

Integration and internal collaboration in European R&D collaboration projects

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- Internal collaboration in FP projects
 - NEST study
 - IP study
 - FP5 survey
- Implementation of internal collaboration rules in the SKEIN model

NEMO background

- Seven Framework Programmes since 1984
 - Focussing and integrating research efforts in EU
 - Have significantly advanced research collaboration in Europe
 - Durable links between individuals and organisations
 - Size and duration of collaborations increased
- NEMO goals
 - understanding the interplay between internal and external collaboration rules, structure and function of politically induced R&D projects...
 - finding network structures which deliver ideal performance...
 - and analysing governance rules which encourage such ideal networks
- NEMO consortium
 - Nine partners
 - Three years (FP6/NEST)

Internal collaboration: three empirical datasets



- Networks are a methodological tool for analysing integration in European R&D
 - Collaboration projects constitute the building blocks of the networks
 - But what is going on within the projects?
 - The results are used in the different modelling approaches within NEMO -> Example: the SKEIN model
- NEST sample (FP6)
 - Seven projects in New and Emerging Science and Technologies - programme
- IP sample (FP6)
 - Five Integrated Projects in information society technology, sustainable development and aerospace
- FP5 survey sample
 - 1686 responses (3%) covering 1089 FP5 projects (12%)

Collaboration experiences in FP-funded projects



- Criteria for partner choice
- Learning and knowledge production
- Factors promoting and impeding collaboration

Criteria for partner choice

- Prior collaboration
 - Trust and reliability
 - Prior collaboration within and outside FPs
 - Key role of coordinator
- Complementary expertise, excellence and recommendation
 - Personal contacts and competencies
 - Thematic proximity of organisations
- Expected future collaborations
 - In most cases wish to continue collaboration
 - Current contacts: expanding/downsizing
 - Partners holding a formal position are desired partners
 - Non-continuation of collaboration on the ground of poor performance

Learning and knowledge production



- Learning effects
 - Learning content
 - Learning communication & shared language
 - Learning procedures
- Knowledge production primarily in work packages
 - Communication facilitated by small size of (sub)structures
 - Actual and formal collaboration structures converge
 - Exploration in project level, exploitation in WPs
- Reputation and visibility of key partners
 - Key role of senior scientists
 - Coordination and WP leadership increase visibility and reputation

Factors promoting and impeding collaboration 1



- Size of the project
 - Small size of (sub)structures increases cohesion, trust and perceived collaborativeness of knowledge production
 - Preferred size 5-10 partners
- Project management and cohesion
 - Maintaining good atmosphere and managing emerging problems
 - Clear and well structured work packages
 - Cohesion -> team work, feeling of shared purpose
 - Making conscious effort to collaborate and communicate

