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COLLABORATIVE RESEARCH PROJECTS: FORMS, RESEARCH CONDITIONS, AND CHALLENGES

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TU Dortmund, HdHf Professur für Hochschuldidaktik und Hochschulforschung

Outline of talk

- 1 Introduction and state of research
- 2 Our conceptual perspective on collaborative research
- 3 Methodology of our preparatory study
- 4 Results
- 5 Conclusions, discussion & future research

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Introduction and state of research

Project-based /team-production model of knowledge production



- *Traditionally:* Team-production model in the sciences vs. solitary academic work in the social sciences & humanities → *Recently:* Team-production model carried by project-based funding also spreads in the social sciences (Hendriksen 2016)
- Project-based research has grown due to transformations of research governance and funding (Olechnicka et al. 2019) → Project-based funding has gained particular importance in the past decades in Germany (Winterhager 2015)
- The ways of collaborating and the nature of collaboration increasingly shifts from informal collaborations without funding (or with institutional funding) to formal collaborations with project funding (Georghiou 1998)
- Grant proposal writing has become an institutionalized practice, and collaboration practices emerged in 1980s as a new norm of dividing and delegating work in grant proposals (Serrano Velarde 2018)
- *Currently:* More (mostly sceptical) research on the interrelation of changes in governance of research and quality of research practice and knowledge production (Gläser et al. 2021)

State of research on project-based research and collaboration

Sciences

- **Bibliometric impact studies:** Project funding has positive short term and long-term effects on international research collaboration and the impact of co-authored work (for an overview, see: Kosmützky & Wöhlert 2021)
- **Team science:** Aims at improving the management of (large) collaborative projects and has developed a concept of five cornerstones of research collaboration and related recommendations (handbooks, trainings, networks, etc.) (for an overview, see: Hall et al. 2018)
- **Research on the link between project form and research practices:** Somewhat contradicting research findings (for an overview, see: Gläser & Serrano Velarde 2018)

Social Sciences

- **Auto-ethnographies:** Focus on team-related benefits and challenges of (international) collaborative projects; emphasize the social side of collaborative work in the social sciences (for an overview, see: Wöhlert 2020).

