

**RESEARCH ON CONTRACTING IN SUPPLY CHAIN MANAGEMENT AND  
RELATED DISCIPLINES: A SYNTHESIS OF SCHOLARLY  
RECOMMENDATIONS AND A DISCUSSION OF FUTURE OPPORTUNITIES**

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*This is a draft of a chapter/article that has been accepted for publication by Oxford University Press in the forthcoming book “Oxford Handbook of Supply Chain Management” edited by the Oxford Handbook of Supply Chain Management, edited by T. Choi, J. Li, D. Rogers, J. Rungtusanatham, T. Schoenherr and S. Wagner, due for publication in 2020.*

## **ABSTRACT**

This chapter discusses research on contracting in supply chain management and beyond. It examines the limitations sections of research on contracting in inter-organizational relationships (IORs) published this decade. A synthesis of contracting-related limitations reveals four major sets of issues. First, current conceptualization and operationalization of IOR contracting usually build on a fairly simplified characterization of contracts. More effort should be exerted to study a larger number and variety of provisions, in relation to distinct types of contracts, functions of contracts, and contract management. Second, more attention should be devoted to studying a larger number and variety of antecedents to and consequences of contract design and management. The need for a more systematic investigation of moderators and their effects has been repeatedly pointed out in the literature. Third, studies on IOR contracting should focus more on contract dynamics and its interplay with relational and other governance mechanisms as well as the link between contracts and their performance implications. These dynamics should be studied in relation to temporal factors, critical events and learning. Finally, it is noted that findings to date tend to have a narrow generalizability, as studies usually draw on a limited number of theories, use data from a limited number of actors, and mostly rely on subjective and perceptual data. Building on this synthesis, fruitful opportunities for future research into IOR contracting are discussed.

Keywords: supply chain management, inter-organizational relationships, contracting, governance dynamics, relational governance

## INTRODUCTION

Contracts—defined as “legally bound, institutional frameworks in which each party’s rights, duties, and responsibilities are codified and the goals, policies, and strategies underlying the anticipated [inter-organizational relationship] IOR are specified” (Luo 2002, p. 904)—are at the heart of any IOR (Williamson 1985, Yu, Liao, and Lin 2006). IOR governance mechanisms such as formal contracts, but also more informal mechanisms such as trust and relational norms, are especially important in a supply chain setting (e.g., Cao and Lumineau 2015), where the effective deployment of these mechanisms does not only affect the performance of focal firms, but also of their suppliers and customers, and of their business partners (e.g., Carson, Madhok, and Wu 2006, Klein Woolthuis, Hillebrand, and Nooteboom 2005). As such, it is not surprising that IOR governance in general, and IOR contracting in particular, continues to attract increasing academic and practitioner interest, as evidenced by the growing number of publications on the subject (e.g., Poppo and Zenger 2002, Lumineau 2017, Zheng, Roehrich, and Lewis 2008).

While this increasing scholarly interest is encouraging, IOR contracting research suffers from fragmentation, a lack of conceptual clarity and limited effort to synthesize prior research by cutting across disciplines and key research themes. Contributions stem from the fields of economics, organization studies, strategic management, law, and operations management, which demonstrates the inter-disciplinary nature of research on contractual governance and its overlapping economic, social, legal and political implications (North 1990). Contracting research has furthermore been found to span multiple theoretical lenses, levels of analyses, methodological approaches and research contexts (Schepker et al. 2014, Roehrich et al. 2019). These differences in disciplinary backgrounds, as well as research traditions and levels of analysis, have largely led to self-constructed silos among scholars interested in contracting issues.

In this chapter, we develop a research agenda that provides clear guidance on how to move this field forward. We do so by examining the limitations sections from 216 journal articles and seven book chapters on IOR contracting published in this decade (2010-2019). First, we synthesize the contracting-related limitations as reported by the authors of our selected articles to inductively derive insights into what the field thinks IOR contracting researchers should further study. We organize our discussion around four major sets of issues: 1) the conceptualization and operationalization of IOR contracting; 2) its relationships with antecedents, consequences and moderating variables; 3) its dynamics and interplay with other governance mechanisms; and 4) implications of (empirical) research decisions (e.g., theoretical lenses adopted, level of analysis selected, contextual specificities). Thus, our aim is not so much to take stock of the current body of knowledge but to identify insufficiently researched areas. Building our synthesis on a review of the limitations sections of an extensive set of journal articles is also what sets this review apart from recent systematic literature reviews (e.g., Schepker et al. 2014, Roehrich et al. 2019) and meta-analytic investigations (e.g., Cao and Lumineau 2015).

We provide insights into which limitations/recommendations for future research have been addressed to date and which have not. In turn, we develop our own recommendations about what we believe are the most fruitful opportunities for future research. We discuss exemplary studies and conclude our chapter with reflections on how contracting researchers can build on our findings and suggestions.

## **LIMITATIONS TO EXTANT IOR CONTRACTING RESEARCH**

We synthesize limitations to extant research by analyzing the limitations sections, or – in the absence thereof – the concluding sections of the articles included in our dataset. Before turning

to a discussion of key limitations and their implications for the future of IOR contracting research, we hereafter first explain our research design and analysis methods.

### **Methods: Sample and data collection**

Our analysis of limitations to extant contracting research relies on a dataset of journal articles published on this topic in this decade (2010-2019). As such, we cover a time period of almost ten years in which some influential articles which advance new research directions for contracting research were published (e.g., Cao and Lumineau 2015, Roehrich et al. 2019, Contractor and Reuer 2014, Schepker et al. 2014). Covering almost a decade of IOR contracting research allows us to assess to what extent recent research has in fact addressed limitations raised in earlier work. We selected 2019 as the final year as it is the last year we could fully cover.

Relevant articles were identified through an online search in *ISI Web of Knowledge* using the keywords contractual governance, relational governance, relationship governance mechanism\*, governance interplay, inter-organization\* contract\*, inter-personal trust contract\*, and inter-organization\* trust contract\*. We chose to focus on the broader field of management rather than the subfield of supply chain management (SCM), as the field of management encompasses an extensive body of knowledge on inter-organizational relationships (IORs) and buyer-supplier dyads can be considered a subset of IORs. In line with this, we opted for an extensive list of keywords focusing on the broader notion of governance rather than on the more specific term “contracting.” Our final dataset consists of 216 articles across 88 journals in business and management and seven book chapters. The journals include both the major journals in the field of general management as well as high-impact journals in specific subfields such as SCM or project management (please see Appendix I for a full list of journals).

## **Data analysis**

We began our analysis by reading the articles' limitations or concluding sections. We documented both substantive and methodological limitations related to IOR contracting research, and subsequently developed a coding scheme which enabled the identification of themes which the scholarly community considers to be shortcomings in extant contracting research. We began by identifying initial themes illustrated with descriptive phrases or quotes from the journal articles. When multiple themes seemed to capture the views of multiple authors or author teams on the same topic, we collapsed the themes into first-order concepts that represented the foundation of our emerging understanding of limitations to extant IOR contracting research. Subsequently, we searched for relationships between the identified first-order concepts and assembled these into second-order themes. Table 1 lists the final second-order themes and provides examples of illustrative evidence taken from the articles, together with the corresponding first-order concepts (see also Gioia, Corley, and Hamilton 2012).

[INSERT TABLE 1 HERE].

Finally, after several iterations among co-authors, we were able to collapse the second-order themes into aggregate dimensions that capture broader categories of limitations. Figure 1 presents the resulting structure of our analytical framework.

We organize the next section around four main building blocks, which cover all seven aggregate dimensions, as shown in Figure 1: 1) conceptualization and operationalization of IOR contracting; 2) relationships with antecedents, consequences and moderating variables;

3) dynamics and interplay with other governance mechanisms; and 4) implications of (empirical) research decisions.

[INSERT FIGURE 1 HERE].

## **KEY LIMITATIONS AND IMPLICATIONS FOR CONTRACTING RESEARCH**

### **Conceptualization and operationalization of IOR contracting**

Our analysis of limitations reveals a number of issues relating to the conceptualization and operationalization of IOR contracting, more specifically to contract design or contract management.

Many scholars acknowledge that their research remains limited in the area of contract design. A limitation that is repeatedly brought forward concerns not focusing on the specific content of contracts. For instance, while contracts are frequently being characterized as being behavior- or outcome-based (Eisenhardt 1989), contracts in reality contain a mix of both behavioral and outcome provisions (Axelsson and Wynstra 2002, Kirsch 1996). Hence, studying the effects of behavior- versus outcome-based contracts, as a binary choice, on for example performance seems to oversimplify the effects contracts actually used in practice. In turn, scholars have noted the importance to consider the balance between the two types of contractual provisions (see, for example, Vanneste and Puranam (2010) who evaluate the extensiveness of behavioral and outcome provisions in a given contract). Not acknowledging these nuances may lead us to overlook the complexity of contracting practices and even draw false conclusions with regard to the implications of contracts.

Many scholars also point out the need to further study a larger number and wider variety of contractual provisions. Studies addressing specific contractual provisions are usually limited

to one or only a few types (e.g., Arino et al. 2014, Bercovitz and Tyler 2014) leaving our understanding of the contract as a whole far from complete. For example, studies have addressed provisions related to roles and contingency planning (Sande and Haugland 2015), but such studies do not enhance our understanding of their importance relative to, for example, the specification of property and decisions rights, or rights and obligations of partners to perform reviews and exchange information (Carson and John 2013, Gilson, Sabel, and Scott 2009). Bercovitz and Tyler (2014) highlight the evolutionary character of provisions related to monitoring and intellectual property rights in relation to accumulating experience, but raise the question whether these findings would be generalizable to clauses related to, for example, enforcement, or contingency planning or specificity (Zhang, Li, and Huang 2017). Termination provisions and incentive clauses are another area worthy of more attention (Zhang, Li, and Huang 2017). More generally, studying specific types of provisions, their inherent nuances (Shi et al. 2018), and their interactions with each other and with contextual variables is required to obtain enhanced insights in effective contract design for different kinds of situations.

Scholars also increasingly highlight that their research is limited by the fact that they do not explicitly address the different functions of contracts—contracts as safeguards, coordination devices, or adaptation instruments (Schepker et al. 2014)—in relation to specific contractual provisions (Cao and Lumineau 2015). While contracts are most commonly viewed as safeguards against opportunism, IORs are increasingly in need of contracts that help them govern the business they do with each other, especially in settings characterized by high uncertainty, such as long-term, complex and/or innovative projects. Studies that link the details of contractual provisions to, for example, the roles and responsibilities that feature coordination would help to better understand what the coordination aspect of a contract should look like. Different levels of contractual detail or clarity and different foci in terms of what contractual



provisions are most prominent may furthermore give rise to different types of contractual incompleteness, with implications for performance.

