Introduction

Firms’ performance hinges on the sharing, integration, use, and leveraging of knowledge within alliances (e.g. Kale & Singh, 2007; Mowery et al., 1996; Muthusamy & White, 2005). Most alliance literature has focused on the access to, transfer of, and absorption of knowledge, while acknowledging that processes of access and absorption expose the knowledge donating firm to dangers of opportunism and problems in learning to the same rate as its partner (Giarratana & Mariani, 2014; Inkpen & Tsang, 2007; Yang et al., 2015). Although the transfer and absorption of knowledge from one alliance partner to another is important, an emerging body of work suggests that mutual knowledge creation among allying firms (Grant & Baden-Fuller, 2004; Holmqvist, 2003; Larsson et al., 1998; Lubatkin et al., 2001) strongly triggers firms’ performance. Mutual knowledge creation improves performance as it starts from a position of mutual benefit, and not from a transfer perspective resembling an antagonistic view of alliances: “The challenge for the individual firm is to manage the outflow of competitively relevant information to its partner to support the alliance and facilitate inter-partner learning while simultaneously protecting proprietary knowledge” (Ireland et al., 2002, p.437). Therefore, the answer to performance is alliance governance, resulting in the question: what form of alliance governance?

Alliance governance is a mechanism to address coordination, opportunism risks, uncertainties about technologies and markets, and the reliability of partners that emerge when entering alliances (Gulati, 1998). Most traditional firms will simply switch from a managerial mode of governance (based on the separation of ownership and control) to an alliance mode (also based on separation of ownership and control, but oriented toward the longer-term development of relationships) (Carney, 2005). But in non-traditional firms, such as family firms, the governance situation is more complex. The family firm has its own unique family governance (distinguished by the unification of ownership and control) that places a high premium on parsimony, personalism, and particularism (Carney, 2005) prioritizing to maintain and protect the family interest and protect unwarranted access to the family firms’ assets by external parties (Berrone et al., 2010, 2012; Gómez-Mejía et al., 2007, 2010). While the non-family firm switches to a governance mode when entering alliances (based on either contacts or trust, typically), the family firm will straddle the family governance mode with an alliance governance mode when entering alliances. Steier (2001) explains that family firms are unable to introduce governance mechanisms that interfere with their pattern of behavior. Thus, family firms employ a different approach to alliance governance and to secure alliance outcomes of knowledge creation and performance than non-family firms.

Alliance governance commonly takes one of two forms: contracts and trust. Empirical alliance studies show that trust and contract complexity influence alliance outcomes (Cannon et al., 2000; Makadok & Coff, 2009). Contracts as far as possible define tasks and monitoring in alliances, as a result of negotiating (Williamson, 1979) for the often uncertain alliance tasks of knowledge creation (Lavie & Drori, 2012). Contracts provide security that drives knowledge exchanges but can hamper openness (Reuer & Ariño, 2007). Trust relies on the assumption that the other party behaves with honesty, integrity, and reliability and centers on issues that firms cannot readily or feasibly include in contracts. Trust’ facilitation of openness drives knowledge flows (Squire et al., 2009). However, previous studies rarely considered whether contractual control and trust together affect learning, partially driven by disagreement over their substitutive (Poppo & Zenger, 2002) or complementary effects (Hoetker & Mellewigt, 2009).

The family as a dominant coalition steers strategic decisions in family firms (Chua et al., 1999) and preserving financial and non-financial family wealth (Berrone et al., 2010; Gómez-Mejía et al., 2007). The family-dominance renders family firms unwilling to abide by practices that challenge or inhibit their ownership privileges (Carney, 2005). The family identifies the business as an extension of the family unit (Demsetz &
Lehn, 1985). Such parsimony, personalism, and particularism affect contracting (Carney, 2005). Studies across international business (Scholes et al., 2015), family social capital (Zahra, 2010), networks (Eddlestone et al., 2010), stewardship and agency (Chrisman et al., 2007), and governance (Steier, 2001) assert the value family firms attach to trust. Relative to their non-family counterparts, family firms have fewer numbers of external collaborations (Kontinen & Ojala, 2011; Pukall & Calabrò, 2014) and rarely enter new relationships (Kontinen & Ojala, 2012). In contrast to rational managerial governance which favors contracts, family firm managers substitute rational calculations with particularistic criteria to maintain family sovereignty, in which trust has a greater role in informing decision-making (Carney, 2005).