The benefits of collaborative research

Expand/enable research

Funding possibilities

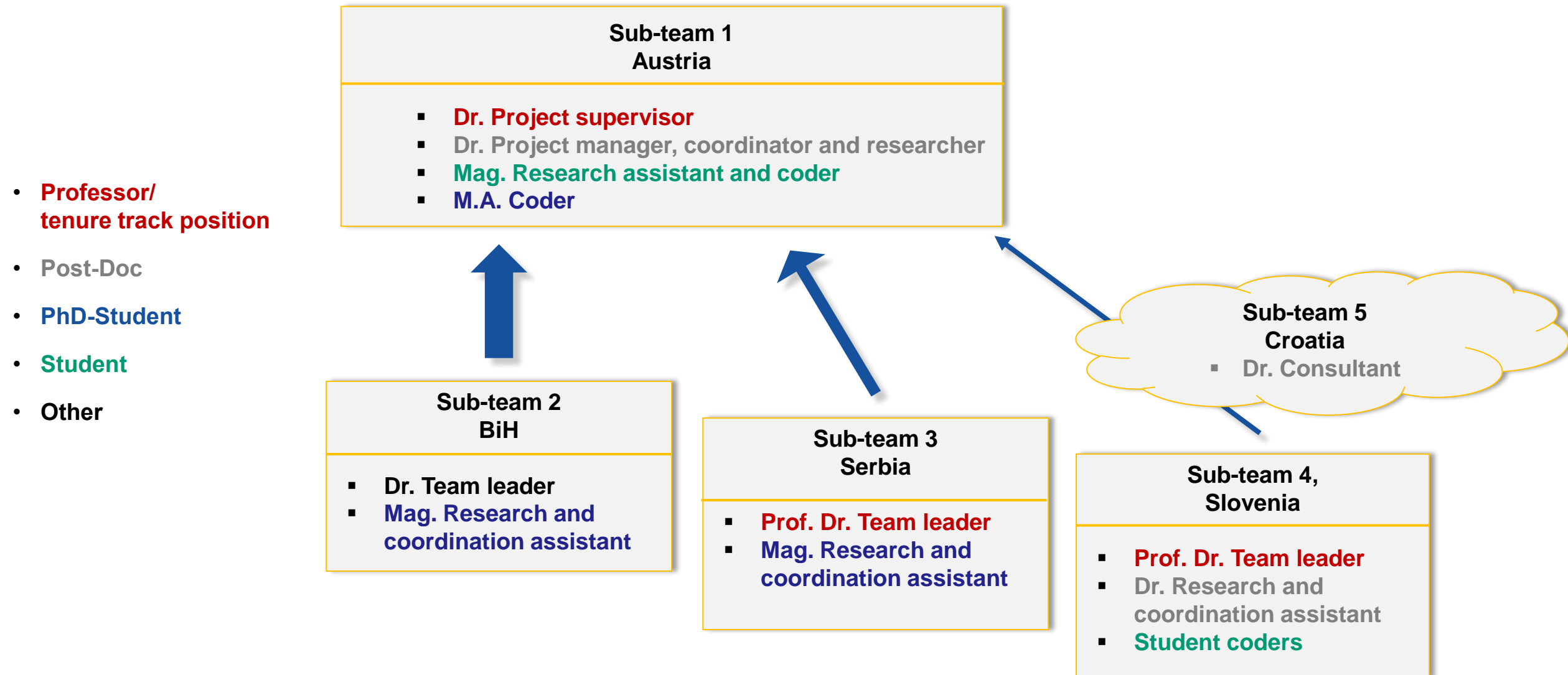
Academic networks

Data access

International visibility

Skills & career

Some pitfalls of collaborative research



Findings on impact of project form/ funding on research practices



The project form carried by project-based funding continues to spread but remains (more or less) external to research practices, because the requirements of successful research are anchored in the epistemic culture of the scientific community.
(e.g., Torka 2018)

Projects do not represent actual work practices (but are artifice bureaucratic accounting schemes); researchers use multiple funding sources to solve research problems but do not conceptualize their work in terms of externally funded projects.
(e.g., Bozeman & Roger 2002; Rogers & Bozeman 2001)



Competitively funded projects promote low-risk, mainstream and inflexible research; scientists' adaptations to the institutional conditions of funding restrain the quality and innovativeness of their research.
(e.g., Laudel 2006; Laudel & Gläser 2014).

Project form is not a mere technical bureaucratic/ organizational tool, but rather challenges and reshapes research practices and ideals.
(e.g., Ylijoki 2003; Ylijoki & Mäntylä 2016).

Research gaps

Research needs to analyze the influence of social science collaborative research projects (CPRs) on the research practice and knowledge production



- **Gap 1:** Research on how the work in collaborative projects as a specific organizational form affects the (quantity and quality of) knowledge production (research in form of a project = defined by goals and tasks, a limited duration, and short-term planning; see Torka 2018)
- **Gap 2:** Research on the differences between CRPs in the social sciences and the sciences, because they might have different impacts on the collaborative work and knowledge production (e.g., regarding the division of labor/ integration of knowledge, see Mauthner & Doucet 2008; the degree of local embeddedness of research, see Kyvik & Larsen 1997; or the work style and intellectual and social organization, see Whitley 1984, Becher & Trowler 1987)
- **Gap 3:** Research that distinguishes different forms of collaborative project constellations (Kosmützky & Wöhlert 2021)

