

# Empirical Studies on Contracts Challenges and Opportunities

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# *Research on contracts*

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- Contracts, in the sense of legally enforceable agreements, are **fundamental institutions** of economic and social life
- Contracts have become the object of systematic empirical investigation by economists and management scholars only little more than **three decades ago**
- A vast literature has shed light on many aspects of contracting... but there are **still some major challenges** to effective contract research

# Agenda

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- Overview of the literature
- Measuring contracts
- Data collection
- Opportunities
- Q&As



***Overview  
of the literature***

# *Historical development*

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- **Stage 1 – Broad categorization of governance modes**

Transactions can be organized in the basic forms of hierarchical or market modes (Williamson 1985)

- **Stage 2 – Exploration of the hybrid “swollen middle”** (Hennart 1993)

Equity-based vs. non-equity-based governance forms (e.g., Gulati 1995; Oxley 1997; Colombo 2003; Sampson 2004)

- **Stage 3 (now) – Focus on the contract design**

Contractual dimensions (e.g., Malhotra & Lumineau 2011; Mayer & Argyres 2004; Reuer & Ariño 2007)

# *Main theoretical approaches*

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- **TCE** dominates the empirical study of contracts (Macher & Richman 2008; Shelanski & Klein 1995)
- Williamson (1991: 279): “the main hypothesis of TCE is to **align** transactions, which differ in their attributes, with governance structures, which differ in their costs and competencies, in a discriminating way.”
- Contracts are **governance mechanisms** designed to minimize transaction costs

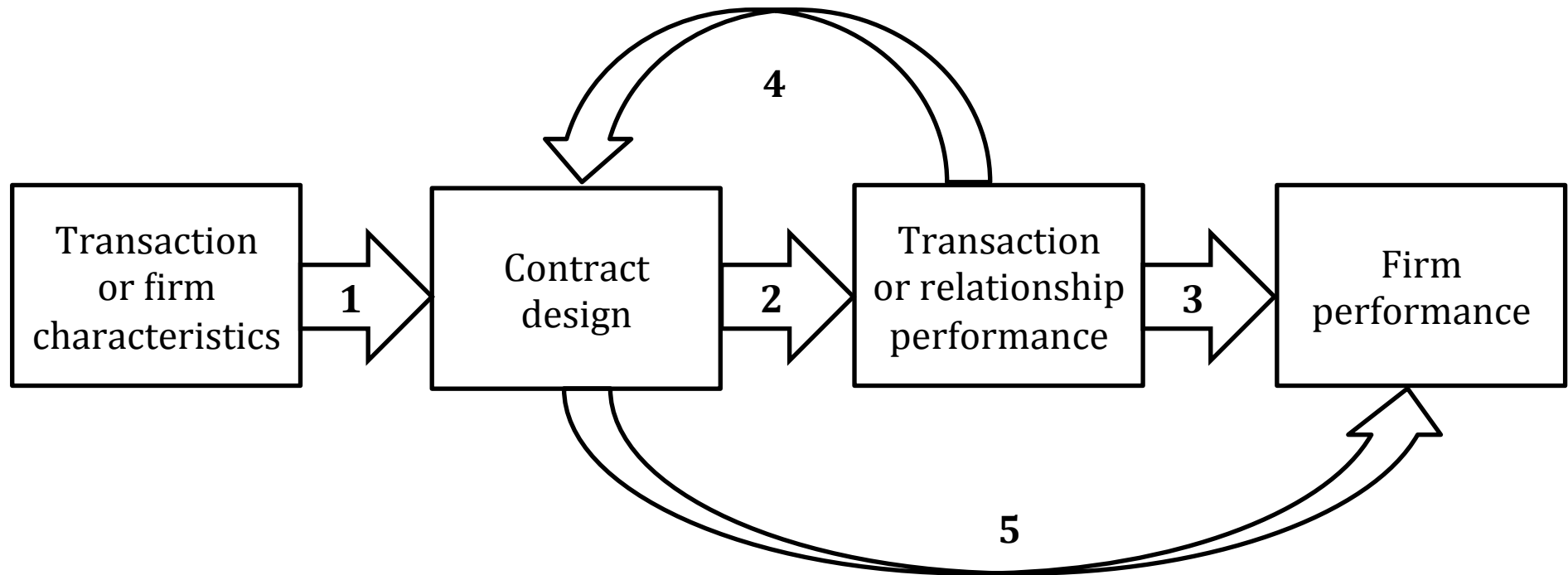
# *Main theoretical approaches*

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- Nonetheless, contracts cannot be explained only through the lens of transaction costs (David & Han 2004; Lajili et al. 2007)
- **Alternative perspectives** have been used to analyze contracts:
  - Relational capabilities
  - Agency theory
  - Firm capabilities
  - Relational contracts
  - Real option theory
  - Etc.