Alliance research is worryingly silent on how family firms govern alliances compared to their non-family counterparts and how they benefit from knowledge work in alliances. Here sets our research in: We examine what alliance governance mechanisms benefit family and non-family firms to achieve mutual knowledge creation with their alliance partners. In a study of 939 non-equity alliances in three industries in Germany we answer the questions (1) do family and non-family firms benefit from the same or different mechanisms for governing the alliance relationship to achieve mutual knowledge creation, and (2) what effect does mutual knowledge creation with alliance partners have on the performance of family and non-family firms? We contribute to theory on alliance governance a conceptualization of alliance governance by family firms to correct for the absence of theoretical development to date about how family firms best govern alliances to achieve mutual knowledge creation; we contribute empirical evidence on the methods family and non-family firms use to achieve mutual knowledge creation among alliance partners; and contribute evidence about the effects of mutual knowledge creation on performance.

Theoretical Framework and Hypotheses

Family firms and alliance governance

Research remarkably omitted family firms’ alliances. We suggest that family firms will be more apt than their non-family counterparts at forming alliances for their long-term viability, inter-generational transfer, and the relative stability of their relationships (Arregle et al., 2007; Miller & Le Breton-Miller, 2005; Miller et al., 2010). Their alliance management behavior is likely to differ from their non-family counterparts. For example, family firms will not form alliances that threaten family control over the firm itself (Gómez-Mejía et al., 2007), family values, or family resources (Miller & Le Breton-Miller, 2005). Studies in the international business literature support this view, finding that family firms tend to form identity-based non-strategic ties because of these desires (Banalieva & Eddleston, 2011; Chang & Shim, 2015; Eddlestone et al., 2010; Gómez-Mejía et al., 2007; Kontinen & Ojala, 2012).

Contrasting theoretical expectations of Arregle et al. (2007) and Miller and Le Breton-Miller (2005), empirical studies show that family firms often have fewer numbers of collaborations compared to non-family firms and participate in fewer alliances with distant partners (Kontinen & Ojala, 2011; Pukall & Calabrò, 2014), and are reluctant to enter new networks with untested partners (Kontinen & Ojala, 2012). Thus, while professional managers would choose alliance partners on the basis of price-quality considerations and strategic value (Carney, 2005), commonly engaging in recurring and enduring contractual relations with their business partners in turn (Ring & Van De Ven, 1992), the alliance governance by family firms is likely to differ.

Family firms place a premium on trust and are willing to abandon relationships where trust is absent or becomes too corroded (Scholes et al., 2015). Managing trust across the firm’s activities is core to family firms because of its relevance to their strategic advantage compared to non-family equivalents (Steier, 2001). Compared to contracts, trust is an important governance control because it lubricates social exchange (as opposed to compelling social exchange) and is efficient where contracts are deemed invasive or open to ambiguity when unforeseen circumstances arise. With high trust, a party can have confidence that another party will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party (Mayer et al., 1995).

Mutual knowledge creation and alliance governance mechanisms

Mutual knowledge creation between alliance partners occurs when they jointly co-create or birth new knowledge together. This knowledge is socially constructed by both partners simultaneously and with each other. The promise of this form of learning over more traditional knowledge transfer is that the knowledge is new and unique to the relationship, rendering private and shared advantages for both organizations, instead of merely one
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over the other (Ireland et al., 2002). This can improve firm performance since such knowledge creating behavior has in some form been associated with novelty (Buckley et al., 2009), innovation, value creation (Anand & Khanna, 2000), capability improvement (Kale & Singh, 2007), and competitive advantage (Lavie, 2006). We expect this to hold for family firm or non-family firms.

Hypothesis 1. Mutual knowledge creation is positively related to firm performance.