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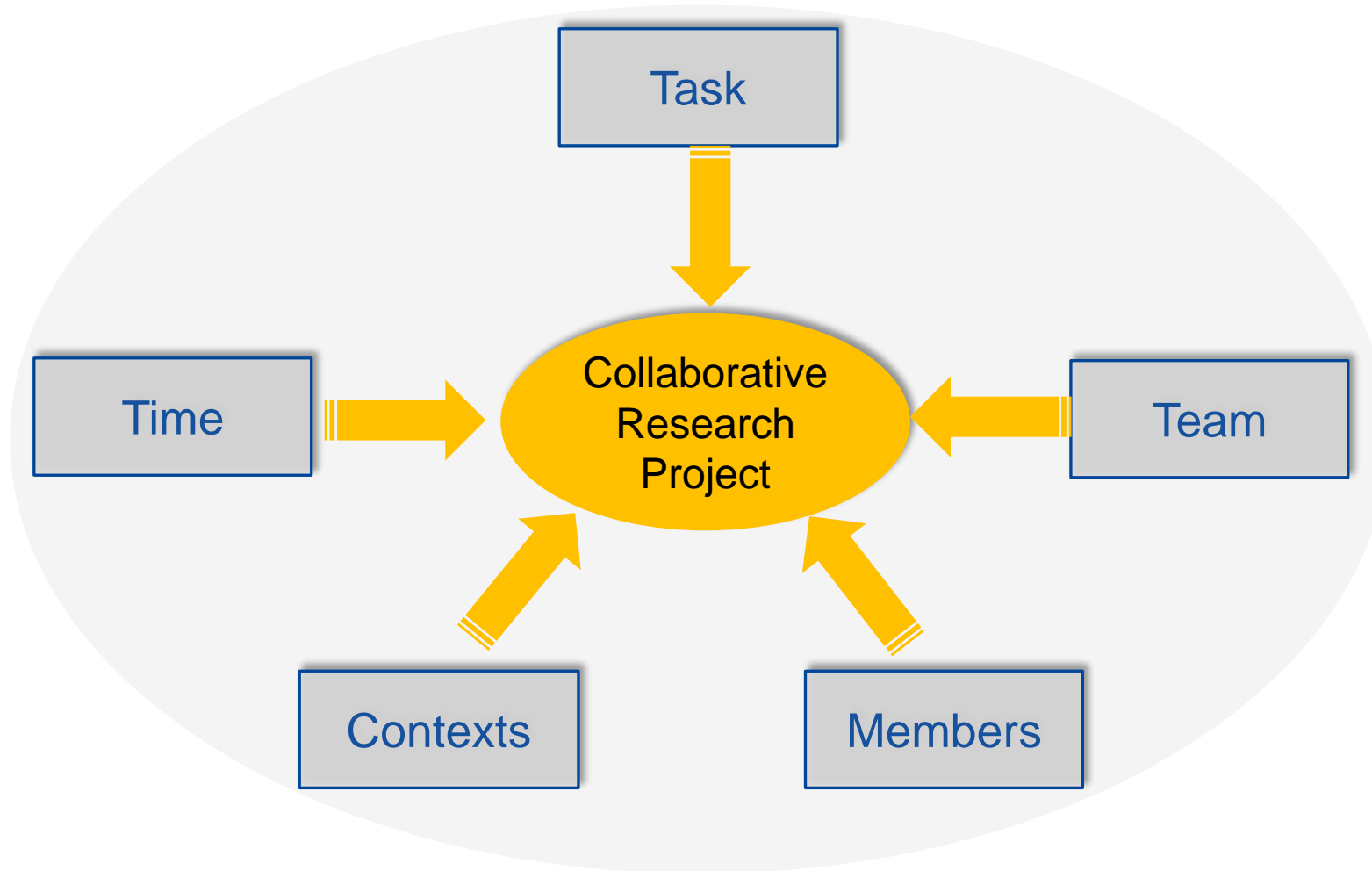
Our conceptual perspective on collaborative research

An organizational perspective on collaborative research

Organization	Temporary Organization (TO)
Goals	Tasks <i>“main reason for creating a TO”</i> Limited number of clearly defined tasks, often nonroutine: research goals and objectives
Permanence and stability	Time <i>“Flexibility and adaptability”; “ex-ante built-in termination”</i> Project duration and collaboration life cycle: (1) informal collaboration (project planning/ network building/ grant application) → formal project collaboration → informal collaboration (further project outcomes and networks)
Organization structure	Team structure Team composition/structure, communication structure, coordination, management, leadership
Members	Members Tasks and functional roles within the project (lead-PI, project coordinator, PIs, researcher) and other characteristics of members (motivation)
Environment	Non-temporary organization contexts <i>“TO is embedded in more permanent organization contexts / interorganizational”</i> Funding agencies, “home” organizations of project team members, professional associations