# Mapping contract studies

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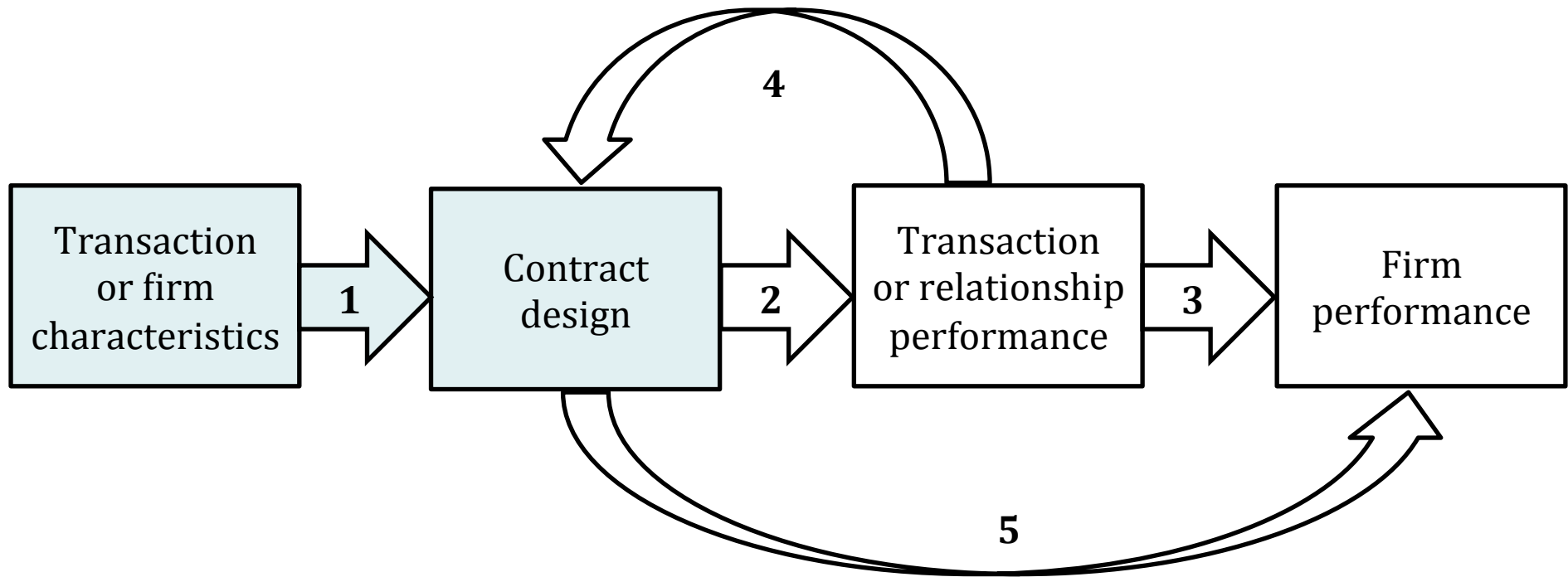


Weber, L., Mayer, K. J. and Wu, R. (2009) 'The Future of Interfirm Contract Research: Opportunities Based on Prior Research and Nontraditional Tools', *Advances in Strategic Management* 26: 123–45.



# *Link 1*

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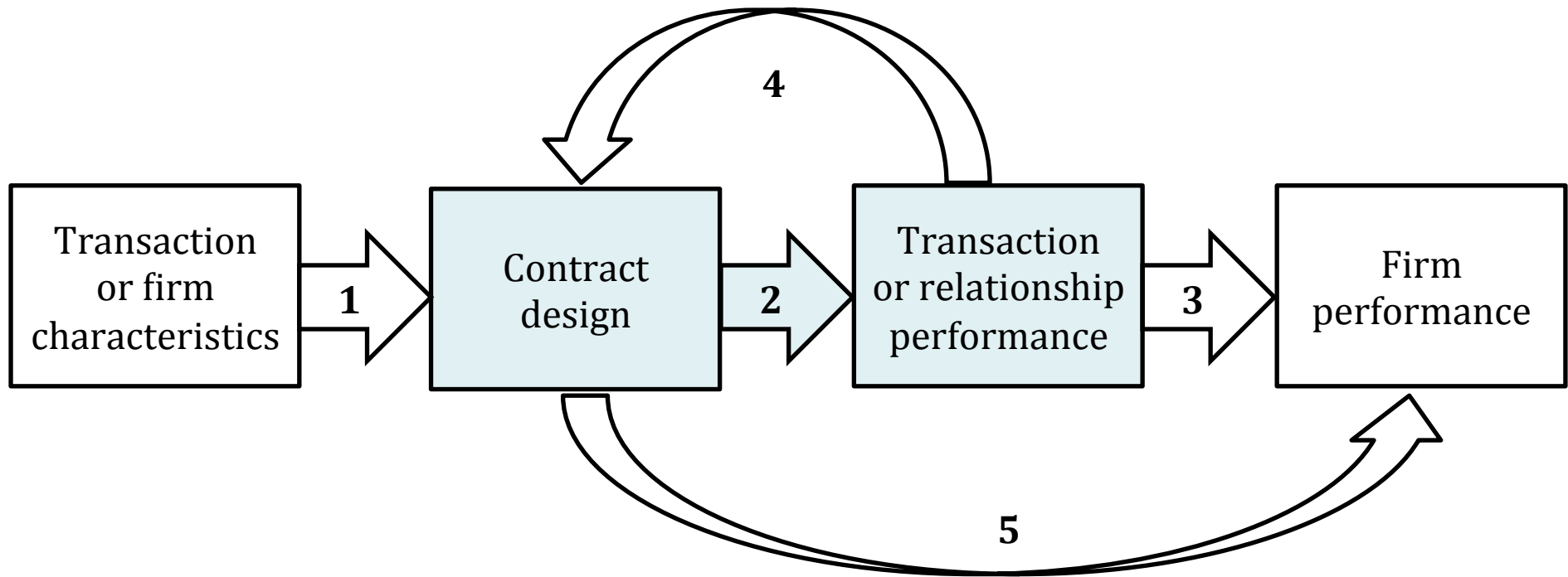
# *Link 1 – Contract design as a function of exchange characteristics*