Contracts as a basis for economic exchanges carry high transaction costs when its complexity increases (Williamson, 1979). Complexity increases when contract state more clauses about obligations, enforcements, controls, and rights. Contract complexity discourages family firms because of the vast range of conditions to protect financial and non-financial wealth. Standard legal contracts with standard boilerplate provisions are unattractive because “not all exchanges are neatly rationalized” (Macaulay, 1963, p.58). Contracts help reduce opportunistic behavior and task uncertainties, such that alliance partners tend to specify obligations and returns in contracts of high complexity (Argyres & Mayer, 2007). Kale et al. (2000) assume that complex contracts enhance alliance partners’ commitment and impede unwanted knowledge loss. Complex formal contracts enforce the articulation of targets and tasks (Vlaar et al., 2006). Safeguards in better-specified (more complex) contracts can ease mutual knowledge creation. However, viewing contracts in such terms relies on a view of managerial decision making that is highly rational (e.g., Biggart & Delbridge, 2004; Carney, 2005). Such a calculative rationality is common when managerial governance is a firm’s standard (Carney, 2005), and in alliance terms, partners would be selected, maintained, and terminated based upon clear price-quality considerations defined through contracts. This can be expected in non-family firms but not among family firms. Professional managers in traditional firms are accountable to shareholders. Family members are accountable to the family unit. Contracts create the need for costly monitoring and incentive arrangements. Since the family’s wealth is tied in the wealth of the business, it creates an incentive to minimize cost (Alchian & Demsetz, 1972) that is reflected in family managers prioritizing family ownership and control (Berrone et al., 2010; Gómez-Mejía et al., 2007). The family firm is more willing to take time to build trustful relations, gradually increasing commitment as trust grows even if the returns from its activities accrue more slowly.

Hypothesis 2. Growing levels of contract complexity are positively related to mutual knowledge creation in alliances for non-family firms but not for family firms.

Compared to complex contracts, trust has lower transaction costs and represents the confidence that another party will refrain from exploiting the other’s vulnerabilities even though the other has no control over it (Lane et al., 2001; Mayer et al., 1995). Trust implies an expectation that a partner will act according to rules, morals, or verbal conditions alleviating the fear of opportunistic action (Bradach & Eccles, 1989). As such, trust is an antecedent of alliancing and of mutual knowledge creation. Greater trust among partners increases collaboration with less dysfunctional conflicts and need for contractual safeguards (Greve et al., 2013). Trust is an attractive alliance governance mechanism for family firms because no assets are legally committed and no ownership or control is given up.

When firms trust each other they will exhibit a free and dense exchange of information in alliances (Ring & Van de Ven, 1994; Krishnan et al., 2006), assuming that the partner will neither misuse nor misappropriate the knowledge. Trust then holds the potential to increase knowledge work. High trust also reinforces reciprocal knowledge sharing, fueling opportunities to combine this knowledge in novel, mutually beneficial ways (Bigley & Pearce, 1998). The greater amount of, and the greater attention paid to, knowledge work will lead to greater mutual knowledge creation under higher level of trust. The creation of new joint knowledge within alliances requires effort and investments toward interaction, collaboration, and understanding that are more likely if partners trust the behavior of the partner.

Hypothesis 3. Growing levels of trust are positively related to mutual knowledge creation in alliances for both family and non-family firms.

The plurality of alliance governance

The particularistic nature of family firm management stems from the personalization of authority and the self-identity of the family with the business. Family members will intervene in the affairs of the business and substitute rational economic criteria with particularistic criteria of their choosing (Carney, 2005), strongly to protect the family (Gómez-Mejía et al., 2007). Trust can be more efficient than contracts alone or their plurality.
When contracts are very complex, a partner is more likely to rely too much on these procedures and any potential openness through greater trust may not come to pass. This would be unacceptable to the family firm due to the high premium they attach to trustful relationships over and above their economic worth (Gómez-Mejía et al., 2010). Then, partners will rely on the given details of the contracts not feeling it necessary to contribute more, even if they would or could due to the increased trust. Greater numbers of contract clauses typical of high contract complexity may even signal distrust, such that a higher level of trust activity will not be effective under high contract complexity. If partners demand the full gamut of clauses within complex contracts to happen when trust is in place, it can offset or limit the flow of knowledge and constrain mutual knowledge creation. The prescriptive nature of complex contracts risks over-specifying responsibilities and outcomes leaving less room for synergy more likely under conditions of trust. Thus, under high trust, high contract complexity will develop negative influences on mutual knowledge creation. For non-family firms, the situation is less clear because they would be expected to prioritize managerial governance under normal conditions and so prioritize rational economic decisions that place emphasis on contracts because of their fiduciary responsibility to shareholders (e.g., Useem, 1993).

Hypothesis 4. Trust and contract complexity negatively interact with each other on mutual knowledge creation in family firms.