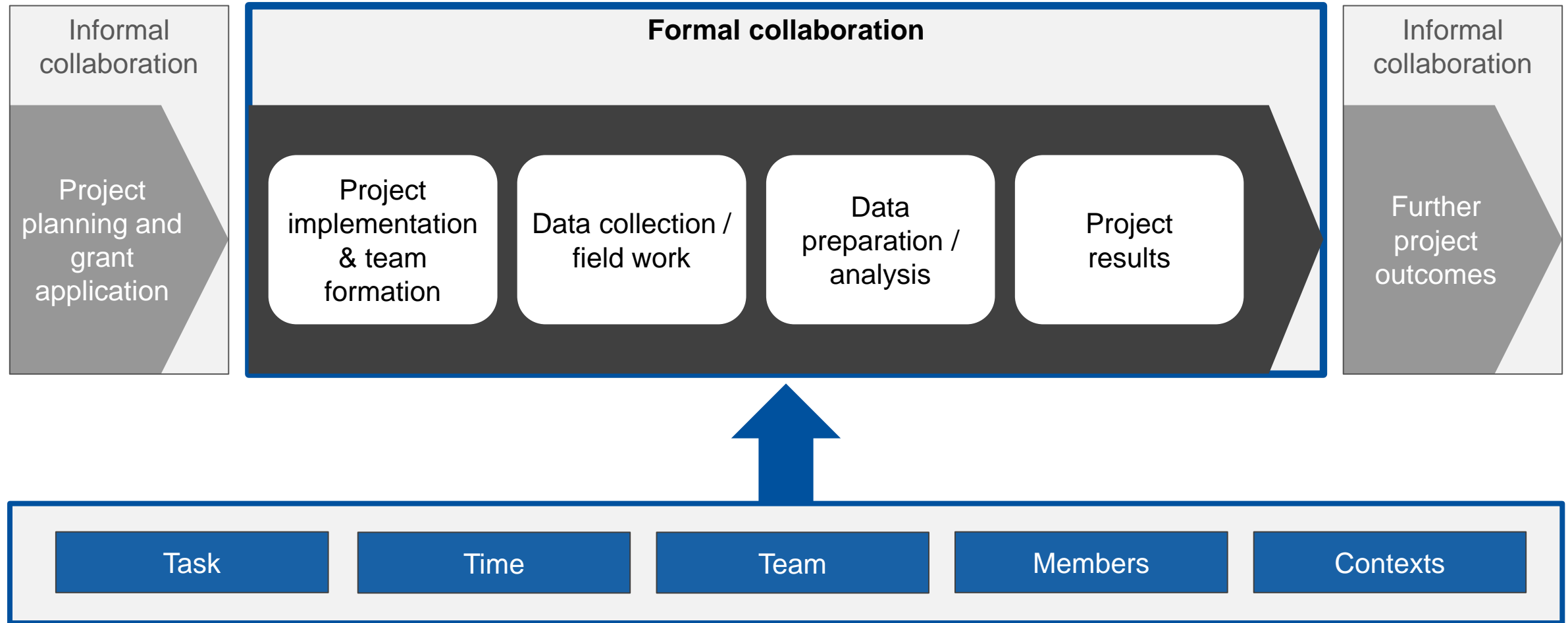
Concept of TO by authors; see for initial conceptualizations: Lundin & Söderholm 1995, Turner & Müller 2003 and for more recent overviews about TO research, e.g., Bakker 2010, Burke & Morley 2016, Sydow & Braun 2018

TO dimensions and the collaborative research project



How do TO dimensions shape collaborative research projects?

TO dimensions as basis to investigate collaborative research projects



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Methodology of our preparatory study

Methodology and data sample

- Preparative qualitative meta-study (e.g., Hoon 2013, Habersang et al. 2018, Combs et al. 2019)
- Two types of data sources/ cases:

8 own collaborative projects (4+4)

large | medium | small
international | national
comparative | non-comparative
data-generating | data-applicating
basic | applied research | development

16 auto-ethnographies of collaborative projects

for database, see:
Kosmützky 2018a, Wöhlert 2020

- All cases are collaborative social science projects
- Convenience sample that covers some variety

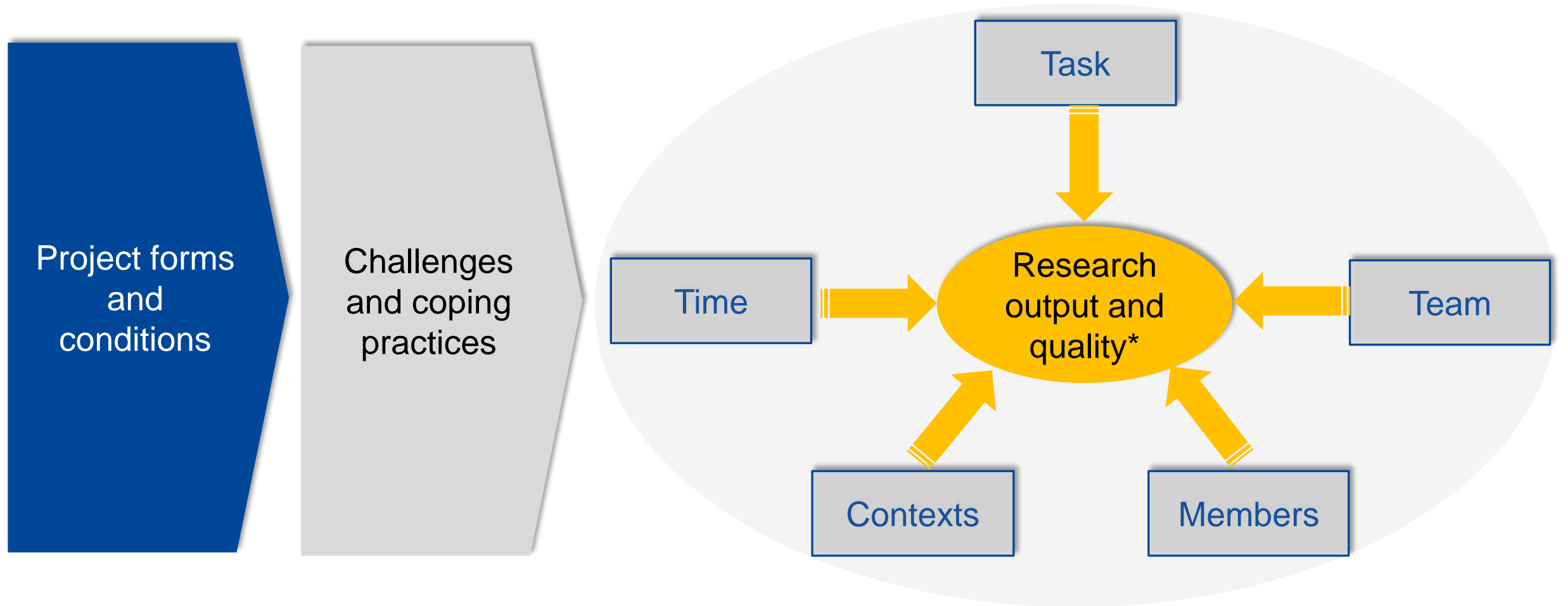
Analytical goals:

Goal 1: Capturing the complexity and variety of project forms and conditions in CRPs

Goal 2: Identifying challenges & coping practices in CRPs

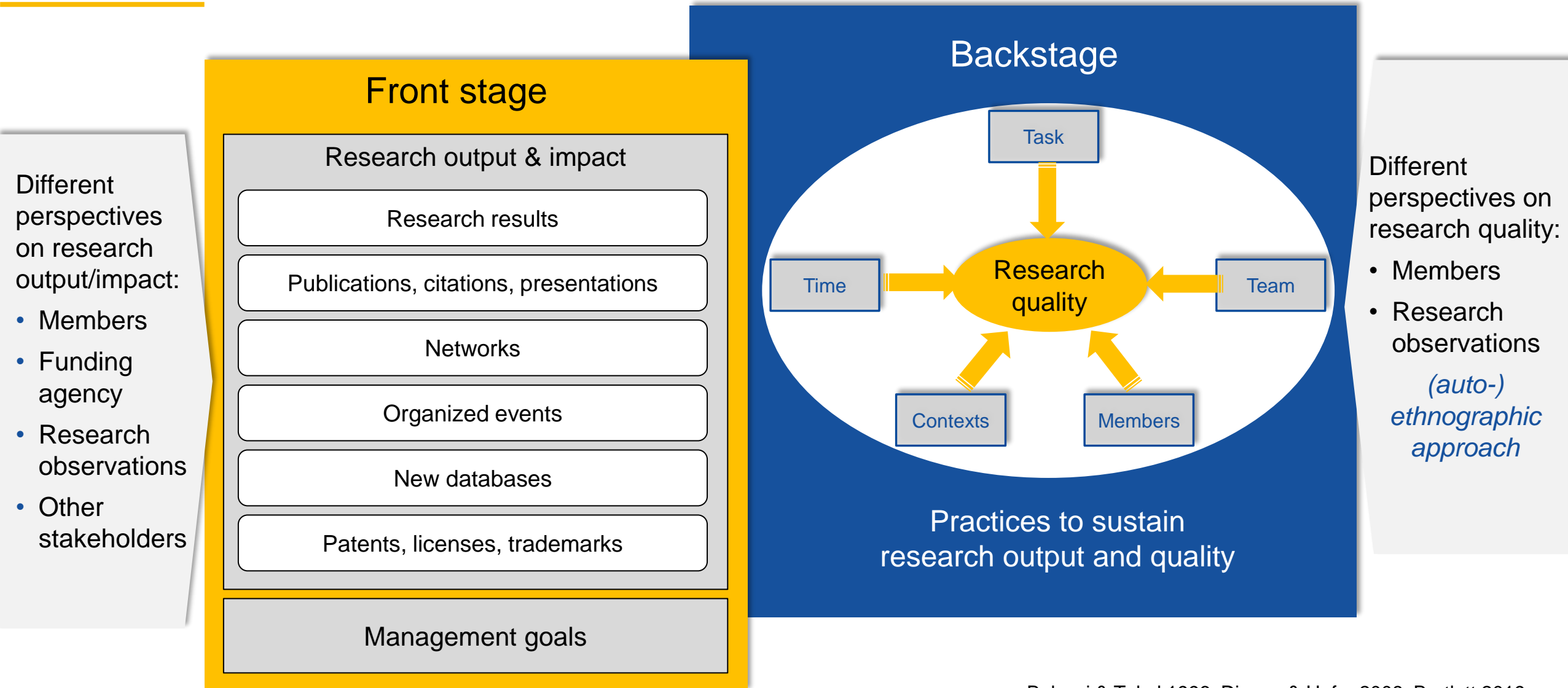
Goal 3: Developing assumption on CRPs and collaborative knowledge production

Goal 3: Qualitative inductive exploration of impact



How do TO dimensions impact the research output and quality?