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- How transaction characteristics lead to the **inclusion of specific clauses** in the contract, such as:
  - Control rights or incentives (Lerner & Merges 1998; Arruñada et al. 2001; Elfenbein & Lerner 2003)
  - Take-or-pay provisions (Hubbard & Weiner 1986; Masten & Crocker 1985)
  - Exclusivity clauses (Parkhe 1993)
  - Contingencies (Reuer et al. 2004; Argyres et al. 2007)
  - Contract duration (Joskow 1985; 1987)
- Often **difficult to compare results** across transactions and industries

# *Link 2*

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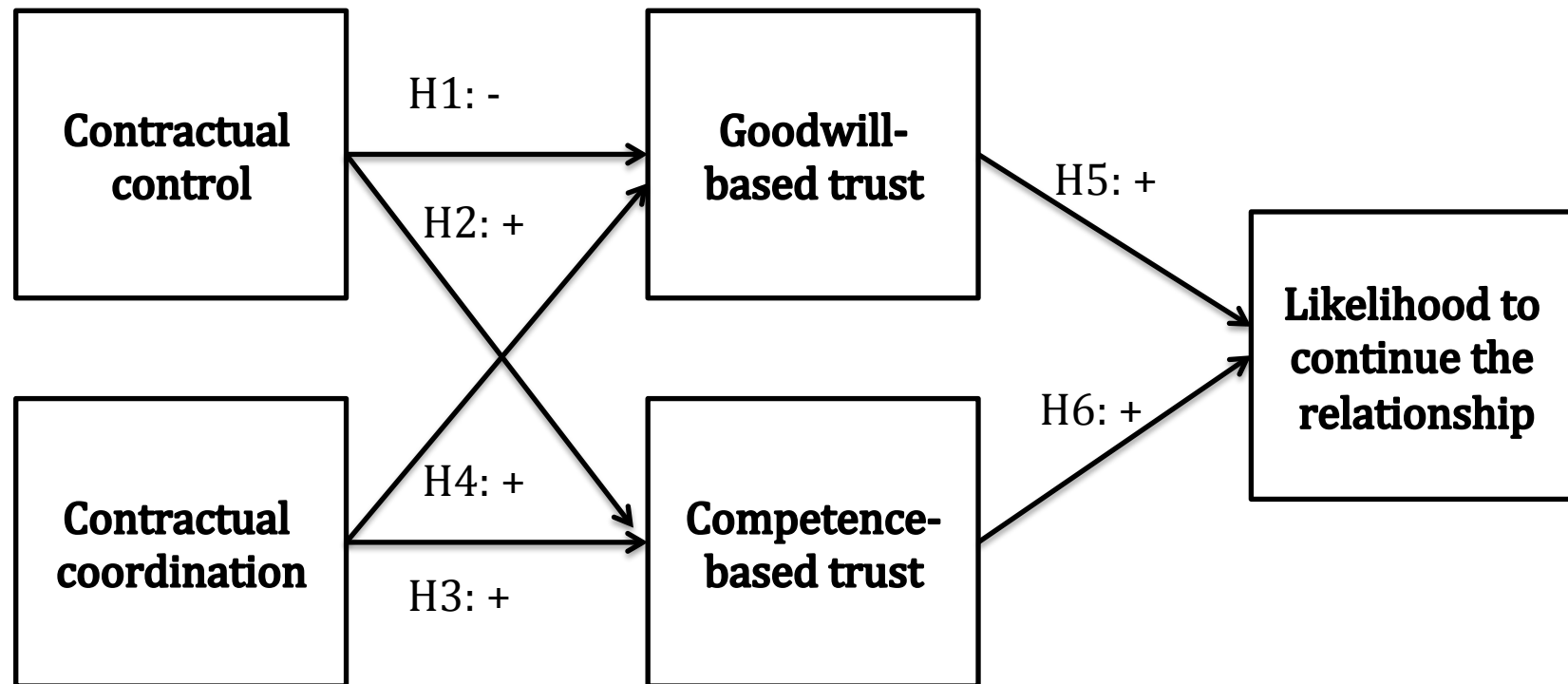
# *Link 2 - Transaction/relationship performance as a function of contract design*