An enhanced conceptualization and operationalization of contracts would also help to better evaluate the effectiveness of different types of contracts (e.g. simple versus complex contracts (Petersen and Østergaard 2018, Praxmarer-Carus 2014), standardized versus more customized contracts (Van Den Hurk and Verhoest 2016) or performance-based versus time and materials contracts (Glas and Essig 2020)). Various scholars have acknowledged such opportunities. For example, Petersen and Østergaard (2018) specifically speak of strategic versus conventional contracts, arguing that a formal contract that is the outcome of a strategic contracting process complements and even induces relational elements. For more arm's length relationships, relational elements may be less critical, making a conventional contract more appropriate. Selviaridis and van der Valk (2019) in contrast found that contracts using a prevention frame trigger arm's length behaviors with suppliers, which will be less fruitful in case of a strategic partnership. In Roehrich et al. (2020), the authors argue that we lack an understanding of how standard contract templates with boilerplate terms are customized in different ways by different organizations and industries. Our analysis of limitations to extant contracting research also indicates that classifications of types and dimensions of contracts are still not consistent in the literature (Cao and Lumineau 2015). In other words, we lack insights into what contractual provisions are included in each type of contract, and what clauses look like in different types of contracts.

Furthermore, such enhanced understanding enables improved studies not only into contract design but also contract management, an area which researchers argue has received little scholarly attention. To date, our understanding of what constitutes contract management and how it could be operationalized remains limited. For example, contract management involves various areas of attention that could be linked to the functions of contracts (Nullmeier 2019).

Commonly known, contract monitoring and contract enforcement strongly relate to the safeguard function of contracts. We have also seen that contracts may help to coordinate business transactions through the alignment of actions of both partners; this can be viewed as another dimension of contract management. Lastly, the alignment of interests relates to contracts supporting cooperation. Both types of alignment seem to be necessary for cohesive efforts from both buyers and suppliers (Gulati, Lawrence, and Puranam 2005). Related to this, Van Den Hurk and Verhoest (2016) discuss the use of standard contracts as a guidance instrument (coordination) and as a control tool (monitoring). The framing of provisions furthermore may support or hinder specific contract functions (Schilke and Lumineau 2018, Selviaridis and van der Valk 2019). However, research addressing how detailed contractual provisions may facilitate or hinder contract execution is virtually non-existent. Nullmeier, Wynstra, and Van der Valk (2020) for example highlight the need to better understand the effects of combined contractual controls during the contract design and the contract execution phase. Clauss and Bouncken (2019) argue for empirically distinguishing between buyer directives used in formal written versus in informal verbal form, the suitability and effectiveness of which for inducing specific supplier behaviors during contract execution may differ. Similarly, different types of contract breach (Lumineau and Quelin 2012), different severity levels in enforcement (Chen et al. 2018) and different combinations of enforcement actions (Mooi and Gilliland 2013) may lead to different performance outcomes. As enforcement in itself may create new transaction problems (Mooi and Gilliland 2013), other possible ways for successfully resolving violations of contracts provide an important area for future research. Finally, enforceability of contracts may be an important driver of contract design (Griffith and Zhao 2015), in the sense that a contract design could possibly be adapted so that the frequency, type or severity of breaches is reduced (Johnson and Sohi 2016). All in

all, a better conceptualization of contracts enables a more detailed understanding of the processes of alignment, monitoring and enforcement.

Moving forward, we see many opportunities to better characterize contracts. We specifically suggest four main directions to extend our understanding of contracts as a key construct in SCM.

First, we believe management scholars would have much to gain from further studies into the various functions of contracts. Schilke and Lumineau (2018)'s findings indicate that each contractual function has a distinct influence on performance. More generally, measuring the different functions of contracts directly, and testing their particular associations with performance indicators of all kinds are important ways forward (Shen, Wang, and Teng 2017). For example, Wang et al. (2018) develop reflective scales measuring the different functions of contracts in the particular setting of construction projects, and validate their relationships with different factors for each function. In addition to the role of contracts as legal documents, contracts operate as important managerial tools. So far, management scholars have paid much attention to the role of contracts as governance mechanisms to structure relationships between organizations. It has been suggested, however, that contracts may play other roles such as knowledge repository to support organizational memory (Mayer and Argyres 2004) or managerial tools to foster learning between partners (Lumineau, Frechet, and Puthod 2011). Avenues for future research include exploring how and why contracts are used in practice. For instance, contracts can be analyzed as "social artifacts" possessing both technical and symbolic properties (Suchman 2003) and share some dimensions of the "boundary object" described by Carlile (2002) and Spee and Jarzabkowski (2009). SCM scholars could thus study how contracts represent an interface making the convergence between different languages and corporate cultures easier and providing shared definitions and values for solving problems across different organizations along the value chain.

Second, in addition to this call for a broader understanding of the diverse roles of contracts, we also see value in developing a finer analysis of how the actual content of contracts articulates with specific managerial functions. More generally, few studies directly analyze the provisions included in contracts. As an exception, Arino et al. (2014) examine contractual detail for partnership termination provisions, which are important to partnerships yet neglected in the literature. Beyond “cherry-picking” a couple of particular provisions, scholars could further connect with the way the different parties think about contract design and choose specific configurations or constellations of provisions. Such an endeavor could, for example, look at how provisions are negotiated in function of each party’s particular interests and concerns in the transaction and how, in turn, provisions are either included in or excluded from their contract. In particular, the analysis of the cluster of provisions related to dispute prevention and resolution deserves more attention.

Third, our analysis of the extant literature indicates that scholars have just started studying the style and form of contracts. Some studies nevertheless suggest that these aspects matter (Weber and Bauman 2019, Selviaridis and van der Valk 2019). Opportunities abound to further understand how and why contracts’ tone induce different behaviors, interpretations, and expectations. In this regard, connecting contract research with the literature in stylistics and psychology, such as cognitive framing (Lumineau and Malhotra 2011, Weber 2017), seems particularly promising.

Fourth, the increasing importance of smart contracts—especially in combination with the use of blockchains—raises new questions for the SCM scholarly community (Cole, Stevenson, and Aitken 2019, Murray et al. 2019). For instance, should we consider smart contracts as another form of contracts, a complementary mechanism to contracts, or are smart contracts simply self-executing computer codes and thus not contracts in the traditional sense?

## **Antecedents, consequences and moderators**

*Antecedents* – Our findings reveal that not enough research attention has been given to antecedents of IOR contracting. As a result, we have insufficient understanding of which factors influence the detailed design of contracts. So far, discussions in this area have mostly been limited to the impact of transaction characteristics on contract design. Even here though, while Transaction Cost Economics indicates that asset specificity, environmental uncertainty, and behavioral uncertainty jointly affect governance, our understanding of how these factors interact to influence contract design is limited to date (Cao et al. 2018).

At the organizational level, capabilities may affect what types of inter-firm controls allow firms to extract most value from a relationship (Grafton and Mundy 2017). They may also influence how complete contracts are (Hendrikse, Hippmann, and Windsperger 2015). While human and financial resources have been found to facilitate learning under conditions of high uncertainty related to the exchange, its outcomes and the partners involved (Lumineau, Frechet, and Puthod 2011), the extent to which such resources are made available is also likely to impact contract design. The design of the contract should also fit the firm's overall strategic intent if counterproductive events are to be prevented (Oshri, Kotlarsky, and Gerbasi 2015). Finally, strategic behavior on the side of either party triggered by a shadow of the future may affect what contract will look like (Susarla, Subramanyam, and Karhade 2010). These are a few of the potentially relevant organization-level antecedents mentioned to date.

Scholars also increasingly highlight that limited attention has been given to dyadic and network- or environment-level factors. For example, the distribution of power among actors rather than sources of power to one actor may be important in explaining the selection and subsequent evolution of governance mechanisms (Alvarez, Pilbeam, and Wilding 2010); similarly for the role of relative power (Cai, Yang, and Jun 2011), or power asymmetry (Shi et al. 2018). Other dyadic factors that need to be researched more extensively include the quality

of the relationship (de Reuver and Bouwman 2012), the identity and level of prior experience of partners (Pittino and Mazzurana 2013), and social processes (Schepker et al. 2014). Relevant network or environmental factors include the number of partners involved (Barbic, Hidalgo, and Cagliano 2016), the transparency of the institutional environment (Shou, Zheng, and Zhu 2016b), and relational reliability and legal enforceability (Zhou and Poppo 2010, see also Roehrich et al. 2020). Svare, Gausdal, and Möllering (2019) find that trust based on perceived ability, benevolence and integrity functions differently at the inter-organizational and at the network level. Overall, we are in need of a better understanding of how and why (combinations of) dyadic and network- or environment-level antecedents influence contract design.

Finally, our review of recent research indicates opportunities to pay further attention to the impact of individual factors, such as personal characteristics of key boundary spanners (e.g. risk aversion and confidence level (Shou, Zheng, and Zhu 2016a)), their personalities and personal networks (Gardet and Mothe 2011), their functional backgrounds (e.g., the role of lawyers (Arino et al. 2014)) or external people like consultants (Barbic, Hidalgo, and Cagliano 2016)), and their specific know-how in how to phrase contracts (Argento and Peda 2015). For example, Argyres and Mayer (2007) argue that contracting capabilities reside in different groups of employees within an organization, with lawyers likely being the primary repositories of capability for some types of provisions, while managers and engineers play more important roles in others. Dekker et al. (2019) call for studies that incorporate the firm's own boundary spanners in addition to the boundary spanners at the exchange partner. As business transactions take place between people, more attention to the individuals involved, their characteristics and actions/behaviors could enhance our understanding of the effectiveness of certain types of contracts and specific provisions, especially considering the psychological impact that contracts are considered to have (Weber and Mayer 2011, Selviaridis and van der Valk 2019).

Our overview of existing literature shows that understanding the antecedents to contracts represents a key issue for SCM scholars. While research on the antecedents has largely focused on the transaction factors (through, in particular, asset specificity), future research has much to learn from further analysis of organizational, but certainly also of dyadic and individual factors.

When focusing on a focal organization, we see opportunities to move beyond the traditional focus on the characteristics of the organization itself (e.g., in terms of experience or resources) to the actual individuals involved in contract negotiation, design, and management. This line of inquiry echoes the trend towards finer analysis of the micro-foundations of strategic decisions (Felin, Foss, and Ployhart 2015). In particular, scholars could extend recent efforts to analyze how individuals' occupational roles relate to specific contracting capabilities (Argyres and Mayer 2007) and to their interest in distinct types of contract provisions (Bercovitz and Tyler 2014). For instance, future research could try to further study the combination of individual (e.g., professional role, training, education, gender, age), team (e.g., composition and diversity), and organizational factors.

In addition, we are particularly excited about more studies at the dyadic level. Recent research raised concerns about the generalized assumption of symmetry between parties or the assumption that the focal party's perception reflects the whole relationship (Oliveira and Lumineau 2019, see also Roehrich et al. 2020). Future research should tackle this "blind spot" to further analyze not only the relative bargaining power between organizations (e.g., Cai, Yang, and Jun 2011, Shi et al. 2018) but embrace different types of asymmetry (e.g., in terms of resources, reputation, or stakes in the transaction) and their influence on contract design.

*Consequences* – Extant research seems to have addressed an equally wide variety of consequences of contractual governance, of which opportunism and exchange performance have been studied most extensively. Regarding the first, studies usually consider opportunistic

behavior to be an aggregate construct; however, considering it a multidimensional construct (e.g., strong versus weak forms of opportunism (You et al. 2018); different types of opportunism (such as quality defection versus embezzlement); or opportunism occurring in specified areas versus unspecified areas (Zhou and Xu 2012)) would allow for more nuanced conclusions. In the absence of more refined measures, we cannot accurately assess how various economic and social mechanisms curtail different types of opportunism arising in different areas. Furthermore, opportunism as an outcome will not emerge in isolation. Extant research however does not collectively address multiple relational outcomes (e.g., mitigating opportunism in combination with strengthening cooperation or maximizing profitability (Sheng et al. 2018)).

