies and even aggregation of data. This also fosters the linking of FCM with other management or modelling approaches.

Modelling & Scenarios:

FCM has the capability to incorporate feedback processes. It can be used to simulate the changes of a system over time and address "what - if" questions. In regards of modelling FCM combines aspects of qualitative methods with advantages of quantitative methods. FCM allows to dynamically simulate the resulting system and to test the influence of management scenarios on system components.

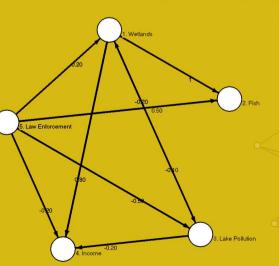


figure 1: Example of a simplified FCM taken from Özesmi & Özesmi 2004. The fuzzy values like much, some or little are translated to numbers in the interval of [-1;1].