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- How the inclusion of particular contractual elements influences the transaction profitability, exchange success, or the partners' relationship characteristics
- **Trust and distrust** (Malhotra & Murnighan 2002; Lumineau 2014)
- **Cooperative behaviors** (Lazzarini et al. 2004; Luo 2002)
- **Opportunism** (Ghoshal & Moran 1996; Lumineau & Quélin 2012)
- **Dispute negotiation approach** (Lumineau & Malhotra 2011)
- **Learning** (Li et al. 2010; Lumineau et al. 2011)

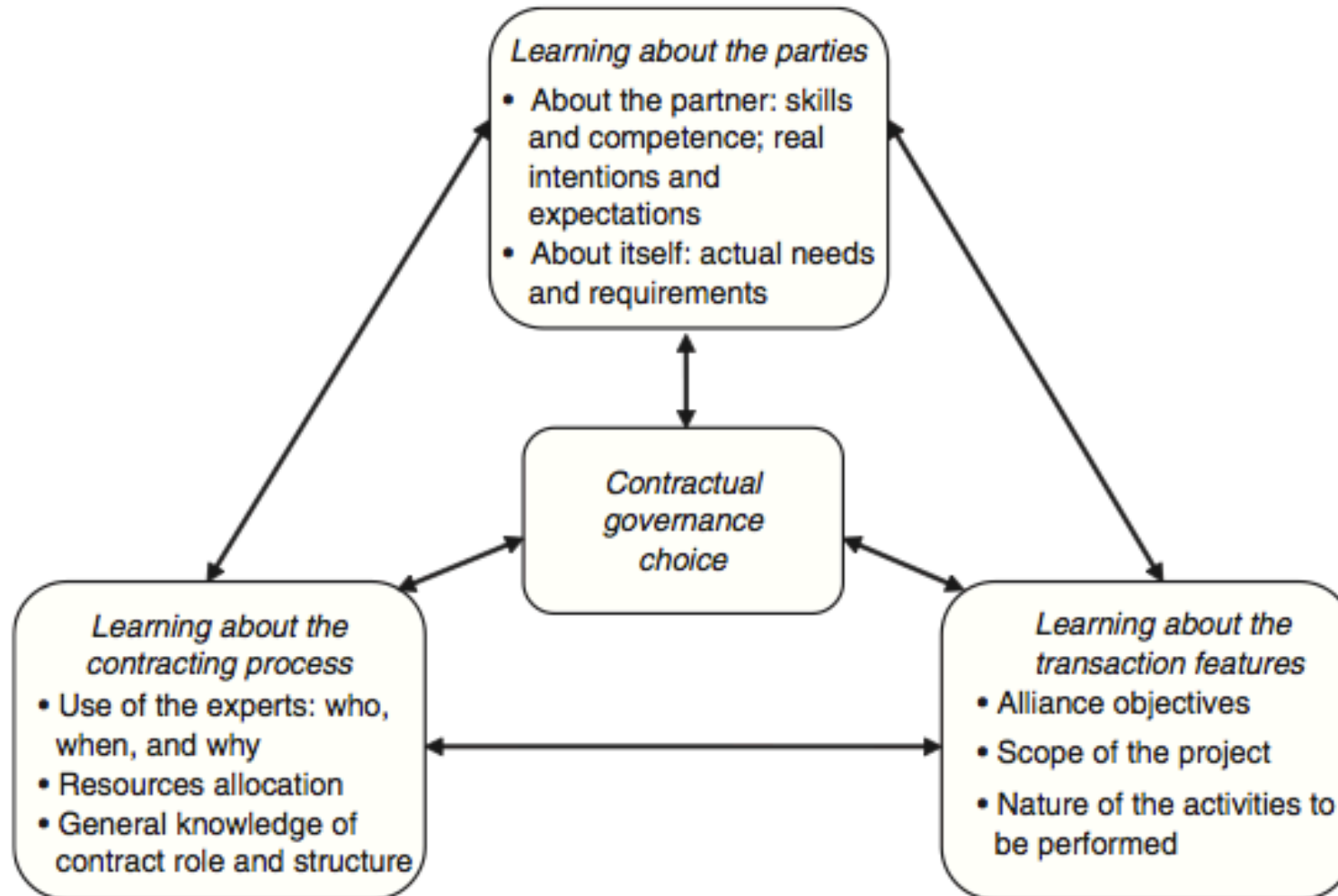
# *Example: Malhotra & Lumineau AMJ 2011*

