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Team Problem Solving and Motivation Under Disorganization

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Aims and Objectives

- Exploring how disorganization affects teams and their motivation
 - Does changing the rules of interaction between team members affect problem solving and motivation ?
- Understanding of what type of organizational structure is suited to each type of team.
 - Does the manner in which the team members are connected affect problem solving and motivation?

Disorganization

- First introduced in the 60's
(Merton, 1968; Crozier, 1969; Cohen et al., 1972)
- Over the years various definitions have been given
(Warglien and Masuch, 1996; Abrahamson, 2002)

Structural Disorganization

Topology of the team

How the team is structured

Functional Disorganization

Rules of Interaction

How the members of the team interact with each other and the environment

Disorganization Continuum

Volunteer Organizations

Disorganized

Organized



Fisher, D. R. (2006). The Activism Industry. *Journal: The American Prospect* 1(2): 1 – 30.

Inauen, E., Rost, K., Frey, B. S., Homberg, F. & Osterloh, M. (2010). Monastic governance: forgotten prospects for public institutions. *The American Review of Public Administration* 40(6): 631–653.

The Data





- Data set
 - Individuals sought information through the New Forest Community Volunteering Centre about volunteering.
N. 226 (Employed n. 118)
 - Web-based survey- Quantitative
- Measure
 - Validated PSM (Perry 1996) P-O fit volunteer (Bright 2008) and Volunteer Intensity scales (Rodell 2013)

The Model

- The simulation contains 5 teams (Based on continuum)
- Each team consist of 5 – 7 members (volunteers)
- Each team is unique (different breeds)
- The main task for all teams is carry out is fund raising
- Each team member is a volunteers and only volunteers for a limited time
- The real world data is fed into the simulation through initial conditions

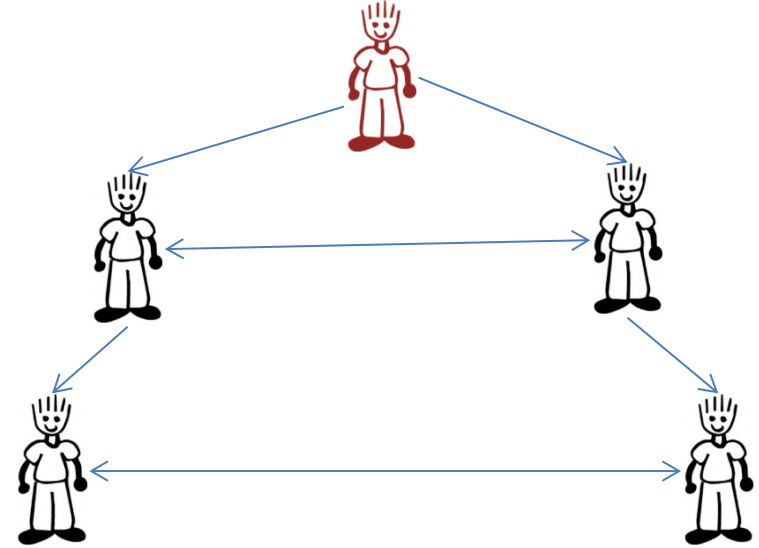
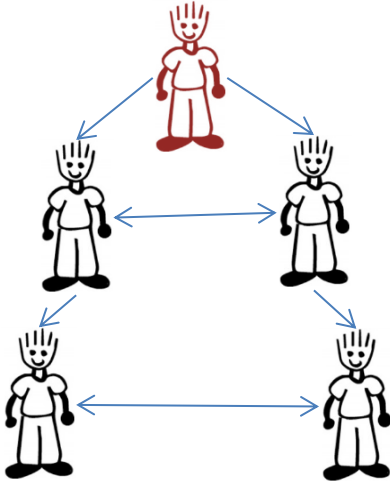
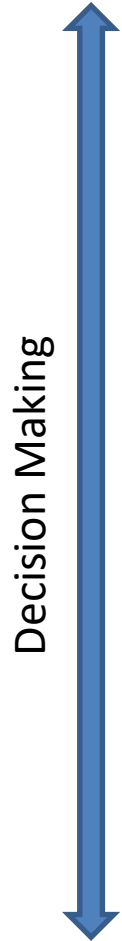
The Model – Agents

- Two scenarios are modelled
 - Disorganisation (Structural and Functional)
 - Organisation (Structural and Functional)
- 4 Types of Agents