* Research outputs and research quality



Belassi & Tukul 1996; Dinges & Hofer 2008; Bartlett 2019

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Results

Goal 1: Analytical tool to capture complexity on TEAM dimension

National collaborative project – North-Western European country

Team 1 (Lead)

City 1

- Senior researcher (Lead-PI)
- Post-Doc researcher
- PhD researcher,
- Student coders

One native language

Team 2

City 2

- Senior researcher (PI)
- Post-Doc Researcher 1
- Post-Doc Researcher 2
- PhD researcher

One native language

- Cooperative leadership style
- Parallel independent sub-teams with different internal hierarchies
- Basic use of ICTs (MS Teams for VCs and document filing/exchange; E-Mail/Phone for bilateral/group exchange)
- Same time zone
- One joint project language & English for some publications

Team 3

City 2

- Specialist 1 (PI)
- Specialist 2

One native language

Team 4

City 2

- Specialist 1 (PI)
- Specialist 2

One native language

Team 5

City 3

- Specialist 1 (PI)
- Specialist 2

One native language

Social Sciences / Work science and Ergonomics

Social Sciences / Service science

Practice field / Social care work

Goal 2: Observed challenges and coping practices in CRPs

Example

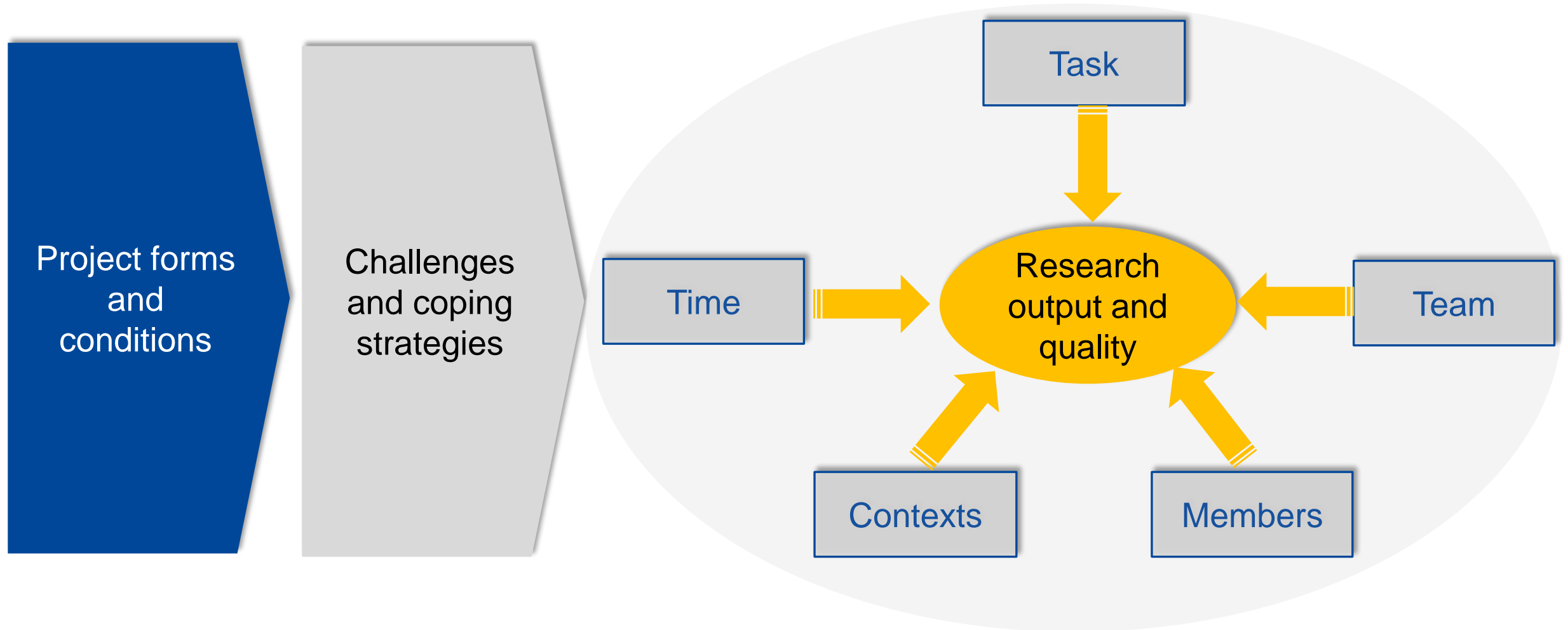
Language diversity with simultaneous joint project language (typically English) (**TEAM**) led to more time effort in task implementation (**TIME**), unequal (quantitative and qualitative) academic exchange, loss of quality in academic discussions about key terms, research procedures, or the interpretation of data or results due to different language skills (**TASK**), and less social interactions in the collaborating team (**TEAM**), giving (English) native speakers an advantage over non-native speakers, or equating language competence with professional/research competence (**MEMBERS**). Also, a joint project language did not prevent intercultural communication barriers and misunderstandings (**TEAM**).



