An Economic vision of Activity Tracking

Hockey team example

- Translate into economic terminology and impact
- Each team set is a bag of good
  - Bg:<P1,P12,P4,P5>
- Objective: evaluate bag utility value
  - U(bg)
- Difference with economy
  - We propose an algorithm, not a function
  - Are the economic axioms still valid?
    - Reflexivity, Transitivity, Completude?
    - Preference Monociticity?
  - If not, some alternative axiomatics are available

Equilibrium

- Historical debate
  - General Equilibrium (Walras)
    - Everything has to be considered and computed together to deduce the equilibrium
    - Nothing can be isolated
  - Partial Equilibrium (Marshall)
    - Each sub-market considered individually
    - Everything else is exogeneous
- Classical and Multi-Agent Simulation = General Equilibrium
- With Activity-Tracking
  - Partial Equilibrium
  - Interaction problem, identify really exogeneous variables
  - Is it worth the cost?

How to do it?

- Ex ante: Detect elements which will constrain agents choices
  - What has an influence on agent choices?
  - -> Look at the agent exogeneous variables
  - -> For each agent/group, identify those with the highest impact (activity)
  - -> Follow these variables and deduces agents/groups with highest activity (tracking)

How to do it?

- Ex post:
  - Data mining on simulation logs
  - Identify homogeneous groups with decision/utiliy/surplus objectives
    - Max of variance (activity)
  - Track this groups