Secondly, exchange performance has been operationalized in various ways, among which profitability, risk, cooperation and costs. Focusing on a specific type of performance may constitute a limitation in itself: Lumineau and Malhotra (2011) for example focus on one specific type of costs (i.e., dispute costs) and hence advocate the study of various types of costs impacted by governance structures (e.g., underlying costs of interfirm control structures (Stouthuysen, Slabbinck, and Roodhooft 2012)), or of very different outcome measures (e.g., disputant satisfaction).

This suggestion resonates with the scholars that argue that IOR contracting research remains limited in how exchange performance is operationalized. For example: performance outcomes such as innovation (Sumo et al. 2016, Sande and Haugland 2015), financial performance (Sumo et al. 2016), customer experiences or satisfaction (Broekhuis and Scholten 2018), or repeated transactions (Mooi and Gilliland 2013) have only limitedly been studied. This holds even more strongly for less tangible returns, such as access to better innovation or a partner's willingness to go above and beyond to help a company respond to unanticipated events (Fawcett et al. 2017), knowledge novelty, comprehensiveness and timeliness (Liu et al. 2017), tacit



knowledge transfer (Zhang and Zhou 2013), or collaboration success (Grafton and Mundy 2017). Vulnerability problems, that is, relatively negative consequences of contractual governance (e.g., knowledge leakage (Sande and Haugland 2015), buyer lock-in (Mooi and Ghosh 2010), or destructive (and constructive) conflict in the buyer-supplier relationship (Yang et al. 2017)), are another area in need for more research. Roehrich et al. (2020) refer to these consequences as dysfunctional outcomes. As a result, we have limited understanding of what consequences can collectively be pursued using what contracts, the net result of these consequences that may appear, and what trade-offs may be made.

The analysis of the consequences of contracts is of particular importance for management scholars, especially to develop managerial recommendations. As most studies to date have focused on one outcome at a time, such as opportunism (e.g., Sheng et al. 2018, You et al. 2018), conflict (e.g., Yang et al. 2017) or performance (e.g., Mooi and Ghosh 2010), future work should complement recent studies (mostly theoretical so far) arguing for an ambivalence of contracts. An illustration is Lumineau (2017) who suggests that each contractual dimension influences the development of trust and distrust by inducing specific information-processing and decision-making mechanisms. Going one step further, both theoretical and empirical analyses are welcome to better understand how contractual governance could simultaneously influence different outcomes. It might be, for example, that contracts foster innovation while increasing the risks of opportunism. Both tangible and intangible as well as short-term and long-term outcomes could be jointly analyzed. We also see an interesting opportunity to further connect the literature on contracts with research on value creation and value capture (e.g. Lepak, Smith, and Taylor 2007).

Furthermore, we believe that scholars could learn a lot from “counterexamples”; that is, IORs facing negative consequences such as difficulties, dissatisfaction, conflict, or failure.

Scholars could, for example, investigate cases of failed contractual negotiations, problematically incomplete contracts, or contractual disputes (Lumineau and Henderson 2012).

*Moderators* – Scholarly contributions also repeatedly emphasize the need to further investigate a variety of potentially relevant moderating factors. For example, a number of scholars highlight that not taking into account location-specific factors, such as the institutional environment, market conditions, and local culture, prevents us from observing actual performance implications of contracts, as some effects may be due to the legal enforceability of contracts rather than the contract itself. Think here for example of the role of institutional cost (Bai, Sheng, and Li 2016), the use of power and governance across different institutional environments (Brito and Miguel 2017), institutional structures (Varoutsas and Scapens 2015), and geographical, national and cultural aspects of relationships (Bosch-Sijtsema and Postma 2010). Another moderator that is insufficiently considered relates to aspects of time, such as different stages of the relationship/collaboration (Cao and Lumineau 2015, McEvily, Zaheer, and Kamal 2017, Yang, Wacker, and Sheu 2012), or life-cycle/chronological stages (Chen, Chen, and Wu 2017, de Reuver and Bouwman 2012, Ju and Gao 2017). Dyadic factors constitute another important group of relevant moderators: e.g., the type of inter-firm relationship (Dekker and Van den Abbeele 2010), relationship length and prior experience (Argento and Peda 2015, Lui and Ngo 2012, Parmigiani and Mitchell 2010), the form of cooperation (Gardet and Mothe 2011), and various other contextual factors both internal (e.g., innovation climate (Sumo et al. 2016)) and external to the organization (e.g., market conditions (Susarla, Subramanyam, and Karhade 2010), or seller characteristics (Osmonbekov et al. 2016, Rai et al. 2012)). Not addressing the wide variety of potential moderators prevents us from developing a thorough understanding of in what situations a specific contract is effective.

We encourage future studies to further distinguish between two sets of moderators: on the one hand, the factors moderating the relationship between the antecedents to contracts and contracts themselves; on the other hand, the factors moderating the relationship between contracts and their consequences. Additional analyses of the contextual factors will certainly bear potential. First, the potential impact of technologies (e.g., artificial intelligence, robotic process automation, machine learning) and organizational forms (e.g., platforms, circular systems) is an interesting avenue. Second, an obvious, but still relatively unexplored, avenue (see, for instance, Zhou and Poppo 2010 for an exception) relates to the analysis of the legal context. Further collaboration with law colleagues could help to interpret the influence of the system of law (e.g., Civil law versus Common law) as an antecedent to contracts. More broadly, the influence of the institutional context deserves further attention. Future studies could, for example, extend the recent analysis by Cao et al. (2018) of the moderating effects of cultural factors (e.g., collectivism, power distance, and uncertainty avoidance) on the relationship between asset specificity and contract governance (see also Brito and Miguel 2017, Handley and Angst 2015). In addition, internal characteristics of the focal relationship could also play important roles as moderators. For example, Arino et al. (2014) show that the length of the prior relationship moderates the impact of termination provisions on negotiation time. Another illustration is Shen et al. (2017) who documented that interdependence between partners influences the relative effectiveness of contracts in achieving equity versus efficiency.

### **Contractual governance dynamics and interplay with other types of governance**

Relative to contracts as being static over time, the dynamics of contracts have received much less attention. This is counterintuitive, as contracts often need to be renegotiated and revised because of relevant external developments, or because they do not work out as intended (see for example Akkermans et al. 2019). As a result, we have limited insights into how contract

design may be contingent on temporal factors such as the stage the buyer-supplier relationship is in (e.g., Chen et al. 2013, Huang and Chiu 2018), or the stage of a project (Chen et al. 2018). Similarly, authors emphasize the need for studying how contracts evolve over time as a consequence of learning and the development of contracting capabilities at both contracting parties (e.g., Arino et al. 2014, Wang et al. 2019, Poppo and Zhou 2014, Selviaridis and Spring 2018).

The notion of contractual governance dynamics also feeds into the discussion on the interplay between contractual and relational governance. Relational governance, such as trust and relational norms, relies on the notion that repeated exchange is embedded in networks of social relationships which may serve as a foundation for alternative forms of governance (e.g., contractual enforcement through social processes; norms of flexibility, solidarity, and information exchange (Heide and Miner 1992, Poppo and Zenger 2002)). While frequently being set equal to trust, relational governance involves a wide variety of other mechanisms, such as joint action, reciprocity and forbearance, relational trust/guanxi (Wu, Wang, and Chen 2017), socialization (Caniels, Gelderman, and Vermeulen 2012), and reputation bonds, network ties and professional sanctions (Zhou and Poppo 2010).

Scholars repeatedly mention that we have not paid sufficient attention to how these specific aspects of relational governance interact with contractual governance, and affect different types of performance (Parmigiani and Mitchell 2010). Howard et al. (2019) suggest the existence of ‘tipping points’ at which the combined use of contractual and relational governance results in dysfunctional rather than functional consequences (i.e., undesired in addition to desired effects). Similarly, contracts exist alongside other types of governance mechanisms such as process formalization (Raue and Wieland 2015), design for modularity (Reuer and Devarakonda 2016), partner selection (Caniels and Gelderman 2010), and relational norms, uncertainty, complexity, and partner reputation (Shahzad et al. 2018), where the effectiveness

of these mechanisms in conjunction with (or as a replacement for) contracts has not widely been studied.

Furthermore, only a few studies adopt more fine-grained approaches to specific relational governance mechanisms such as trust (e.g., competence versus goodwill trust (Balboni, Marchi, and Vignola 2018, Holtgrave, Nienaber, and Ferreira 2017); institutional versus personal trust (Chen et al. 2013); low and minimal levels of trust (Fawcett et al. 2017, Vanneste and Puranam 2010); and trust versus distrust (Chen et al. 2013, Connelly, Miller, and Devers 2012)). Hence, our understanding of how trust really operates on buyer-supplier relationships in conjunction with contracts remains limited, despite the large number of studies in this area.

Finally, scholars argue that trust involves a formation process (Maurer 2010) and will develop/evolve over time (e.g., Day et al. 2013, Dekker and Van den Abbeele 2010, de Jong, Balogh, and Klein Woolthuis 2014). Therefore, the interaction between contractual and relational governance will also be dynamic (Fu et al. 2015). Consequently, more academic attention should be given to how both governance mechanisms co-evolve over time (as suggested by Fischer, Huber, and Dibbern 2011), or how they mutually affect each other and performance (Balboni, Marchi, and Vignola 2018, Holtgrave, Nienaber, and Ferreira 2017), thereby providing more insights into when and under what conditions the two mechanisms act as complements or substitutes.

Overall, the issue of the dynamics of contracts seems particularly thought provoking. As we observed in our review, much empirical research overlooks the temporal complexity in which contracts are embedded. However, cycles, events, and stages underpin the operation of contractual governance. It therefore seems important to observe contracts over their whole life cycle, from their negotiation to their design, use, enforcement, performance, potential renegotiation, and termination. Despite some insightful longitudinal studies (see Faems et al. (2008)), we still have much to learn about on the one hand, the way contracts influence the

transaction and, on the other hand, the way contracts are influenced by the transaction over time. Such analyses should pay particular attention to time-related constructs—such as learning/forgetting (Argyres and Mayer 2007), experience accumulation (Dekker and Van den Abbeele 2010, Vanneste and Puranam 2010), or trust development (Lu and Yan 2016, Faems et al. 2008)—in their relation to contractual governance.

Temporal issues include, for instance, how long events take (duration), how fast these events change (tempo), whether these events speed up or slow down (rate), and when the events occur (timing) (Grzymala-Busse 2010). Such dimensions could represent starting points to better understand the roles and limitations of contracts under different temporal circumstances. Issues of temporality and dynamics also refer to the influence of the past on present actions (“shadow of the past”) and the influence of the future on present actions (“shadow of the future”) (Poppo, Zhou, and Ryu 2008). We particularly encourage scholars to address these issues by considering multiple conceptualizations of time such as clock time versus phase time (Lumineau and Oliveira 2018).