Factors promoting and impeding collaboration 2

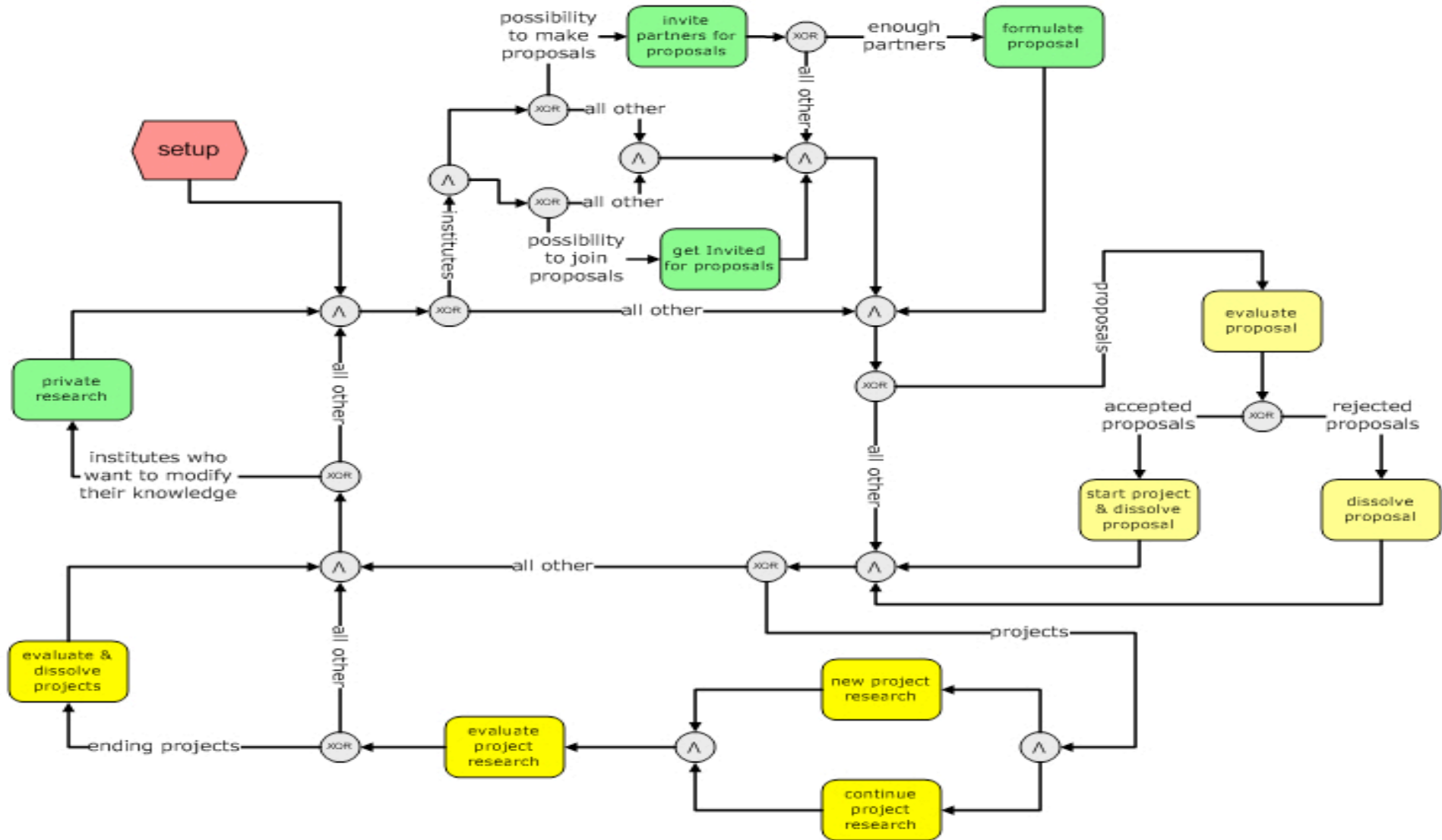


- Disciplinary background of the partners
 - Crucial to establish shared terminology and understanding of research questions
 - Multidisciplinary research challenging but inspiring
- Organisational background of participants
 - Different interests in knowledge production (+/-)
 - Effect of costing models
 - Different types of projects: basic research, societal concern and mission oriented projects
- Language and geographical proximity
 - Not described as important in self-assessment
 - However, impact evident in empirical analysis

Summary

- Analysis combines different samples, yields similar results
 - In-depth analysis
 - Good representativity
- Results are based on real people and processes
- Provides basis for modelling realistic sub-structures and processes
 - Formulation of rules suitable for the different modelling approaches
 - > SKEIN model

SKEIN model



Rules for six project stages

- Consortium formation
- Proposal submission
- Funding decision
- Task division
- Intra-project collaboration
- Future collaboration

Rules for six project stages

Rule code	Rule content	Special theme	Data sources
A1	<p><u>If we get invited to join the project</u> [AND (we have had prior cooperation with the coordinator or other partners) OR (we want to broaden our network and increase our visibility) OR (it fits our research profile/priorities) OR (we are looking for funding) OR (it's in a field we want to expand to)] <u>we join the project.</u></p> <p>Basic rule</p> <p>Additional conditions</p>	Being invited	<p>NEST interviews: 1Wa , 1Wb, 1Wc 4Wa, 6O, 3Wb 3O, 5O, 6W 3Wb, 1Wd, 2Wb 5W, 2O</p> <p>- Supported by IP's and survey</p>

Example: Implementation

Rule Number	Rule	Cycle stage	Special theme
A1	<p>If we get invited to join the project_[AND (we have had <u>prior cooperation</u> with the coordinator or other partners) OR (we want to <u>broaden our network and increase our visibility</u>) OR (it fits our <u>research profile/priorities</u>) OR (we are looking for <u>funding</u>) OR (it's in a field we want to <u>expand to</u>)]_we join the project.</p> <p>Research network of the agent →</p> <p>Part of KENE/partnering strategy →</p>	<p>Consortium formation</p> <p>← Basic assumption in the model</p>	<p>Being invited</p>

Implementation of the rules in the SKEIN model