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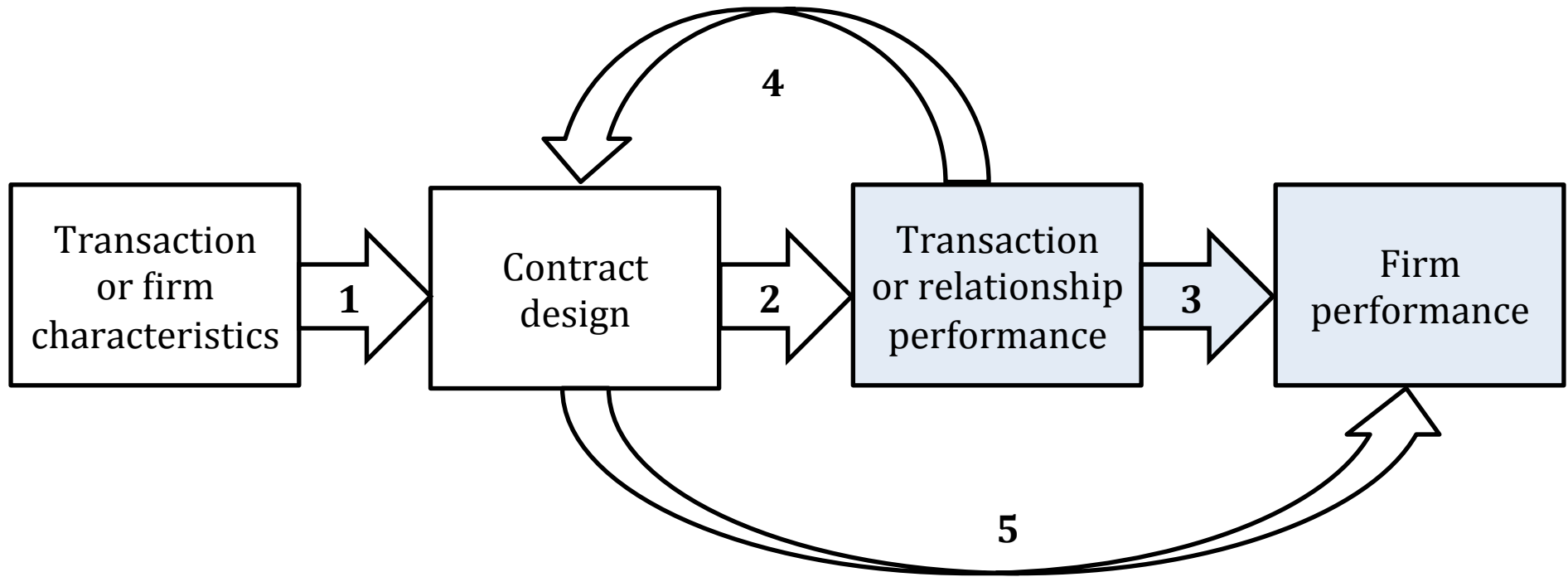
# *Example: Lumineau et al. SO 2011*

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# *Link 3*

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# *Link 3 – Firm performance as a function of transaction/ relationship performance*

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- Relatively little research that examines how transaction performance contributes to **overall firm performance**
- Such studies are particularly subject to **common methods bias**
  - ➔ Gong et al. (2007): contractual completeness is linked to improved international joint venture performance
  - ➔ The CEO survey respondents provided both the performance-related dependent variable (satisfaction with the JV) and the key explanatory variable (perception of contract completeness)