Coping practices to sustain research output and quality:

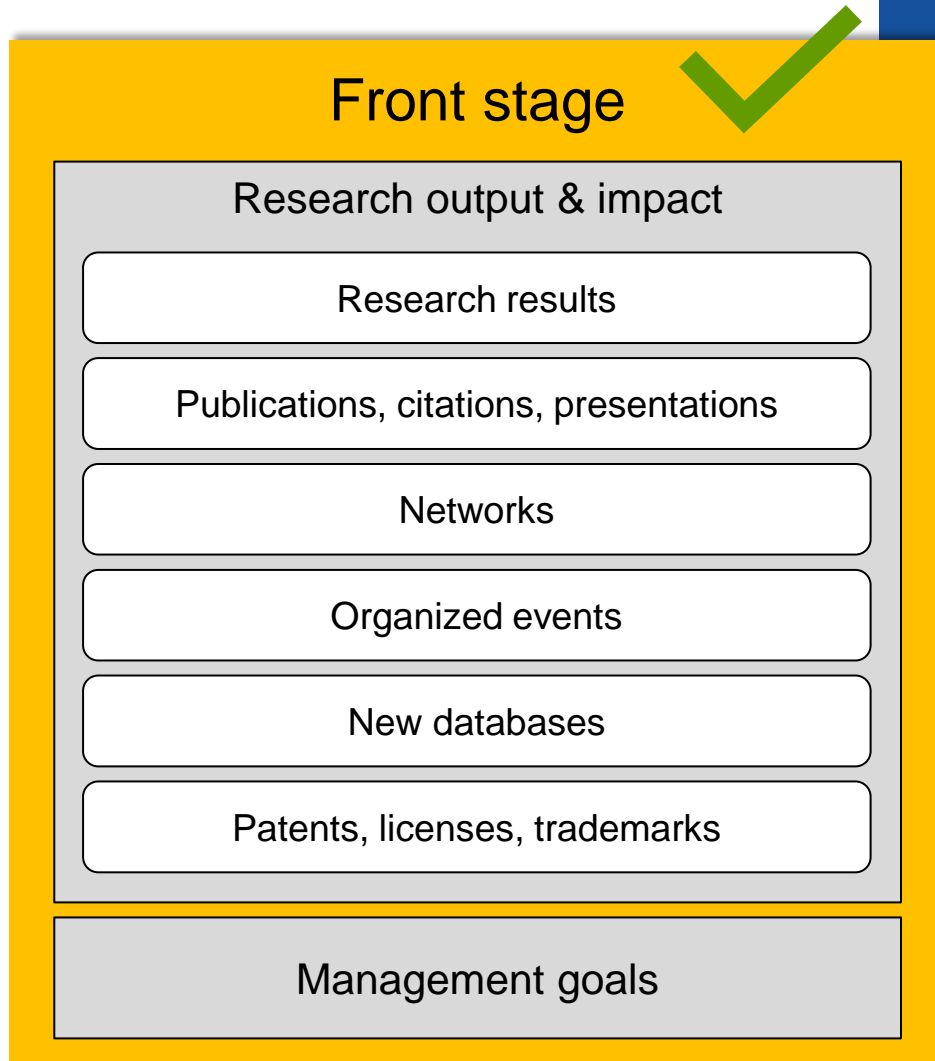
1. Lead-team hired additional staff (with needed language skills) to cross-check provided data/ analytical results (additional workforce and time capacities)
2. Only one joint publication (requested by funding agency), all other publications and conference presentations only done by lead partner
3. Intercultural misunderstandings were not recognized throughout the project implementation and thus not solved

Goal 2: TO dimensions shape the project implementation



...but they are interrelated and there is no clearly dominating dimension (in our sample)