### **Empirical considerations**

Our review of the limitations brought forward in the scholarly contributions studied finally revealed various empirical considerations. Findings are often argued to be country- or industry-specific; furthermore, many authors highlight selection bias, small sample sizes, and invalidated assumptions as points of concern. As a result, findings to date are only limitedly generalizable.

Other empirical concerns are raised with regard to the arguably narrow theoretical assumptions underlying empirical studies, and the research designs and measures adopted. Regarding theoretical assumptions, the majority of studies relies on a single (usually economics-based) theory, thereby neglecting the insights that strategic perspectives such as

absorptive and dynamic capabilities (Park, Kim, and Lee 2017), and social and cognitive psychology may offer. Scholars also emphasize the need for multi-informant research designs, as single-informant designs (i.e., single-actor studies) suffer from the limitation that the data used in analyses represents one individual's subjective perceptions. Similarly, chain or network inferences cannot be made from studies involving at best a limited number of actors. In addition, scholars emphasize that we should rely less on subjective data resulting from for example interviews only, and that we should make more and better use of more objective sources of data. More specifically, it is argued that too much contracting research is not based on actual contracts, which would allow for more enhanced (i.e., more objective and more direct) measurement of specific contractual provisions (Dean, Griffith, and Calantone 2016) including weights and interaction effects (Lumineau and Quelin 2012), and contract functions (Schilke and Lumineau 2018) or types (Gopal and Koka 2010).

In function of the maturity and stage of advancement of research around each of the highlighted limitations, we see a wealth of methodological options—from single case study to the use of big data—to advance SCM research on contracts.

Qualitative scholars could, in particular, develop more longitudinal studies to help improve our understanding of the actual causality between contracts and related constructs (see Faems et al. 2008). They could also further leverage the use of the configurational perspective (e.g., fuzzy set qualitative comparative analyses; Ragin 2008) to study the interplay between different contractual functions across different contextual settings (e.g., Hofman, Faems, and Schleimer 2017).

Quantitative scholars should pay further attention to the issue of endogeneity when studying the influence of contractual governance. Finding appropriate instrumental variables (i.e., related to contracts as explanatory variables but uncorrelated with the error term) proves particularly challenging. Besides using a number of statistical techniques (e.g., Heckman two-

step procedure, propensity score matching analyses, Durbin-Wu-Hausman test) to mitigate endogeneity concerns, we encourage SCM scholars to make further use of experiments in the laboratory setting. Experimental methodology allows the creation of a simulated environment that controls for selection effects by random assignment. An example of this approach is the experimental study by Bertrandias, Frechet, and Lumineau (2010), which compares promotion-framed versus prevention-framed contracts to study how participants assess their partner through the reading of the contract, or the study by Weber and Bauman (2019) who study the impact of framing on trust and its underlying (emotional and cognitive) mechanisms.

## **CONCLUSION**

By synthesizing scholarly limitations and advancing our own recommendations about what we believe are fruitful ways forward, this chapter offers systematic insights into the future of IOR contracting research in four specific directions (Table 2).

[INSERT TABLE 2 HERE].

Foremost, the notion that contracts are dynamic in nature and hence embedded in temporal complexity deserves more scholarly attention. Here, we see much room for longitudinal studies including not only a life cycle perspective, but also other and preferably multiple conceptualizations of time (see the study of Lumineau and Oliveira (2018)), or focusing on how contracts evolve as a consequence of learning and the development of contracting capabilities (see for example Selviaridis and Spring (2018)). A prerequisite to this and other types of contracting studies would be to enhance the way we conceptualize and operationalize contracts. More systematic investigations of various (combinations of) provisions in relation to types of contracts and their functions, as well as their applications and execution, would



allow for a more fine-grained characterization of contracts. Such systematic investigations should also involve a larger number and variety of antecedents (at the organizational, the dyadic and the individual level), consequences and moderators. Additional meta-analytic analyses, such as the study by Cao and Lumineau (2015), would allow taking stock of the antecedents, consequences and moderators studied to date, and would reveal which of such factors warrant specific research attention. On a final note, future contracting studies should include other and preferably multiple theories, adopt multi-informant/ multi-actor research designs, and make better use of more objective sources of data. The exemplary studies mentioned are illustrations of how the field may move forward in the directions proposed. As such, we aspire to guide scholars in designing their future research projects, and to help IOR contracting research to develop in a more coherent and cumulative manner. We believe that many important and meaningful contributions can be made to the supply chain management and broader IOR contracting literature.

## REFERENCES

- Akkermans, Henk A., Willem Van Oppen, Finn Wynstra, and Chriss Voss. 2019. "Contracting outsourced services with collaborative key performance indicators." *Journal of Operations Management* 65 (1):22-47.
- Alvarez, Gabriela, Colin Pilbeam, and Richard Wilding. 2010. "Nestle Nespresso AAA sustainable quality program: an investigation into the governance dynamics in a multi-stakeholder supply chain network." *Supply Chain Management-an International Journal* 15 (2):165-182. doi: 10.1108/13598541011028769.
- Argento, Daniela, and Peeter Peda. 2015. "Interactions fostering trust and contract combinations in local public services provision." *International Journal of Public Sector Management* 28 (4-5):335-351. doi: 10.1108/ijpsm-08-2015-0154.
- Argyres, Nicholas, and Kyle J. Mayer. 2007. "Contract Design As a Firm Capability: An Integration of Learning And Transaction Cost Perspectives." *Academy of Management Journal* 32 (4):1060-1077.
- Arino, Africa, Jeffrey J. Reuer, Kyle J. Mayer, and Juan Jane. 2014. "Contracts, Negotiation, and Learning: An Examination of Termination Provisions." *Journal of Management Studies* 51 (3):379-405. doi: 10.1111/joms.12069.
- Axelsson, Björn, and Finn Wynstra. 2002. *Buying business services*. Chichester: Wiley.

- Bai, Xuan, Shibin Sheng, and Julie Juan Li. 2016. "Contract governance and buyer-supplier conflict: The moderating role of institutions." *Journal of Operations Management* 41:12-24. doi: 10.1016/j.jom.2015.10.003.
- Balboni, Bernard, Gianluca Marchi, and Marina Vignola. 2018. "The Moderating Effect of Trust on Formal Control Mechanisms in International Alliances." *European Management Review* 15 (4):541-558. doi: 10.1111/emre.12150.
- Barbic, Frano, Antonio Hidalgo, and Raffaella Cagliano. 2016. "Governance dynamics in multi-partner R&D alliances Integrating the control and coordination perspectives." *Baltic Journal of Management* 11 (4):405-429. doi: 10.1108/bjm-09-2015-0173.
- Bercovitz, Janet E. L., and Beverly B. Tyler. 2014. "Who I Am and How I Contract: The Effect of Contractors' Roles on the Evolution of Contract Structure in University-Industry Research Agreements." *Organization Science* 25 (6):1840-1859. doi: 10.1287/orsc.2014.0917.
- Bertrandias, Laurent, Marc Frechet, and Fabrice Lumineau. 2010. "The Role of Contract Framing in the Emergence of Trust: Evidence from Franchise Contract Experiment." Academy of Management Best Paper Proceedings, 2010 Available at SSRN: <https://ssrn.com/abstract=2726730>.
- Bosch-Sijtsema, Petra M., and Theo J.B.M. Postma. 2010. "Governance factors enabling knowledge transfer in interorganisational development projects." *Technology Analysis & Strategic Management* 22 (5):593-608. doi: 10.1080/09537325.2010.488064.
- Brito, Renata P., and Priscila L. S. Miguel. 2017. "Power, Governance, and Value in Collaboration: Differences between Buyer and Supplier Perspectives." *Journal of Supply Chain Management* 53 (2):61-87. doi: 10.1111/jscm.12134.
- Broekhuis, Manda, and Kirstin Scholten. 2018. "Purchasing in service triads: the influence of contracting on contract management." *International Journal of Operations & Production Management* 38 (5):1188-1204. doi: 10.1108/ijopm-12-2015-0754.
- Cai, Shaohan, Zhilin Yang, and Minjoon Jun. 2011. "Cooperative norms, structural mechanisms, and supplier performance: Empirical evidence from Chinese manufacturers." *Journal of Purchasing and Supply Management* 17 (1):1-10. doi: 10.1016/j.pursup.2009.12.006.
- Caniels, Marjolein C. J., and Cees J. Gelderman. 2010. "The Safeguarding Effect of Governance Mechanisms in Inter-firm Exchange: The Decisive Role of Mutual Opportunism." *British Journal of Management* 21 (1):239-254. doi: 10.1111/j.1467-8551.2009.00654.x.
- Caniels, Marjolein C. J., Cees J. Gelderman, and Nicole P. Vermeulen. 2012. "The interplay of governance mechanisms in complex procurement projects." *Journal of Purchasing and Supply Management* 18 (2):113-121. doi: 10.1016/j.pursup.2012.04.007.
- Cao, Zhi, Yuan Li, Jayanth Jayaram, Yi Liu, and Fabrice Lumineau. 2018. "A meta-analysis of the exchange hazards-interfirm governance relationship: An informal institutions perspective." *Journal of International Business Studies* 49 (3):303-323. doi: 10.1057/s41267-017-0144-2.
- Cao, Zhi, and Fabrice Lumineau. 2015. "Revisiting the interplay between contractual and relational governance: A qualitative and meta-analytic investigation." *Journal of Operations Management* 33-34 (January):15-42.
- Carlile, Paul R. 2002. "A Pragmatic View of Knowledge and Boundaries: Boundary Objects in New Product Development." *Organization Science* 13 (3):442-455.
- Carson, Stephen J., and George John. 2013. "A theoretical and empirical investigation of property rights sharing in outsourced research, development, and engineering relationships." *Strategic Management Journal* 34 (9):1065-1085.