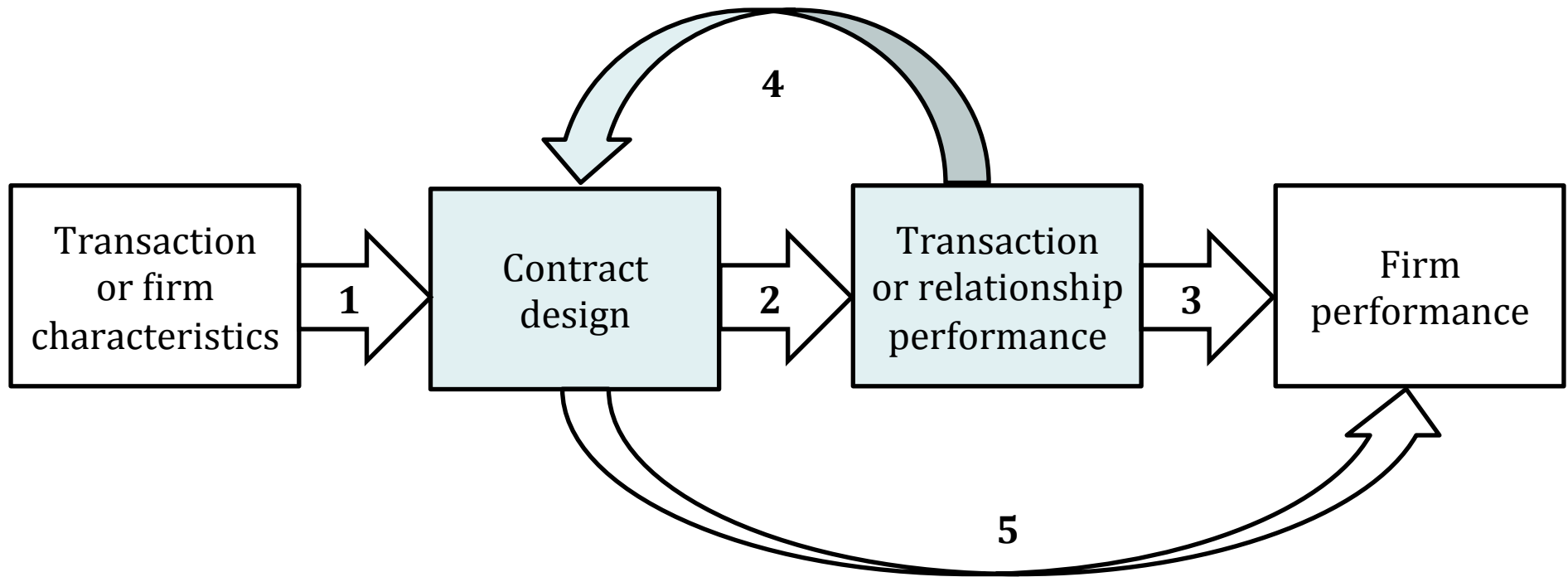
# *Link 3*

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- Studies examining performance are fraught with **endogeneity issues**: parties may design their agreements based on objectives other than those directly governing their transaction
- A 2SLS / 3 SLS (**triple switching regression**) model could be employed to statistically account for endogeneity (Hamilton & Nickerson 2003; Bascle 2008)
- Challenge to find good **instrumental variables** meeting both the conditions of relevance and exogeneity (Murray, 2006; Wooldridge, 2002)

# *Link 4*

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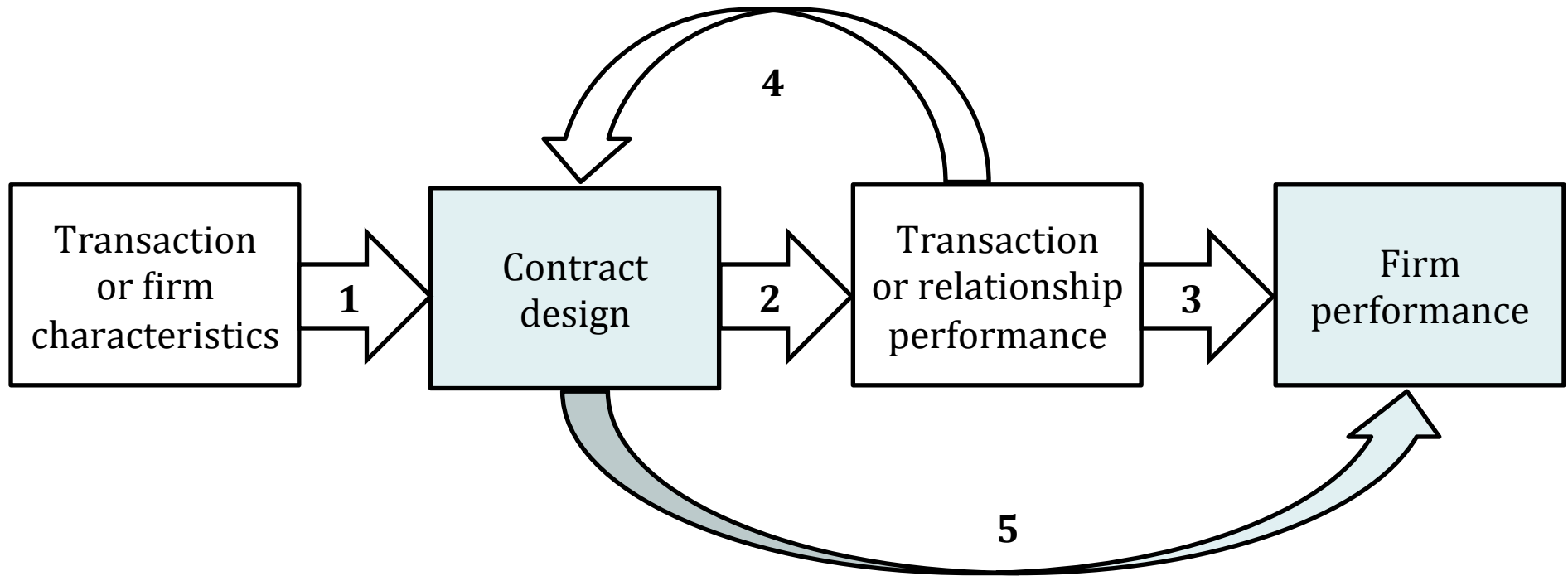
## ***Link 4 – Contract design as a function of transaction/relationship performance***

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- How contract design is as **a result of prior interaction** between the exchange partners
- Scholars are **divided** about the effects of partnering experience on formal governance structure
  - Increased familiarity with the partner **enhances** the ability to design contractual structures (Dekker 2004; Poppo & Zenger 2002)
  - Or partner experience **reduces** the need for extensive governance structures (Gulati & Nickerson 2008; Zollo et al. 2002)

# *Link 5*

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# *Link 5 – Firm performance as a function of contract design*

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- The effects of contract design on net income (Michael 2000), return on sales (Srinivasan & Brush 2003), and firm survival (Azoulay & Shane 2001)
- Ultimately, we need to fully understand the **different steps**:
  - How capabilities, existing relationships and transaction attributes affect contract design,
  - How the contract design then affects the performance of the exchange,
  - And then how these factors contribute to overall firm performance

***Measuring  
contracts***

# *Measuring contracts*

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- **No standardization of measures** across studies:  
A highly detailed contract clause in one study may be coded as a much less detailed clause in another study



"The paper and ink content is within acceptable norms, but the contract itself appears to have too many clauses."