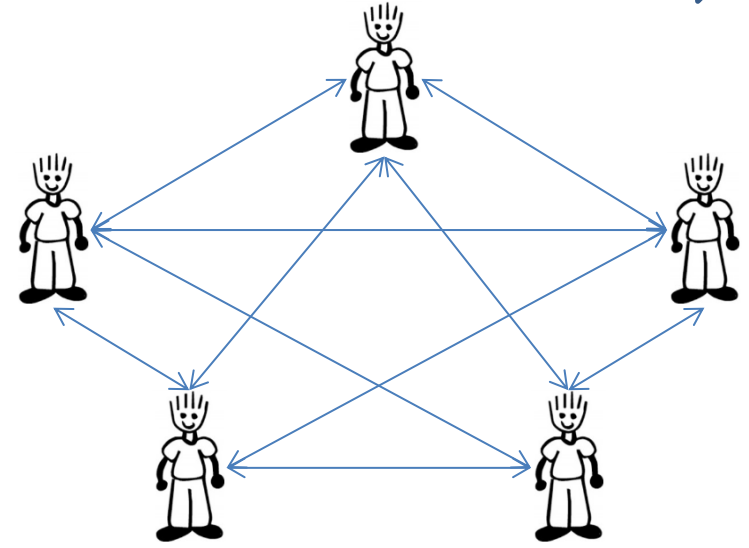
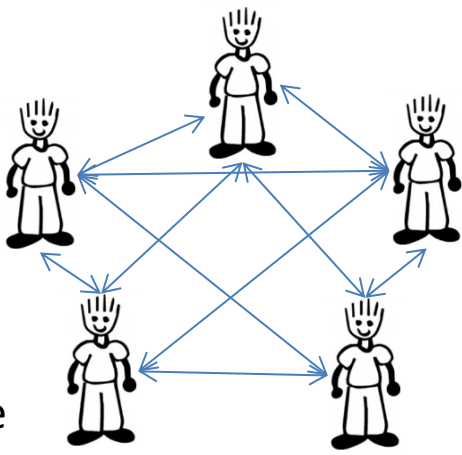
Volunteer (V)		Time volunteered in hours (t) , effort (Volunteer intensity) (e), PSM (m), POV fit (p), level (L)
Task/Problem (P)		Complexity (comp) , level (l)
Solution (S)		Efficiency (ef), level (l)
Opportunity (O)		Level (l)

The Model – Structural

Top Down



Collective



The Model – Functional

- Disorganised (Functional)
 - Teams move freely
 - Randomly selected directions
 - Team member can interact with any P, O or S regardless of level
 - Organised
 - Team members can only engage with P, S, O with on a similar level
- IF
- $$V_l \neq P_l \text{ OR } V_l \neq S_l \text{ OR } V_l \neq O_l$$
- Repulsion Happens

The Model – Decision Making

- Decision Making

- Resolution

- Happens when a team and the other 3 agents come into contact

$$T_c \equiv \sum_{i=1}^n (Vt_i + Ve_i + Vm_i + Vp_i) \quad \leftarrow \text{Team Capability}$$

$$T_c + S_{me}(ef) \geq P_{comp}$$

$$R_c = R_c + 1$$

- Fail & Redistribution

$$T_c + S_{me}(ef) < P_{comp}$$

$$F_c = F_c + 1$$

The Model – Motivation

$T_c > P_{comp}$ ← **Low Complexity Problem**

Increase Motivation -> $Vm_i = Vm_i * 1.1$

$T_c \leq P_{comp}$ ← **High Complexity Problem**

Increase Motivation -> $Vm_i = Vm_i * 1.2$

$T_c + S_{me}(ef) < P_{comp}$ ← **Failed Problem Resolution**

Decrease Motivation -> $Vm_i = Vm_i * 0.8$

The Model – Reporting

- The number of volunteers, opportunities, solutions and problems that are in the environment at any point in time
- Total efficiency of solutions
- Total difficulty of problems
- The number of completed tasks (team/total)
- The number of failed tasks (team/total)
- Motivation level (team/total)
- Problem latency
- Comparison between failed and completed

Further Development

- What's next ?
 - Introducing new volunteers into the system and replace to the old volunteers
 - A new volunteer (N) can join any team I

$$\mathbf{F} \sum V_n < 7$$

- If a new volunteer encounters a team that is full it will check the following with each agent that are in its range

$$\mathbf{IF} \sum V_n < 7 \text{ and } \mathbf{IF} \mathbf{N} \sum t, e, m, p > \mathbf{V} \sum t, e, m, p$$

then N replaces V at the place

- Changing team leadership
 - After a certain amount of time lapses
 - Special leaders inserted into the system directly (occasionally)
 - Leader (depending on type) goes and replaces the leader of the team

Conclusion and Outlook

- The next step is to further develop the simulation
 - Optimise and test
 - Run and Gather data
 - Data analysis
- Upon completion we aim to
 - Develop and understanding of what type of organizational structure is suited to each type of team
 - Exploring how disorganization affects teams and motivation

Thank You!

Q & A

Back up Slides

Public Service Motivation

“An individual’s orientation to delivering service to people with the purpose of doing good for others and society”

(Hondegem and Perry 2009, p. 6)

- Motives: rational, norm and affective
- Original six dimensions:
 - Attraction to Policy Making
 - Social Justice
 - Commitment to Public Interest
 - Civic Duty
 - Self-sacrifice
 - Compassion