- Carson, Stephen J., Anoop Madhok, and Tao Wu. 2006. "Uncertainty, opportunism, and governance: The effects of volatility and ambiguity on formal and relational contracting." *Academy of Management Journal* 49 (5):1058-1077.
- Chen, Chen, Xiumei Zhu, Jiayue Ao, and Li Cai. 2013. "Governance Mechanisms and New Venture Performance in China." *Systems Research and Behavioral Science* 30 (3):383-397. doi: 10.1002/sres.2178.
- Chen, Po-Yuan, Kuan-Yang Chen, and Lei-Yu Wu. 2017. "The impact of trust and commitment on value creation in asymmetric buyer-seller relationships: the mediation effect of specific asset investments." *Journal of Business & Industrial Marketing* 32 (3):457-471. doi: 10.1108/jbim-09-2014-0171.
- Chen, Yuting, Yongqian Chen, Zhaojun Liu, and Hongjiang Yao. 2018. "Influence of Prior Ties on Trust in Contract Enforcement in the Construction Industry: Moderating Role of the Shadow of the Future." *Journal of Management in Engineering* 34 (2). doi: 10.1061/(asce)me.1943-5479.0000584.
- Clauss, Thomas, and Ricarda B. Bouncken. 2019. "Social power as an antecedence of governance in buyer-supplier alliances." *Industrial Marketing Management* 77:75-89. doi: 10.1016/j.indmarman.2018.12.005.
- Cole, Rosanna, Mark Stevenson, and James Aitken. 2019. "Blockchain technology: Implications for operations and supply chain management." *Supply Chain Management* forthcoming
- Connelly, Brian L., Toyah Miller, and Cynthia E. Devers. 2012. "Under a cloud of suspicion: trust, distrust, and their interactive effect in interorganizational contracting." *Strategic Management Journal* 33 (7):820-833. doi: 10.1002/smj.974.
- Contractor, Farok J., and Jeffrey J. Reuer. 2014. "Structuring and governing alliances: New directions for research." *Global Strategy Journal* 4:241-256.
- Day, Marc, Stanley E. Fawcett, Amydee M. Fawcett, and Gregory M. Magnan. 2013. "Trust and relational embeddedness: Exploring a paradox of trust pattern development in key supplier relationships." *Industrial Marketing Management* 42 (2):152-165. doi: 10.1016/j.indmarman.2012.12.004.
- de Jong, Gjalt, Nora Balogh, and Rosalinde Klein Woolthuis. 2014. *The governance of high-tech alliances: Trust, contracts, cultural differences, and interdependence*. Edited by T. K. Das, *Strategic Alliances for Innovation and R&D*.
- de Reuver, Mark, and Harry Bouwman. 2012. "Governance mechanisms for mobile service innovation in value networks." *Journal of Business Research* 65 (3):347-354. doi: 10.1016/j.jbusres.2011.04.016.
- Dean, Tereza, David A. Griffith, and Roger J. Calantone. 2016. "New Product Creativity: Understanding Contract Specificity in New Product Introductions." *Journal of Marketing* 80 (2):39-58. doi: 10.1509/jm.14.0333.
- Dekker, H. C., and A. Van den Abbeele. 2010. "Organizational Learning and Interfirm Control: The Effects of Partner Search and Prior Exchange Experiences." *Organization Science* 21 (6):1233-1250. doi: 10.1287/orsc.1090.0505.
- Dekker, Henri, Carole Donada, Caroline Mothe, and Gwenaëlle Nogatchewsky. 2019. "Boundary spanner relational behavior and inter-organizational control in supply chain relationships." *Industrial Marketing Management* 77:143-154. doi: 10.1016/j.indmarman.2018.11.010.
- Eisenhardt, Kathleen M. 1989. "Agency theory: An assessment and review." *The Academy of Management Review* 14 (1):57-74.
- Faems, Dries, Maddy Janssens, Anoop Madhok, and Bart Van Looy. 2008. "Toward An Integrative Perspective on Alliance Governance: Connecting Contract Design, Trust

- Dynamics, and Contract Application." *Academy of Management Journal* 51 (6):1053-1078. doi: 10.5465/amj.2008.35732527.
- Fawcett, Stanely E., Yao Henry Jin, Amydee M. Fawcett, and Gregory M. Magnan. 2017. "I know it when I see it: the nature of trust, trustworthiness signals, and strategic trust construction." *International Journal of Logistics Management* 28 (4):914-938. doi: 10.1108/ijlm-11-2016-0268.
- Felin, Teppo, Nicolai .J. Foss, and Robert E. Ployhart. 2015. "The Microfoundations Movement in Strategy and Organization Theory." *Academy of Management Annals* 9 (1):575-632.
- Fischer, Thomas A., Thomas L. Huber, and Jens Dibbern. 2011. *Contractual and Relational Governance as Substitutes and Complements - Explaining the Development of Different Relationships*. Edited by A. Heinzl, P. Buxmann, O. Wendt and T. Weitzel, *Theory-Guided Modeling and Empiricism in Information Systems Research*.
- Fu, Yongcheng, Yongqian Chen, Shuibo Zhang, and Wenqian Wang. 2015. "Promoting cooperation in construction projects: an integrated approach of contractual incentive and trust." *Construction Management and Economics* 33 (8):653-670. doi: 10.1080/01446193.2015.1087646.
- Gardet, Elodie, and Caroline Mothe. 2011. "The dynamics of coordination in innovation networks." *European Management Review* 8 (4):213-229.
- Gilson, Ronald J., Charles F. Sabel, and Robert E. Scott. 2009. "Contracting for innovation: vertical disintegration and interfirm collaboration." *Columbia Law Review* 109 (3):431-502.
- Gioia, Dennis A., Kevin G. Corley, and Aimee L. Hamilton. 2012. "Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology." *Organizational Research Methods* 16 (1):15-31. doi: 10.1177/1094428112452151.
- Glas, Andreas, and Michael Essig. 2020. "Management of Performance-based Contracting." In *The Oxford Handbook of Supply Chain Management*, edited by T. Choi, J. Li, D. Rogers, J. Rungtusanatham, T. Schoenherr and S. Wagner. Oxford, United Kingdom: Oxford University Press.
- Gopal, Anandasivam, and Balaji R. Koka. 2010. "The Role of Contracts on Quality and Returns to Quality in Offshore Software Development Outsourcing." *Decision Sciences* 41 (3):491-516.
- Grafton, Jennifer, and Julia Mundy. 2017. "Relational contracting and the myth of trust: Control in a co-opetitive setting." *Management Accounting Research* 36:24-42. doi: 10.1016/j.mar.2016.07.008.
- Griffith, D. A., and Y. H. Zhao. 2015. "Contract Specificity, Contract Violation, and Relationship Performance in International Buyer- Supplier Relationships." *Journal of International Marketing* 23 (3):22-40. doi: 10.1509/jim.14.0138.
- Grzymala-Busse, Anna 2010. "Time Will Tell? Temporality and the Analysis of Causal Mechanisms and Processes." *Comparative Political Studies* 44 (9):1267-1297. doi: 10.1177/0010414010390653.
- Gulati, Ranjay, Paul R. Lawrence, and Phanish Puranam. 2005. "Adaptation in vertical relationships: beyond incentive conflict." *Strategic Management Journal* 26:415-440.
- Handley, Sean M., and Corey M. Angst. 2015. "The impact of culture on the relationship between governance and opportunism in outsourcing relationships." *Strategic Management Journal* 36 (9):1412-1434. doi: 10.1002/smj.2300.
- Heide, Jan B., and Anne S. Miner. 1992. "The shadow of the future: Effects of anticipated interaction and frequency of contact on buyer-seller cooperation." *Academy of Management Journal* 35 (2):265-291.

- Hendrikse, George, Patrick Hippmann, and Josef Windsperger. 2015. "Trust, transaction costs and contractual incompleteness in franchising." *Small Business Economics* 44 (4):867-888. doi: 10.1007/s11187-014-9626-9.
- Hofman, Erwin, Dries Faems, and Stephanie C. Schleimer. 2017. "Governing Collaborative New Product Development: Toward a Configurational Perspective on the Role of Contracts." *Journal of Product Innovation Management* 34 (6):739-756. doi: 10.1111/jpim.12412.
- Holtgrave, Maximilian, Ann-Marie Nienaber, and Carlos Ferreira. 2017. "Untangling the trust-control nexus in international buyer-supplier exchange relationships: An investigation of the changing world regarding relationship length." *European Management Journal* 35 (4):523-537. doi: 10.1016/j.emj.2016.09.005.
- Howard, Mickey, Jens K. Roehrich, Michael A. Lewis, and Brian Squire. 2019. "Converging and Diverging Governance Mechanisms: The Role of (Dys)Function in Long-term Inter-organizational Relationships." *British Journal of Management* 30 (3):624-644. doi: 10.1111/1467-8551.12254.
- Huang, Ming-Chang, and Ya-Ping Chiu. 2018. "Relationship governance mechanisms and collaborative performance: A relational life-cycle perspective." *Journal of Purchasing and Supply Management* 24 (3):260-273. doi: 10.1016/j.pursup.2017.12.002.
- Johnson, Jeff S., and Ravipreet S. Sohi. 2016. "Understanding and resolving major contractual breaches in buyer-seller relationships: a grounded theory approach." *Journal of the Academy of Marketing Science* 44 (2):185-205. doi: 10.1007/s11747-015-0427-8.
- Ju, Min, and Gerald Yong Gao. 2017. "Relational Governance and Control Mechanisms of Export Ventures: An Examination Across Relationship Length." *Journal of International Marketing* 25 (2):72-87. doi: 10.1509/jim.16.0070.
- Kirsch, Laurie J. 1996. "The management of complex tasks in organizations: Controlling the systems development process." *Organization Science* 7 (1):1-21.
- Klein Woolthuis, Rosalinde, Bas Hillebrand, and Bart Nooteboom. 2005. "Trust, contract and relationship development." *Organization Studies* 26 (6):813-840.
- Lepak, David P., Ken G. Smith, and M. Susan Taylor. 2007. "Value creation and value capture: A multilevel perspective." *Academy of Management Review* 32 (1):180-194.
- Liu, Yi, Yao Li, Linda Hui Shi, and Ting Liu. 2017. "Knowledge transfer in buyer-supplier relationships: The role of transactional and relational governance mechanisms." *Journal of Business Research*. doi: 10.1016/j.jbusres.2016.12.024.
- Lu, Shao Kai, and Hong Yan. 2016. "Contractual control, the propensity to trust, active trust development: construction industry." *Journal of Business & Industrial Marketing* 31 (4):459-471. doi: 10.1108/jbim-10-2014-0200.
- Lui, Steven S., and Hang-yue Ngo. 2012. "Drivers and Outcomes of Long-term Orientation in Cooperative Relationships." *British Journal of Management* 23 (1):80-95. doi: 10.1111/j.1467-8551.2010.00719.x.
- Lumineau, F., and D. Malhotra. 2011. "Shadow of the contract: how contract structure shapes interfirm dispute resolution." *Strategic Management Journal* 32 (5):532-555.
- Lumineau, Fabrice. 2017. "How Contracts Influence Trust and Distrust." *Journal of Management* forthcoming.
- Lumineau, Fabrice, Marc Frechet, and Dominique Puthod. 2011. "An organizational learning perspective on the contracting process." *Strategic Organization* 9:8-32.
- Lumineau, Fabrice, and James E. Henderson. 2012. "The influence of relational experience and contractual governance on the negotiation strategy in buyer-supplier disputes." *Journal of Operations Management* 30:382-395.

