Governance mechanisms of cooperation between firms: role of formal contracts and private institutions in the context of technological projects

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Avant-propos

*Interdisciplinarity of the research:*

- Institutional Economics
  - +
  - Law & Economics
    - +
    - Economics of Innovation
      - +
      - Organizational theories
Agenda

- The argument in brief
- Key definitions
- Purpose of the project
- What existing literature tells us about...
- Methodology
- Further steps to proceed
- Questions and remarks?
Evidences from practice

- **Observation #1**: Increase of the use of strategic collaboration agreements in various spheres as a preferred method of achieving a range of strategic objectives.

- **Observation #2**: The corporate sector shows persistently high alliance failure rate that strongly suggests that many companies are having difficulty establishing cooperative relationships.
## Selected surveys of alliance failure rates

<table>
<thead>
<tr>
<th>Alliance Researchers</th>
<th>Year</th>
<th>Observed Failure Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>McKinsey &amp; Company</td>
<td>1993</td>
<td>33%</td>
</tr>
<tr>
<td>The Darden School</td>
<td>1996</td>
<td>60%</td>
</tr>
<tr>
<td>(Prof. Robert Spekman)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KPMG</td>
<td>1996</td>
<td>70%</td>
</tr>
<tr>
<td>Coopers &amp; Lybrand</td>
<td>1998</td>
<td>50%</td>
</tr>
<tr>
<td>Andersen Consulting</td>
<td>1999</td>
<td>61%</td>
</tr>
<tr>
<td>The Lared Company</td>
<td>2000</td>
<td>60%</td>
</tr>
</tbody>
</table>

Source: Corporate Executive Board, 2000
Questions of interest

- How to govern technological cooperation agreements?
- Which mechanisms, how and when to use?
- Which type of cooperation to choose?

... in order to guarantee success of technological cooperation.
What is Cooperation?

3 approaches:
- attitude to behave non-opportunistically
- coordination mode distinct from Pure Market and Hierarchy
- specific type of transaction (joint participation in production and R&D)
Why technological cooperation deserves to be analyzed particularly?

Main feature – strong uncertainty that characterizes relations between firms:

- frequency, but not recurrent transactions
- asset specificity – yes, but knowledge can be always redeployable
- strong uncertainty ≠ risk

2 types of uncertainty – environmental and behavioral
Why technological cooperation deserves to be analyzed particularly?

- Knowledge as particular type of resource exchanged in cooperation:
  - tacitness, incorporations in routines
  - collective good
    - incomplete protection by intellectual property system
    - high transaction costs dealing with knowledge (measurement)
  - high uncertainty about its economic value
    - risk of opportunistic behavior and hold-up is high
What is Technological Cooperation Agreement (TCA)?

- neither simple sell-buy contracts, nor integrated firms -> **hybrid forms**
- significant level of coordination between partners, but legally autonomy
- agreement between companies characterized by a two-side contribution of goods for a joint project
- purpose: joint participation in producing innovations in different industries
- various forms (joint ventures, technology sharing agreements, etc.)
Assumptions

**Contract** (specifically, *contract provisions*) is in the base of each cooperative relationship (more than simple license agreement). Thus, contract is the main governance mechanisms of such relations, aiming to resolve problems.

**Contract**
- allocates decision and control rights
- regulates partners behavior
- provides guidance to courts
Purpose of the project

- To investigate various architectures of TCAs and to understand *why companies choose one formal contractual structure of their collaborations instead of one another*

- To define an impact of institutional environment, more specifically, of private institutions – on this choice of contractual structure of TCAs by companies
Survey of the state of the art

- Enormous literature on cooperation between firms, but:
  - it is focused mostly on reasons for cooperation instead of its forms;
  - from normative point nothing is told on which practices are the most efficient.

- Key insights from literature:
  - on governance of cooperation transactions
  - on specific features of technological cooperation agreements
Predominance of Transaction Costs approach

- Hybrid forms (alliances) vs. other structures
- Equity-based vs. non-equity alliances

Attempts to go further (Oxley, 1997; Gulati and Singth, 1998)

- Governance form as “alternative institutional mode”, defines boundaries
- Contractual form specifies detailed terms of the transaction
  - no one-to-one relationship
  - different determinants of contractual complexity and governance structure
Debates on contractual complexity

Should a contract include clauses for every possible “what if”?

- contractual complexity
  - as number of contractual safeguards
  - ≠ contractual completeness
  - different measures (Parkhe, 1993)

- Dilemma: high costs to negotiate provisions vs. provisions reduce costs and losses caused by exchange
Debates on contractual complexity

- **Logic of determinants:** conditions that lead to higher environmental uncertainty increase transaction costs of writing a contract and would result in less complex agreements. At the same time, conditions that augment the likelihood of opportunistic behavior of the counterpart will increase the potential performance losses and would lead to more complex contracts.