# *Contractual duration*

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- Contract duration is **a fundamental design variable** in the case of exchange backed by transaction-specific investment (Klein et al. 1978; Williamson 1979)
- Joskow (1987): the effect of asset specificity on the duration of contracts for coal market transactions between coal producers and electric utility operators
- See also Goldberg & Erickson (1987) or Pirrong (1993)



# *Contractual complexity*

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- As a result of greater drafting effort, the contract should be longer, include a higher number of clauses and provide for a larger array of enforcement mechanisms
- Poppo & Zenger (2002: 708): “The more complex is the contract, the greater is the **specification of promises, obligations, and processes** for dispute resolution”
- Ariño & Reuer (2005: 149): complex contracts as “contracts with a large **number of clauses that are specified in detail**”

# *Contractual complexity*

## *Parkhe (AMJ 1993)*

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- **Method:** questionnaires (111 observations)
- **Clauses** (Macneil 1978, 1981; Narasimhan 1989)
  - (1) Periodic written reports of all relevant transactions;
  - (2) Prompt written notice of any departures from the agreement
  - (3) The right to examine and audit all relevant records through a firm of CPAs
  - (4) Designation of certain information as proprietary and subject to confidentiality provisions of the contract
  - (5) Non-use of proprietary information even after termination of agreement
  - (6) Termination of agreement
  - (7) Arbitration clauses
  - (8) Lawsuit provisions
- Clauses are arranged in a presumed order of **increasing stringency**
- A **composite index** computed as  $\sum i$  (safeguard used)/36 where the denominator is the summation of all  $i$  ( $i = 8$ )

# *Weighted or unweighted measures?*

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- It may be that some types of clauses are more important than others...
- Lui & Ngo (2004): researchers' assessments of the relative importance of different contractual items can be quite arbitrary
- Saussier (2000: 197): "one might have expected different weighting for each provision, but **the theory tells us nothing on this point.**"
- Mellewigt et al. (2007) asked four lawyers to order the clauses according to their importance: no consistent pattern emerged
- Barthélemy & Quélin (2006: 1785): weighted and unweighted measures of contract complexity are **very highly correlated** ( $r = 0.96$ ;  $p < 0.01$ )
- Reuer and Ariño (2007: 326): weights for the severity of provisions do not provide significant new information when modeling alliance contracts ( $r = 0.97$ ;  $p < 0.0001$ )

# *Contractual functions*

## *Ryall & Sampson (MS 2009)*

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- **Method:** SEC filings (52 contracts)

- **Categories of clauses**

(1) Contract detail:

Development of specifications, time frame for completion of each stage specified, number of employees to be contributed specified, specific persons stipulated for management or other development work, specific technologies to be contributed described, intellectual property rights defined over specific technologies

(2) Monitoring:

Reviews of development work required, reviews of outcome only required, discretionary reviews available, timing of reviews specified, content of reviews specified, physical audits of development work permitted, reviews required of both (all) firms

(3) Penalties:

Financial penalties for under-performance, right to terminate for under-performance

- For each category: **ordered probit** (number of clauses a contract contains for each category) and **simple probit** (1 if the contract contains three or more of the relevant clauses)

# *Contractual functions*

## *Reuer & Ariño (SMJ 2007)*

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- **Method:** questionnaire (88 observations)
- **Clauses** (Parkhe 1993)
- Weighted (Parkhe 1993) and unweighted indexes are computed
- **Factor analysis:** provisions load on the 2 factors
  - **Coordination provisions** (1-2-3)
  - **Enforcement provisions** (4-5-6-7-8)

# *Contractual functions*

## *Malhotra & Lumineau (AMJ 2011)*

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- **Method:** legal files about contract disputes (102)
- **Clauses** (Parkhe, 1993)
- **Coding of the contracts** – revisions based on expert advice : concerns with two clause categories (Reuer & Ariño's coding framework): 3 and 7.
  - **Coordination provisions** : 1 and 2
  - **Control provisions:** 4, 5, 6, and 8
- Unweighted indexes

# *Contractual functions*

## *Lumineau & Quélin (SO 2012)*

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- Extensive **review** of the empirical literature and work in close cooperation with **four legal experts** specializing in contract law to develop appropriate measures of the control and coordination features of the contracts
- Additional validity check: **evaluation by six other legal experts** (all professors in contract law) of five randomly selected contracts in the data set
- Calculation of **inter-rater reliability** suggesting highly internally consistent expert ratings and comparison of the experts' results with their own evaluations of the sample contracts: also strong convergence
- **Follow-up analysis** and reanalysis of all coordination and control clauses in the sample by adding an **interpretive coding** step that takes into account the inherent complexity of contractual provisions
- **Testing of the reliability** of this alternative measure by having a second rater evaluated 10 randomly selected clauses for each of the 10 types of provisions
- **Rerunning of the analyses** with the revised measure