- Lumineau, Fabrice, and Nuno Oliveira. 2018. "A pluralistic perspective to overcome major blind spots in research on interorganizational relationships." *Academy of Management Annals* 12 (1):440-465s.
- Lumineau, Fabrice, and Bertrand Quelin. 2012. "An empirical investigation of inter-organizational opportunism and contracting mechanisms." *Strategic Organization* 10:55-84.
- Luo, Yadong. 2002. "Contract, cooperation, and performance in international joint ventures." *Strategic Management Journal* 23 (10):903-919.
- Maurer, Indre. 2010. "How to build trust in inter-organizational projects: The impact of project staffing and project rewards on the formation of trust, knowledge acquisition and product innovation." *International Journal of Project Management* 28 (7):629-637.
- Mayer, Kyle J., and Nicholas S. Argyres. 2004. "Learning to contract: Evidence from the personal computer industry." *Organization Science* 15 (4):394-410.
- McEvily, Bill, Akbar Zaheer, and Darcy K. Fudge Kamal. 2017. "Mutual and Exclusive: Dyadic Sources of Trust in Interorganizational Exchange." *Organization Science* 28 (1):74-92. doi: 10.1287/orsc.2016.1102.
- Mooi, Erik A., and Mrinal Ghosh. 2010. "Contract specificity and its performance implications." *Journal of Marketing* 74 (2):105-120.
- Mooi, Erik A., and David I. Gilliland. 2013. "How contracts and enforcement explain transaction outcomes." *International Journal of Research in Marketing* 30 (4):395-405. doi: 10.1016/j.ijresmar.2013.04.003.
- Murray, Alex, Scott Kuban, Matthew Josefy, and Jonathan Anderson. 2019. "Contracting in the smart era: The implications of blockchain and Decentralized Autonomous Organizations for contracting and corporate governance." *Academy of Management Perspectives* forthcoming.
- North, Douglas C. 1990. *Institutions, Institutional Change and Economic Performance*. Cambridge: University Press.
- Nullmeier, F.M.E. 2019. "Effective Contracting of Uncertain Performance Outcomes: Allocating responsibility for performance outcomes to align goals across supply chain actors ", Erasmus Research Institute of Management – ERIM, Erasmus University Rotterdam.
- Nullmeier, Fabian M.E., Finn Wynstra, and Wendy Van der Valk. 2020. "Mitigating shirking: contracting performance in buyer-initiated service triads." In *The Oxford Handbook of Supply Chain Management*, edited by Thomas Choi, Julie Li, Dale Rogers, Johnny Rungtusanatham, Tobias Schoenherr and Stephan Wagner. Oxford, United Kingdom: Oxford University Press.
- Oliveira, Nuno, and Fabrice Lumineau. 2019. "The Dark Side of Interorganizational Relationships: An Integrative Review and Research Agenda." *Journal of Management* 45 (1):231-261.
- Oshri, Ilan, Julia Kotlarsky, and Alexandra Gerbasi. 2015. "Strategic innovation through outsourcing: The role of relational and contractual governance." *Journal of Strategic Information Systems* 24 (3):203-216. doi: 10.1016/j.jsis.2015.08.001.
- Osmonbekov, Talai, Brian Gregory, Christian Chelariu, and Wesley J. Johnston. 2016. "The impact of social and contractual enforcement on reseller performance: the mediating role of coordination and inequity during adoption of a new technology." *Journal of Business & Industrial Marketing* 31 (6):808-818. doi: 10.1108/jbim-12-2014-0260.
- Park, Young-Chan, Byung-Keun Kim, and Saerom Lee. 2017. "The effects of alliance governance on knowledge acquisition and alliance performance of Korean firms." *Asian Journal of Technology Innovation* 25 (3):428-446. doi: 10.1080/19761597.2018.1435164.

- Parmigiani, Anne, and Will Mitchell. 2010. "The hollow corporation revisited: Can governance mechanisms substitute for technical expertise in managing buyer-supplier relationships?" *European Management Review* 7:46-70.
- Petersen, Bent, and Kim Østergaard. 2018. "Reconciling contracts and relational governance through strategic contracting." *Journal of Business & Industrial Marketing* 33 (3):265-276. doi: 10.1108/jbim-09-2016-0223.
- Pittino, Daniel, and Paola Angela Maria Mazzurana. 2013. "Alliance Governance and Performance in SMEs: Matching Relational and Contractual Governance with Alliance Goals." *Entrepreneurship Research Journal* 3 (1):62-83. doi: 10.1515/erj-2012-0007.
- Poppo, Laura, and Todd R. Zenger. 2002. "Do formal contracts and relational governance function as substitutes or complements?" *Strategic Management Journal* 23 (8):707-725.
- Poppo, Laura, and Kevin Zheng Zhou. 2014. "Managing contracts for fairness in buyer-supplier exchanges." *Strategic Management Journal* 35 (10):1508-1527. doi: 10.1002/smj.2175.
- Poppo, Laura, Kevin Zheng Zhou, and Sungmin Ryu. 2008. "Alternative origins to interorganizational trust: An interdependence perspective on the shadow of the past and the shadow of the future." *Organization Science* 19 (1):39-55.
- Praxmarer-Carus, Sandra. 2014. "Why the proposal of a complex contract may harm or foster a partner's trust." *Journal of Business Research* 67 (7):1421-1429. doi: <http://dx.doi.org/10.1016/j.jbusres.2013.07.025>.
- Ragin, Charles C. 2008. *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press.
- Rai, Arun, Mark Keil, Rob Hornyak, and Kim Wüllenweber. 2012. "Hybrid Relational-Contractual Governance for Business Process Outsourcing." *Journal of Management Information Systems* 29 (2):213-256. doi: 10.2753/mis0742-1222290208.
- Raue, Jan Simon, and Andreas Wieland. 2015. "The interplay of different types of governance in horizontal cooperations A view on logistics service providers." *International Journal of Logistics Management* 26 (2):401-423. doi: 10.1108/ijlm-08-2012-0083.
- Reuer, J. J., and S. V. Devarakonda. 2016. "Mechanisms of hybrid governance: Administrative committees in non-equity alliances." *Academy of Management Journal* 59 (2):510-533. doi: 10.5465/amj.2012.0098.
- Roehrich, Jens K., Kostas Selviaridis, Jas Kalra, Wendy Van der Valk, and Feng Fang. 2019. "Inter-organizational governance: a review, conceptualisation and extension." *Production Planning & Control*:1-17. doi: 10.1080/09537287.2019.1647364.
- Roehrich, Jens K., Beverly B. Tyler, Jas Kalra, and Brian Squire. 2020. "The decision process of contracting in supply chain management." In *The Oxford Handbook of Supply Chain Management*, edited by Thomas Choi, Julie Li, Dale Rogers, Johnny Rungtusanatham, Tobias Schoenherr and Stephan Wagner. Oxford, United Kingdom: Oxford University Press.
- Sande, Jon Bingen, and Sven A. Haugland. 2015. "Strategic performance effects of misaligned formal contracting: The mediating role of relational contracting." *International Journal of Research in Marketing* 32 (2):187-194. doi: 10.1016/j.ijresmar.2015.02.002.
- Schepker, Donald J., Won-Yong Oh, Aleksey Martynov, and Laura Poppo. 2014. "The Many Futures of Contracts: Moving Beyond Structure and Safeguarding to Coordination and Adaptation." *Journal of Management* 40 (1):193-225. doi: 10.1177/0149206313491289.
- Schilke, Oliver, and Fabrice Lumineau. 2018. "The Double-Edged Effect of Contracts on Alliance Performance." *Journal of Management* 44 (7):2827-2858. doi: 10.1177/0149206316655872.

- Selviaridis, K., and M. Spring. 2018. "Supply chain alignment as process: contracting, learning and pay-for-performance." *International Journal of Operations & Production Management* 38 (3):732-755. doi: 10.1108/ijopm-01-2017-0059.
- Selviaridis, Kostas, and Wendy van der Valk. 2019. "Framing contractual performance incentives: effects on supplier behaviour." *International Journal of Operations & Production Management* 39 (2):190-213. doi: 10.1108/ijopm-10-2017-0586.
- Shahzad, Kuram, Tahir Ali, Josu Takala, Petri Helo, and Ghasem Zaefarian. 2018. "The varying roles of governance mechanisms on ex-post transaction costs and relationship commitment in buyer-supplier relationships." *Industrial Marketing Management* 71:135-146. doi: 10.1016/j.indmarman.2017.12.012.
- Shen, Lu, Yong Wang, and Wenbo Teng. 2017. "The moderating effect of interdependence on contracts in achieving equity versus efficiency in interfirm relationships." *Journal of Business Research*. doi: 10.1016/j.jbusres.2016.12.023.
- Sheng, Shibin, Kevin Zheng Zhou, Julie Juan Li, and Zhaoyang Guo. 2018. "Institutions and opportunism in buyer-supplier exchanges: the moderated mediating effects of contractual and relational governance." *Journal of the Academy of Marketing Science* 46 (6):1014-1031. doi: 10.1007/s11747-018-0582-9.
- Shi, Chenxi, Yongqiang Chen, Jingya You, and Hongjiang Yao. 2018. "Asset Specificity and Contractors' Opportunistic Behavior: Moderating Roles of Contract and Trust." *Journal of Management in Engineering* 34 (5). doi: 10.1061/(asce)me.1943-5479.0000632.
- Shou, Z. G., X. Zheng, and W. T. Zhu. 2016a. "Contract ineffectiveness in emerging markets: An institutional theory perspective." *Journal of Operations Management* 46:38-54. doi: 10.1016/j.jom.2016.07.004.
- Shou, Zhigang, Xu (Vivian) Zheng, and Wenting Zhu. 2016b. "Contract ineffectiveness in emerging markets: An institutional theory perspective." *Journal of Operations Management* 46:38-54. doi: 10.1016/j.jom.2016.07.004.
- Spee, Andreas Paul, and Paula Jarzabkowski. 2009. "Strategy tools as boundary objects." *Strategic Organization* 7 (2):223-232. doi: 10.1177/1476127009102674.
- Stouthuysen, Kristof, Hendrik Slabbinck, and Filip Roodhooft. 2012. "Controls, service type and perceived supplier performance in interfirm service exchanges." *Journal of Operations Management* 30 (5):423-435. doi: 10.1016/j.jom.2012.01.002.
- Suchman, MarkC. 2003. "The contract as social artifact." *Law & Society Review* 37 (1):91-142.
- Sumo, Regien, Wendy van der Valk, Arjan van Weele, and Christoph Bode. 2016. "Fostering incremental and radical innovation through performance-based contracting in buyer-supplier relationships." *International Journal of Operations & Production Management* 36 (11):1482-1503. doi: 10.1108/ijopm-05-2015-0305.
- Susarla, Anjana, Ramanath Subramanyam, and Prasanna Karhade. 2010. "Contractual Provisions to Mitigate Holdup: Evidence from Information Technology Outsourcing." *Information Systems Research* 21 (1):37-55. doi: 10.1287/isre.1080.0204.
- Svare, Helge, Anne Haugen Gausdal, and Guido Möllering. 2019. "The function of ability, benevolence, and integrity-based trust in innovation networks." *Industry and Innovation*:20. doi: 10.1080/13662716.2019.1632695.
- Van Den Hurk, M., and K. Verhoest. 2016. "The challenge of using standard contracts in public-private partnerships." *Public Management Review* 18 (2):278-299. doi: 10.1080/14719037.2014.984623.
- Vanneste, Bart S., and Phanish Puranam. 2010. "Repeated Interactions and Contractual Detail: Identifying the Learning Effect." *Organization Science* 21 (1):186-201. doi: 10.1287/orsc.1080.0402.