- **Determinants:** level of asset specificity, prior relationships, time boundaries, strategic importance, etc.
Debates on contractual complexity

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Logic</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>level of asset specificity</td>
<td>as the potential losses increase with investments in specific assets, it’s worth negotiating more complex contracts</td>
<td>&quot;+&quot; (Poppo and Xenger, 2002; Reuer and Arino, 2003); &quot;-&quot; (Reuer, Arino and Mellewigt, 2003)</td>
</tr>
<tr>
<td>prior relationships</td>
<td>on one side, the existence of previous relationships among the partners reduces behavioral uncertainty, and may result in lower level of contractual complexity; while on the other side, previous collaborative histories result in lower contracting costs, thus allowing partners to conclude more complex contracts</td>
<td>more complex (Poppo and Zenger, 2002; Ryall and Sampson, 2003); less complex (Reuer and Arino, 2003)</td>
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<tr>
<td>time boundaries</td>
<td>alliances with a pre-specified duration are expected to have more complex contracts then open-ended arrangements</td>
<td>&quot;+&quot; (Crocker and Reynolds, 1993; Parkhe, 1993), &quot;-&quot; (Luo, 2002)</td>
</tr>
<tr>
<td>strategic importance of alliance</td>
<td>firms negotiate more complex alliance contracts for alliances that are viewed as strategically important</td>
<td>&quot;+&quot;</td>
</tr>
<tr>
<td>level of search costs</td>
<td>the higher the search costs incurred in finding and locating a partner for specific relationships, the greater the firms’ incentives to bear the costs of designing a more complex contractual agreement</td>
<td>&quot;+&quot; (Reuer, Arino and Mellewigt, 2003)</td>
</tr>
</tbody>
</table>
## Evidences from Technology Licensing Agreements

- **References:** Arora, 1995; Bessy and Brousseau, 1998; Bessy, Brousseau and Saussier, 2002; Brousseau and Coeurderoy, 2005; Brousseau, Coeurderoy and Chaserant, 2007

### Specification of discrete contractual provisions

<table>
<thead>
<tr>
<th><strong>Safeguards mechanisms</strong></th>
<th><strong>Governance mechanisms</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- payment scheme</td>
<td>- supervision</td>
</tr>
<tr>
<td>- confidentiality and non-competition provisions</td>
<td>- renegotiation provisions</td>
</tr>
<tr>
<td></td>
<td>- dispute resolution</td>
</tr>
<tr>
<td>- protection provisions</td>
<td>clauses</td>
</tr>
<tr>
<td>- grant-back provisions</td>
<td></td>
</tr>
<tr>
<td>(guarantees licensor a right over developments carried out by licensee)</td>
<td></td>
</tr>
</tbody>
</table>
Determinants of choice of contractual provisions

References: Brousseau, Coeurderoy and Chaserant, 2002

- close link between the intensity of the transfer and the preference of partners for supervision mechanisms
- strong link between the existence of private institutions and the recourse to governance mechanisms
- contract as a set of independent mechanisms
Change of the logic

Transaction Costs Approach logic:

* Performance in terms of TrCosts -> min.
Change of the logic

Transaction Costs Approach logic:

- Performance in terms of TrCosts -> min.

+ Evolutionary perspective:

- Performance in terms of generated value
Change of the logic

- Technological cooperation – dynamic phenomenon
- Evolution of cooperation is “pushed” by inputs - initial conditions, stipulated in formal agreement
- Output of cooperation is about creation and appropriation of technological know-how through interactive learning processes (Lazaric, Marengo, 1997)
- Learning – key driving force in dynamics
Process of alliance evolution

*Initial conditions*
- Task definition
- Partner’s routines
- Interface structure
- Expectations of - performance
  - behavior
  - motives

*Revised conditions*
- Task definition
- Partner’s routines
- Interface structure
- Expectations of - performance
  - behavior
  - motives

*Learning*
- Environment
- Task
- Process
- Skills
- Goals

*Re-evaluation*
- Efficiency
- Equity
- Adaptability

Leads to readjustment

Facilitate or hamper

Allow

Source: Doz, 1996
Contractual underpinnings of TCAs

- Still TC approach
- Content-analysis of several cooperation agreements (following the works of Grandori et al.), clause by clause
- Contract as a set of clauses with certain number of modalities -> contracts are comparable
- An attempt to match characteristics of partners, their transactions and surrounding institutional environment with the choice of a certain cooperation agreement
Role of relational aspects (trust)

- **Dilemma:** contracts express the intention of both partners to develop their relational ties, and implies at least the minimal level of trust exists between them vs. formal control is often interpreted by the controlled partner as a signal of mistrust.

- **Trust**
  - presence of an element of risk and mutual dependency
  - ≠ trustworthiness
  - subordinates of self-interests to common interest

Is trust substitute or complement to formal governance mechanisms?
Issues to resolve

- Operationalisation of learning process in TCAs
- Connection between organizational choices and performance. Question: *what would have been the performance, had the alternative strategy been chosen?*
- Difficulties to obtain data on contract level -> necessity for detailed case studies?
Thank you for your attention.

Questions? Comments? Recommendations?