Goal 3: How TO dimensions impact research output and quality



Backstage

Coping strategies to sustain research output and quality

- **Task:** Reducing joint co-publications or adding more single publications to publish/review research results
- **Task:** Balancing loss of academic expertise in team with other expert sources
- **Time:** Adding more workforce on own budget
- **Team:** Stop investigating in social dimension (--> network ties remained weak, no future collaboration)
- **Team:** Changing leadership style, trying to solve dissonance, or avoiding/ignoring conflicts
- **Members:** Exit – voice critique – loyalty*, depending on own motivation and goals
- **Context:** Seeking additional funding or negotiating extension of project

* Hirschman (1970)

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Conclusions, discussion & future research

Conclusions

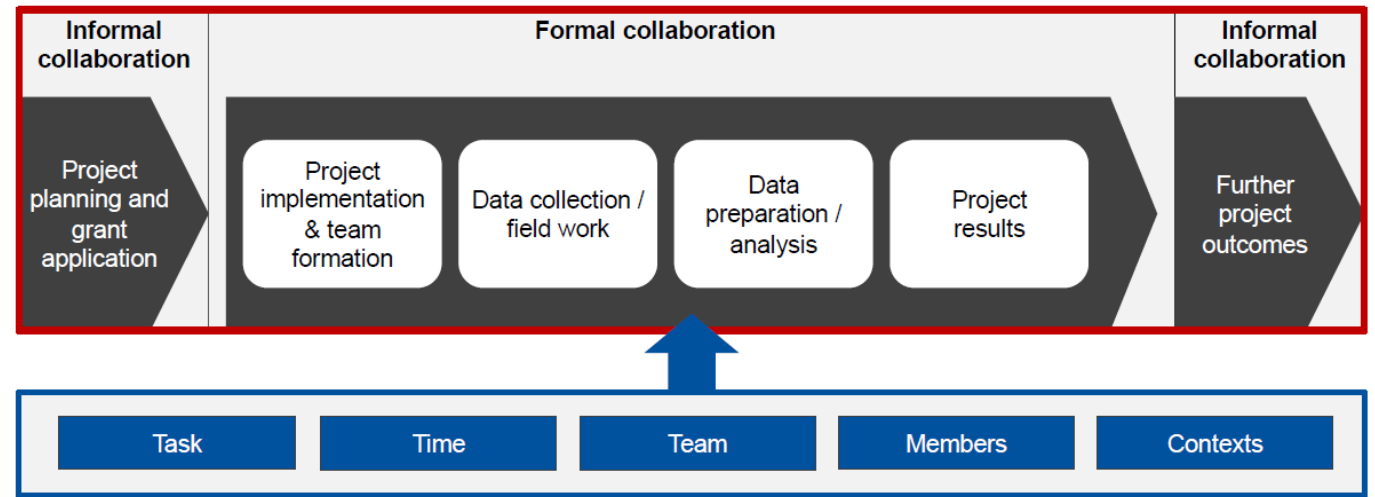
- Goal 1** • Social science CRPs are not a monolithic form but need to be distinguished according to project forms – and here not only characterized by their size and scope of collaboration, but also by their members composition, context conditions, and tasks (type of research, type of research approach, type of data use, type of method(s) etc.).
- Especially the task dimensions is so far only rarely taken into view, but social science CRPs differ may significantly in their practices here.

- Goal 2** • CRPs are challenging, but challenges occur in all TO dimensions and are interrelated.
- Coping practices predominantly are directed at sustaining research output and quality; they resolve challenges with diverse strategies for coupling | decoupling front and back-stage.
 - In some projects, the (TO) project characteristics to lead to coping practices in the TIME, TEAM, MEMBER, and CONTEXT dimension, while in other projects, they lead to coping practices in the TASK dimension.

- Goal 3** • We assume, the project form does not necessarily harm collaborative research practice and knowledge production, nor does it necessarily foster it (due to decoupling strategies).

Discussion & future research

1. Collaborative research projects in the social sciences both enable new research (and non-routine work) that would have not been pursued otherwise **and** are used as means to a sequenced income stream for long-term research agendas (incl. routine tasks).
2. Coupling / decoupling of front stage goal achievement and backstage research practice in the search for research quality differ in projects with perceived potential follow-up collaborations and prospective solitary collaborations.
3. Projects with a potential for follow-up collaborative projects cope with challenges of collaborative research differently than projects with the perspective to remain solitary collaborative projects (e.g., by trying to solve dissonance vs. adjusting research goals).
4. More potential for “project chaining” is ascribed to data-driven collaborative projects that build data-bases, or to development projects than to collaborative projects that are mostly qualitatively / case study based (whether small and large, comparative and non-comparative etc.).



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