- Varoutsas, Evangelia, and Robert W. Scapens. 2015. "The governance of inter-organisational relationships during different supply chain maturity phases." *Industrial Marketing Management* 46:68-82. doi: 10.1016/j.indmarman.2015.01.006.
- Wang, Wenqian, Yongqian Chen, Shuibo Zhang, and Yu Wang. 2018. "Contractual complexity in construction projects: conceptualization, operationalization, and validation." *Project Management Journal* 49 (3):46-61.
- Wang, Yu, Yongqian Chen, Wenqian Wang, and Yinqiu Tang. 2019. "Differentiating two types of learning in contract design: Evidence from the construction industry." *Scandinavian Journal of Management* 35 (1):1-11. doi: 10.1016/j.scaman.2018.11.001.
- Weber, Libby. 2017. "A Sociocognitive View of Repeated Interfirm Exchanges: How the Coevolution of Trust and Learning Impacts Subsequent Contracts." *Organization Science* 28 (4):744-759. doi: 10.1287/orsc.2017.1139.
- Weber, Libby, and Christopher W. Bauman. 2019. "The cognitive and behavioral impact of promotion and prevention contracts on trust in repeated exchanges." *Academy of Management Journal* 62 (361-382).
- Weber, Libby, and Kyle J. Mayer. 2011. "Designing effective contracts: Exploring the influence of framing and expectations." *Academy of Management Review* 36 (1):53-75.
- Williamson, Oliver E. 1985. *The economic institutions of capitalism*. New York: The Free Press.
- Wu, AiHua, Zhuo Wang, and Sandy Chen. 2017. "Impact of specific investments, governance mechanisms and behaviors on the performance of cooperative innovation projects." *International Journal of Project Management* 35 (3):504-515. doi: 10.1016/j.jproman.2016.12.005.
- Yang, Chen-Lung, John G. Wacker, and Chwen Sheu. 2012. "What makes outsourcing effective? A transaction cost economics analysis." *International Journal of Production Research* 50:4462-4476.
- Yang, Wei, Yu Gao, Yao Li, Hao Shen, and Songyue Zheng. 2017. "Different roles of control mechanisms in buyer-supplier conflict: An empirical study from China." *Industrial Marketing Management* 65:144-156. doi: 10.1016/j.indmarman.2017.04.002.
- You, Jingya, Yongqiang Chen, Wenqian Wang, and Chenxi Shi. 2018. "Uncertainty, opportunistic behavior, and governance in construction projects: The efficacy of contracts." *International Journal of Project Management* 36 (5):795-807. doi: 10.1016/j.ijproman.2018.03.002.
- Yu, Chwo-Ming Joseph, Tsai-Ju Liao, and Zheng-Dao Lin. 2006. "Formal governance mechanisms, relational governance mechanisms, and transaction-specific investments in supplier-manufacturer relationships." *Industrial Marketing Management* 35 (2):128-139.
- Zhang, Chun, Julie Juan Li, and Ying Huang. 2017. "Sustaining relationships after opportunism and misunderstanding: the role of formalization and socialization." *Marketing Letters* 28 (2):305-319. doi: 10.1007/s11002-016-9414-1.
- Zhang, Qiyuan, and Kevin Zheng Zhou. 2013. "Governing interfirm knowledge transfer in the Chinese market: The interplay of formal and informal mechanisms." *Industrial Marketing Management* 42 (5):783-791. doi: 10.1016/j.indmarman.2012.12.002.
- Zheng, Jurong, Jens K. Roehrich, and Michael A. Lewis. 2008. "The dynamics of contractual and relational governance: Evidence from long-term public-private procurement arrangements." *Journal of Purchasing & Supply Management* 14 (1):43-54.
- Zhou, Kevin Zheng, and Laura Poppo. 2010. "Exchange hazards, relational reliability, and contracts in China: The contingent role of legal enforceability." *Journal of International Business Studies* 41 (5):861-881. doi: 10.1057/jibs.2010.7.

Zhou, Kevin Zheng, and Dean Xu. 2012. "How foreign firms curtail local supplier opportunism in China: Detailed contracts, centralized control, and relational governance." *Journal of International Business Studies* 43 (7):677-692.

# Appendix I Full list of journals and book chapters included in the dataset

(by decreasing order of frequency)

Journal name	No. of articles included	Journal name	No. of articles included
Industrial Marketing Management	13	European Management Journal	1
Journal of Business Research	12	Industry and Innovation	1
International Journal of Operations & Production Management	9	Innovation	1
Organization Science	8	International Business Review	1
International Journal of Project Management	7	International Journal of Conflict Management	1
Journal of Operations Management	7	International Journal of Contemporary Hospitality Management	1
Strategic Management Journal	7	International Journal of Market Research	1
Journal of Business & Industrial Marketing	6	International Journal of Physical Distribution & Logistics Management	1
Journal of Purchasing & Supply Management	6	International Journal of Retail & Distribution Management	1
Journal of the Academy of Marketing Science	6	International Journal of Public Sector Management	1
European Management Review	5	International Marketing Review	1
Journal of Supply Chain Management	5	Internet Research	1
The International Journal of Logistics Management	5	Journal of African Business	1
British Journal of Management	4	Journal of Construction Engineering and Management	1
Journal of Management	4	Journal of Destination Marketing & Management	1
Journal of Management in Engineering	4	Journal of Enterprise Information Management	1
Journal of Management Information Systems	4	Journal of Global Operations and Strategic Sourcing	1
Journal of Marketing	4	Journal of Management Studies	1
Management Accounting Research	4	Journal of Manufacturing Technology	1
Project Management Journal	4	Management	1
Public Management Review	4	Journal of Marketing Research	1
Small Business Economics	4	Journal of Product Innovation Management	1
Engineering, Construction and Architectural Management	4	Journal of Service Management	1
Information Systems Research	3	Journal of Services Marketing	1
Journal of International Business Studies	3	Journal of Small Business and Enterprise Development	1
Strategic Organization	3	Journal of Strategy and Management	1
Supply Chain Management: An International Journal	3	Journal of Strategic Information Systems	1
Baltic Journal of Management	2	Journal of World Business	1
Construction Management and Economics	2	Long Range Planning	1
International Journal of Managing Projects in Business	2	Management Decision	1
International Journal of Research in Marketing	2	Measuring Business Excellence	1
Journal of Business-to-Business Marketing	2	MIS Quarterly	1
		Organization Studies	1

Journal of International Marketing	2	Production Planning & Control	1
Marketing Letters	2	Research Policy	1
Scandinavian Journal of Management	2	Review of Business Management	1
Academy of Management Annals	1	Review of Managerial Science	1
		Review of International Business and	
Academy of Management Journal	1	Strategy	1
Asian Business & Management	1	Strategy Science	1
Asian Journal of Technology Innovation	1	Systems Research and Behavioral Science	1
		Technology Analysis & Strategic	
Chinese Management Studies	1	Management	1
Corporate Governance: An International			
Review	1	Technovation	1
Engineering Management Journal	1	The Journal of Technology Transfer	1
Entrepreneurship Research Journal	1	The Service Industries Journal	1
European Journal of Innovation		Thunderbird International Business	
Management	1	Review	1
		<b>TOTAL</b>	<b>216</b>

### Book chapters

- Argyres, N. 2013. "Contracting for innovation." In: Thakor, A. (Ed.), *Innovation and Growth: What Do We Know?* (pp. 159-173). World Scientific.
- De Jong, G., N. Balogh, & R.J.A. Klein Woolthuis. 2014. "The governance of high-tech alliances: Trust, contracts, cultural differences, and interdependence." In: Das, T.K. (Ed.), *Strategic Alliances for Innovation and R&D* (pp. 1-27). Charlotte: Information Age Publishing.
- Faems, D., R. Alberink, G. de Jong, A. Groen, & R.J.A. Klein Woolthuis. 2011. "Contractual alliance governance: Impact of different contract functions on alliance performance." In: Das, T.K. (Ed.), *Strategic Alliances in a Globalizing World* (pp. 67-92). Charlotte: Information Age Publishing.
- Fischer, T. A., T.L. Huber, & J. Dibbern. 2011. "Contractual and relational governance as substitutes and complements—explaining the development of different relationships." In: Heinzl, A., P. Buxmann, O. Wendt, & T. Weitzel. (Eds.), *Theory-Guided Modeling and Empiricism in Information Systems Research* (pp. 65-83). Physica-Verlag HD.
- Hendrikse, G., & J. Windsperger. 2011. "Determinants of contractual completeness in franchising." In: Tuunanen, M., J. Windsperger, G. Cliquet, & G. Hendrikse. (Eds.), *New Developments in the Theory of Networks* (pp. 13-30). Physica, Heidelberg.
- Roehrich, J.K., J. Barlow, & S. Wright. 2013. "Delivering European healthcare infrastructure through public-private partnerships: The theory and practice of contracting and bundling." In: Das, T.K. (Ed.), *Managing Public-Private Strategic Alliances* (pp. 1-26). Charlotte: Information Age Publishing.
- Zahir-ul-Hassan, M.K., R.A. Minnaar, & E.G.J. Vosselman. 2016. "Coercive and enabling controls in the governance of strategic alliances." In: Das, T.K. (Ed.), *Governance Issues in Strategic Alliances* (pp. 57-81). Charlotte : Information Age Publishing.

**Table 1 Illustrative evidence**

Second-order themes	Illustrative evidence
<b>Contractual Governance</b>	
<i>Contract design</i>	<p>“The present study examines contractual detail in only one class of contractual provisions, those related to partnership termination. While the analysis of these clauses is novel as they are important to partnerships yet neglected in the literature, extensions are needed that consider other kinds of clauses that figure into partnerships.” (Arino et al., 2014: 400) [<i>specific provisions</i>]</p> <p>“Our study examines socializing and monitoring, but other practices, such as trust and relational norms, interact with contracts to affect fairness perceptions, especially when the functionality of contracts broadens to include safeguarding, coordination, and adaptation (Faems et al., 2008; Hoetker and Mellewigt, 2009; Parmigiani and Rivera-Santos, 2011).” (Poppo &amp; Zhou, 2014: 1523) [<i>functions of contract</i>]</p>
<i>Contract management</i>	<p>“The present examination explores the resolution of contractual breaches. However, future research may explore the prevention of the occurrence of breaches. Changing contractual factors identified in this examination (e.g., length, boilerplate) may benefit both parties by reducing the incidence of these situations.” (Johnson &amp; Sohi, 2016: 203) [<i>contract breach</i>]</p> <p>“Contract enforcement seems to be a missing link between contract violation and relationship performance. Further research can empirically test this relationship. Moreover, there has been debate concerning whether contract design influences contract enforceability or vice versa.” (Griffith &amp; Zhao, 2015: 35) [<i>enforcement and execution</i>]</p>
<b>Antecedents</b>	
<i>Organizational factors</i>	<p>“In addition to the transaction cost and relational governance explanations, variables derived from organizational capability and bargaining power theory may influence incompleteness of franchise contracts.” (Hendrikse et al, 2015: 882) [<i>organizational capability</i>]</p> <p>“Our study did not consider the strategic intent of the client firm as our intention was to test senior managers’ general perceptions regarding the link between outsourcing and strategic innovation. Future research could refine our results by including the strategic intent as a variable affecting the type of contract selected for outsourcing.” (Oshri et al, 2015: 214) [<i>strategic intent</i>]</p>
<i>Dyadic factors</i>	<p>“It should be noted that cooperative norms are only one of the key factors that may contribute to the development of informational and operational linkages. Development of such linkages could also be imposed, by the more powerful party in a relationship, on the weak party. Future research may extend our research model by investigating the role of relative power in the development of these linkages.” (Cai et al, 2011: 8) [<i>power distribution/asymmetry</i>]</p> <p>“Moreover, we did not take into consideration the specific identity of the partners and we did not consider previous alliance experience (e.g. Olson et al. 2003; Zachary 2011; Zachary, Danes and Stafford forthcoming [2013]).” (Pittino &amp; Mazzurana, 2013: 78) [<i>previous alliance experience</i>]</p>
<i>Network/environmental factors</i>	<p>“Our selected method limited our ability to explore whether and how the number of partners in an alliance influence the choice of governance mechanisms.” (Barbic et al., 2016: 425) [<i>number of partners in the network</i>]</p> <p>“Although our results suggest that relational reliability increases contract explicitness, we do not examine how the coordination and control aspects of contracts may vary as a function of relational reliability and legal enforceability.” (Zhou &amp; Poppo, 2010: 877) [<i>legal enforceability</i>]</p>