Methodology
We drew a sample of firms’ alliances that develop products and solutions in industries with continuous innovation pressures setting a need to create new knowledge. We chose the packaging industry, the medical device industry, and the industrial automation industry in Germany retrieved from the Amadeus database. Amadeus provided information about companies, some objective performance data, and information to access middle managers and top managers as key informants. We further gathered lists from industry trade fairs providing company names and contact information for the key informant. We reviewed job titles and when accessible, job descriptions. Our sample of 939 non-equity alliances has a mean of firms 141 employees with a median of 73; 48.5% of firms had less than 50 employees and 88.9% had less than 250. The average sales volume was €26.6 million (median of €5.0 million); 13.1% of firms achieved sales volumes of more than €50,000,000; sales growth was 14.3% (median of 10.0%); the mean rate of return was 28.6% (median of 27.5%). The firms’ mean age was 42.3 years (median of 33.0 years); 45.8% in operation for more than 25 years.

We measure mutual knowledge creation, contract, and trust as latent constructs on five-point Likert-type scales (1 = ‘totally disagree’, 5 = ‘totally agree’). Mutual knowledge creation focuses on the development of novel products, the exchange of knowledge for finding new solutions and to promote novel projects. For contract complexity we applied items on the extent of clauses in contracts (Reuer & Ariño, 2007). Our three-item reflective scale on trust is based on its operationalization in alliances along the supply-chain (Doney & Cannon, 1997), which differentiates between the supplier’s confidence in the customer firm’s honesty, reliability, and integrity as focal dimensions of trust. We measured performance by a firm’s rate of return. We controlled for firm size (log employees), firm age, the supply chain position, and research intensity (R&D investments/sales).

Results
To test our model, we use Mplus (V.7.2) suitable for the covariance-based structural equation modeling approach (CB-SEM) that does not require normally distributed data (Muthén & Muthén, 2012). Table 1 shows the effects of mutual knowledge creation on firm performance.
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<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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<tr>
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<td>.012</td>
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<td>Research Intensity</td>
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<tr>
<td>MKC Squared Term</td>
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| R²                        | .040    | .045*   | .045*   |

Table 1: Stepwise analysis of the influence of mutual knowledge creation on rate of return for the total sample (N=939); ***p≤.01, **p ≤.05, and †p≤ .10.

In model 4-6 (Table 2) we calculated the effects of the governance mechanisms (trust and contract) on mutual knowledge creation and compared the effects between family and non-family-firms.

<table>
<thead>
<tr>
<th>Endogeneity Check</th>
<th>Model 4</th>
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<th>Model 6</th>
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<tr>
<td>Overall</td>
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<td>Trust (T)</td>
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<tr>
<td>Contract (C)</td>
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<td></td>
</tr>
<tr>
<td>Contract x Trust</td>
<td></td>
<td></td>
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</tbody>
</table>

| R²                        | .043 n.s. | .029 t  | .204***  | .154***  | .205***  | .161***  |

Table 2: Stepwise analysis of the influence of Trust, Contract, and their interactions on Mutual Knowledge Creation for Non-Family Firms (NFF; N=356) and Family Firms (FF; N=583); ***p≤.01, **p ≤.05, and †p≤ .10.

Discussion and Conclusion
Family firms differ from non-family firms. Characterized by the unification of ownership and control, family firms place great emphasis on trustful relations influencing alliance governance and the creation and outcomes of knowledge with their alliance partner(s). Contract complexity (unexpectedly) has no negative effect as an alliance governance mechanism for family firms but no positive either. Trust and contracts together are deleterious when used together, evidenced by a negative interaction between both contract complexity and trust on their mutual knowledge creation within alliances. Thus, contract seem dangerous, alone being simply useless and with trust damaging family firms’ outcomes. For non-family firms, contract complexity and trust both individually have positive effects on mutual knowledge creation with alliance partners. But the two seem substitutable but with no positive or negative consequences when used complementarily, unlike for family firms. Both family firms and alliance research has remained worryingly silent on what effects adopting particular governance mechanisms have on the ability of family firms (relative to their non-family counterparts) to generate value from alliances. We contribute to theory on alliance governance a conceptualization of alliance
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governance by family firms to correct for the absence of theoretical development to date about how family firms best govern alliances to achieve mutual knowledge creation; we contribute empirical evidence on the governance methods family and non-family firms use to achieve mutual knowledge creation with alliance partners; and contribute knowledge about the returns to both sets of firms from governing alliances in specific ways. We also contribute to the disagreement over the substitutive (Poppo & Zenger, 2002) or complementary effects (Hoetker & Mellewigt, 2009) of trust and contracts, revealing contingency on the firm type.
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References


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