# *Contractual functions*

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- Vlaar (2008: 46): “the most common and influential theoretical perspectives describing the role of formal inter-organizational governance can be grouped into two broad categories: (1) the ones focusing on formal governance as a mechanism for **control**, and (2) the ones viewing formal governance as a means of **coordination**.”
- Argyres et al. (2007: 9): “recent literature on contracting has revived the emphasis of **contracts as coordination devices**—as mechanisms to align expectations—which was an important message of Macneil’s (1974, 1978) seminal work” and, as such, “contracts often fulfill an important coordination role—in the sense of **aligning expectations**” (2007: 15)



***Collecting data  
on contracts***

# *Data collection*

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- The **choice of method** and the **data** required for the method should go hand-in-hand
- Case studies are very good for delving deeply into the motives and processes involved in contract negotiation, design, and execution

# *Archival data*

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- A firm or law firm's contract library
- Confidentiality issues
- Data usually covers several years: opportunities to create a longitudinal dataset
- Risk of idiosyncratic practices and generalizability issues

# *Example: Malhotra & Lumineau AMJ 2011*

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- All legal files about contract disputes handled by one law firm in Western Europe between 1991 and 2005
- 102 cases (178 firms)
- Each legal file contained between 800 and 5,000 pages and included (1) the original contract and (2) all documents exchanged during the dispute resolution process

# *SEC filings*

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- Public firms in the United States are required to file material contracts
- Available in SEC filing databases and may be freely accessed
- Contracts between private firms and contracts between larger publicly-traded firms and small privately-held firms are often not available



# *Other databases*

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- Contracting and Organizations Research Institute (**CORI**) at the University of Missouri-Columbia
- Contains **over 690,000 contracts**
- Potential biases: the data is pulled from SEC filings and thus it focuses on large public companies
- Others: **CATI** (cooperative agreements and technology indicators), **FRANdata** (franchise agreements), **Recap** (biotech ventures)...

# Surveys

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- Rely on **subjective responses**
- Risk of introducing hindsight bias
- Subject to issues of **common methods bias** if both the dependent and independent variable are provided by the respondent



# *Case studies*

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- Great way to uncover the “how” questions
- Offer insight into **complex social processes** that quantitative and cross-sectional data cannot easily reveal (Eisenhardt & Graebner 2007)
- Often combination of interviews, observations, and documents
- **Triangulation** of data
- **Generalizability** issues
- Examples: Ariño & de la Torre (1998), Larson (1992), Doz (1996), Yan & Gray (1994), de Rond & Bouchikhi (2004), Mayer & Argyres (2004)



# *Example: Faems et al. AMJ 2008*

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- Case study of **2 sequential exploratory R&D alliances**
- Data collected in a retrospective way
- Inductive analysis
- Integrative perspective: how the design and application of structural elements is connected to relational processes at the operational and the managerial levels

# *Example: Lumineau et al. SO 2011*

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- **1 in-depth case study:** a firm involved in an alliance formation in the animated film industry
- For a period of 17 months; access to real-time data in the very early stages
- Examine the dynamics of contracting and learning over time in an unfolding partnership
- Access to each version of the contract
- Interview all the knowledgeable informants
- Combination of narrative, bracketing and visual mapping strategies (Langley 1999) to analyze the longitudinal data

# *Experiments*

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- A relatively new approach to contract studies
- Controlled experiments provide **insights into cause-and-effect** by demonstrating what outcomes occur when a particular factor is manipulated
- Can be followed up by questionnaires immediately after the experiment
- Risk to study **artificial situations** that do not reflect reality
- Example: Bertrandias, Frechet, & Lumineau (2010): franchise contract experiment

***Opportunities  
for future research***

# *Opportunities for future research*

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- Still many opportunities!
- Role of the contextual constraints (geographic, cultural, legal, institutional)
- Contractual dynamics and renegotiations
- A paucity of work showing that optimal design and functioning of contracts result in better outcomes
- Use of multiple methods to provide unique insights
- Use multiple theories

# *Suggestions for future studies*

(adapted from Lumineau et al., 2011)

## *Sociological perspective*

## *Psycho-cognitive perspective*

### *From the contract*

- How is the contract used in practice?
- What is the role devoted to the contract?
- What are the non legal properties of the contract?

- What are the framing effects of contractual design?
- How and why contracts may induce different behaviors and expectations?

### *From the actors*

- Who are the actors/ groups / organizations using the contract?
- What are their respective interests and agenda?
- What is the influence of the cultural, organizational, and institutional contexts?

- How individuals and groups cope with the cognitive challenges of contract design and implementation?
- What is the influence of the psycho-cognitive background of the parties (i.e., their experience, age, gender, training, risk profile, etc.)?

# Questions

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***Thank you!***



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