<i>Individual factors</i>	<p>“We know little about the role of lawyers. Given their training to look ahead, they may stimulate managers to think over issues they would not consider otherwise, and by acting in this way lawyers may provoke inferential learning not only about legal provisions, but also about technical ones (Argyres and Mayer, 2007).” (Arino et al., 2014: 400) [<i>role of lawyers and consultants</i>]</p> <p>“Other dimensions that may influence the coordination mechanisms include the hub firm leader’s personality and/or personal networks, which support the maintenance of a reasonably varied, large pool of potential members eligible for more tightly coupled, action-oriented networks (Grandori and Soda, 1995).” (Gardet &amp; Mothe, 2011: 225) [<i>firm leader’s personality and network</i>]</p>
<b>Consequences</b>	
<i>Opportunism</i>	<p>“Our measure of opportunism does not distinguish between different types of opportunism, such as quality defection vs embezzlement; nor does it distinguish opportunism in specified areas from that in unspecified areas. Further research is necessary to develop more refined measures, and assess how various economic and social mechanisms curtail different types of opportunism arising in different areas.” (Zhou &amp; Xu, 2012: 689) [<i>different types of opportunism</i>]</p> <p>“Opportunistic behavior is taken as an aggregate construct. To draw a more nuanced conclusion, future research could consider it as a multidimensional construct, for example, with weak and strong forms.” (You et al., 2018: 805) [<i>different types of opportunism</i>]</p>
<i>Exchange performance</i>	<p>“Evaluate the ROI generated by investments in trust signals: few firms document the cost savings and quality improvements that arise from investments in trust. Almost no one measures less-tangible returns like the benefits of access to better innovation or a partner’s willingness to go above and beyond to help a company respond to unanticipated events.” (Fawcett et al, 2017: 934) [<i>less-tangible returns</i>]</p> <p>“Our measure of dispute costs captures only the observable costs incurred for firms that were represented by the law firm that supplied the data. Thus, we were forced to ignore internal costs related to the resources mobilized within each firm and to opportunity costs that resulted from a damaged relationship. This creates opportunities for future research that might probe more deeply into the various types of costs that are impacted by governance structures.” (Lumineau &amp; Malhotra, 2011: 551) [<i>direct consequence</i>]</p>
<b>Moderators</b>	
<i>Location-specific factors</i>	<p>“The enforcement of the contract provisions varies significantly in exchange relationships (Antia and Frazier, 2001), depending on the institutional cost. Further studies accounting for the contingent effect of institutional forces could provide novel insights into the relationship between contract enforcement and supply chain performance.” (Bai et al., 2016: 22) [<i>institutional environment</i>]</p> <p>“We also do not consider the possibility that changes in market conditions can move transactors outside the self-enforcing range, i.e., the range of actions where the threat point is balanced against the risk of underinvestment, so that it becomes profitable to breach the contract (Klein 1996).” (Susarla et al., 2010: 53) [<i>market condition</i>]</p>
<i>Relationship-related factors</i>	<p>“Our results provide evidence of the contingent role of satisfactory prior history in cooperative partnerships. This supports some recent research which suggests that prior history may have a negative impact on cooperative relationships, or may have a nonlinear relationship with performance outcomes (Al-Laham, Amburgey and Bates, 2008; Grayson and Ambler, 1999; Gulati and Sytch, 2008). Further research to examine the contingent role of prior history is thus required.” (Lui &amp; Ngo, 2012: 92) [<i>dyadic-level factors</i>]</p> <p>“Although we have illustrated the dyadic nature of trust, the larger question of how additional antecedents, such as relationship stage or interorganizational context, may vary across the dyad remains unaddressed.” (McEvily et al., 2017: 89) [<i>temporal stages</i>]</p>

<b>Dynamics of Contractual Governance</b>	
<i>Dynamic contractual design and enforcement process</i>	<p>“This study is silent on the dynamic development of governance mechanisms and how the roles and the interplay of relational and control governance evolve and coevolve as an interfirm relationship proceeds.” (Ju &amp; Gao, 2017: 83) [<i>dynamic contractual design in different stages</i>]</p> <p>“We thus encourage future research to validate our findings using longitudinal data, particularly by exploring the temporal aspect of contracts (i.e., how they are initially created and then enacted).” (Schilke &amp; Lumineau, 2018: 2850) [<i>dynamic contractual design in different stages</i>]</p>
<i>Learning and information exchange</i>	<p>“A more holistic treatment of alignment requires a processual understanding of other important mechanisms, such as information sharing among supply chain counterparts.” (Selviaridis &amp; Spring, 2018: 752) [<i>dynamic information sharing</i>]</p> <p>“We need to develop a broader range of indicators of learning to contract as such an array may allow us to advance important debates, like how to disentangle the trust and learning effects from prior relationships.” (Arino et al., 2014: 400) [<i>learning effect from prior relationships</i>]</p>
<b>Other Types of Governance</b>	
<i>Relational governance</i>	<p>“A discussion is still ongoing concerning the interplay between formal and informal governance mechanisms. Applying a configurational approach to identify high and low-performing bundles of formal and informal governance mechanisms could prove to be a very interesting line of future research.” (Hofman et al., 2017: 754) [<i>interplay between contractual and relational governance</i>]</p> <p>“Further research should investigate whether and when transactional and relational mechanisms can be used together, and whether using both together yields greater knowledge transfer quantity and credibility than when they are used separately.” (Liu et al., 2017: 292) [<i>joint use of contractual and relational governance</i>]</p>
<i>Other types of governance aside relational governance</i>	<p>“A second limitation of our study concerns the specific realization of the governance mechanism under consideration. The channels literature mentions other realizations of these governance mechanisms, such as monitoring and partner selection, which could be explored for safeguarding supplier opportunism.” (Caniels &amp; Gelderman, 2010: 250) [<i>partner selection</i>]</p> <p>“This study only investigates four governance mechanisms to derive the impact on ex-post transaction costs and relationship commitment. Further study may incorporate some other governance mechanisms, such as conflict resolution strategies, relational norms, uncertainty, complexity, and the reputations of partners.” (Shahzad et al., 2018: 145) [<i>reputation</i>]</p>
<b>Empirical Considerations</b>	
<i>Theoretical lens</i>	<p>“Other economics-based theories, such as identity economics, might offer a useful means of exploring further the role of individuals in the selection and use of inter-firm control.” (Grafton &amp; Mundy, 2017: 39) [<i>economics-based lens</i>]</p> <p>“Considering not only knowledge acquisition but also other strategic perspectives, such as the organizational learning perspective (Deeds &amp; Hill, 1996), absorptive capability perspective (Cohen &amp; Levinthal, 2000), dynamic capability perspective (Teece, Pisano, &amp; Shuen, 1997), path dependency perspective (Nelson &amp; Winter, 1982) and exploitation and exploration perspective (Levinthal &amp; March, 1993), antecedents of alliance performance can be examined in various ways.” (Park et al., 2017: 442) [<i>strategic perspectives</i>]</p>
<i>Research design</i>	<p>“We would encourage researchers to consider increasing the sample size of both the firm level and the country level to test the interactive effects of relationship</p>

	<p>characteristics and country characteristics.” (Griffith &amp; Zhao, 2015: 35) [<i>level of analysis</i>]</p> <p>“This study is limited to a single key informant. Future studies can obtain data from numerous but different respondents for assessing the independent and dependent constructs in order to reduce common method bias.” (Shahzad et al., 2018: 145) [<i>multi-informant design</i>]</p>
<i>Measures</i>	<p>“We operationalize contract specificity abstractly and therefore do not capture the specific contractual terms.” (Dean et al., 2016: 54) [<i>fine-grained measure of contractual governance</i>]</p> <p>“While it is difficult to obtain objective performance data, it is worthwhile for future studies to consider collecting objective supplier performance data from either a buyer or supplier firm to cross-validate the findings of the current study.” (Zhang et al., 2018: 224) [<i>objective measure</i>]</p>



**Table 2 A summary of the identified key limitations and their implications for future research**

	<b>Key limitations</b>	<b>Implications for future research</b>
Conceptualization and operationalization of IOR contracting	<ul style="list-style-type: none"> <li>• Limited focus on the specific content of contracts</li> <li>• Limited study on specific contractual provisions</li> <li>• Limited study on different functions of contracts</li> <li>• Limited study on different types of contracts</li> <li>• Limited understanding of what constitutes contract management</li> <li>• Limited understanding of how contract management could be operationalized</li> </ul>	<ul style="list-style-type: none"> <li>• Further study the measures and performance implications of different functions of contracts</li> <li>• Develop a finer analysis of how the content of contracts articulates with specific managerial functions</li> <li>• Further understand how and why contracts' tone induce different behaviors</li> <li>• Understand smart contracts</li> </ul>
Antecedents, consequences and moderators	<ul style="list-style-type: none"> <li>• Limited understanding of how certain organizational-, dyadic-, and individual- level factors influence contract design</li> <li>• Limited consideration of various ways of operationalizing the consequences of contractual governance</li> <li>• Limited understanding of certain contingencies that influence the relations between antecedents and contractual governance, and between contractual governance and consequences</li> </ul>	<ul style="list-style-type: none"> <li>• Further understand the micro-foundations in contract design</li> <li>• Consider how different types of asymmetries at the dyadic level influence contract design</li> <li>• Study different types of consequences simultaneously</li> <li>• Further consider the moderating roles of technologies, organizational forms, institutional contexts, as well as internal characteristics of the focal relationship</li> </ul>
Contractual governance dynamics and interplay with other types of governance	<ul style="list-style-type: none"> <li>• Limited understanding of the dynamics of contract design over time</li> <li>• Limited understanding of the multi-faceted and dynamic nature of relational mechanisms</li> <li>• Limited understanding of the dynamics of the interplay between contractual and relational governance</li> </ul>	<ul style="list-style-type: none"> <li>• Investigate the evolution of contract design and management across the whole life cycle</li> <li>• Pay attention to time-related constructs, such as learning /forgetting, experience accumulation, and trust development</li> <li>• Consider different ways of approaching temporal issues</li> </ul>
Empirical considerations	<ul style="list-style-type: none"> <li>• Limited generalizability of results</li> <li>• Usually using economics-based theoretical lens, overlooking other perspectives</li> <li>• Some deficiencies in research design, such as single informant, not studying actual contracts, and measurement issues</li> </ul>	<ul style="list-style-type: none"> <li>• Develop more longitudinal studies</li> <li>• Leverage the use of the configurational perspective</li> <li>• Find good instrumental variables to address endogeneity issues</li> <li>• Develop more experiment-based studies to infer causality</li> </ul>

**Figure 1 Structure of the analytical framework**

