

Determinants of Contractual Completeness in Franchising

George Hendrikse and Josef Windsperger

Abstract The aim of the study is to explain the determinants of contractual completeness in franchise relationships by formulating and testing various propositions derived from transaction cost theory, agency theory, property rights theory, organizational capability theory and relational view of governance. The degree of contractual completeness depends on behavioural uncertainty (negatively), trust (positively), franchisees' specific investments (negatively), environmental uncertainty (negatively), intangibility of system specific know-how (negatively) and contract design capabilities (positively). The hypotheses are tested with a data base consisting of 52 franchise systems in Austria. The empirical results support the hypotheses regarding behavioural uncertainty, trust and intangible system-specific know-how.

1 Introduction

Under bounded rationality and opportunism complete contracts do not exist between the network partners (Williamson 1975; Hadfield 1990; Scott 2006). In recent years researchers in organizational economics and strategic management have examined the question about the efficient contractual design (e.g. Joskow 1985; Luo 2002; Kalnins and Mayer 2004; Ariño and Reuer 2005; Reuer et al. 2006; Ryall and Sampson 2006; Mayer and Argyres 2004; Mellewig et al. 2007; Mesquita and Brush 2008; Hendrikse and Hu 2009; Hendrikse and Windsperger 2009). Researchers in organizational economics have tried to explain the degree of contractual completeness by applying transaction costs and property rights reasoning (Crocker and Reynolds 1993; Crocker and Masten 1991; Saussier 2000; Bernheim and Whinston 1998; Al-Najjar 1995; Masten and Saussier 2000). Researchers in strategic management have examined contractual complexity that is closely related to contractual incompleteness (e.g. Barthelemy and Quelin 2006;

J. Windsperger (✉)

Center for Business Studies, University of Vienna, Brünner Str. 72, A- 1210, Vienna, Austria
e-mail: josef.windsperger@univie.ac.at

Reuer and Ariño 2007; Hansen and Higgins 2007; Hagedoorn and Heslen 2007). In organizational economics contractual completeness is a concept derived from a complete contract situation. A complete contract specifies all actions to be taken and payments made under every possible environmental situation (Milgrom and Roberts 1992; Bolton and Dewatripont 2005). In the 1990s, the first generation of incomplete contracting theories (e.g. Grossman and Hart 1986; Hart and Moore 1990) explain incompleteness by high enforcement costs due to exogenous verifiability constraints in the contract execution period (Eggleston et al. 2000, p. 119; Scott and Triantis 2005). More recently, the second generation of incomplete contracting theories (e.g. Hart and Moore 2008; Tirole 2009; Bolton and Faure-Grimaud 2009) argues that incompleteness of contracts result primarily from adaptation and endogenous verifiability problems under bounded rationality of the contract partners. Under uncertainty/complexity and bounded rationality (Williamson 1975) as well as intangibility of knowledge, the network partners are unable to specify all actions to be taken and payments made under every possible environmental situation. In this situation, the contract design is an adaptation mechanism (incentive and information processing mechanism) that assigns specific rights and control rights in order to regulate the transactions between the partners (Simon 1951; Gibbons 2005; Baker et al. 2008).

Starting from this adaptation view of contract design, the objective of our paper is to develop a theoretical foundation of the concept of contractual completeness and to examine the determinants of contractual completeness in franchising by testing hypotheses derived from transaction costs, agency theory, property rights, relational governance view of governance and organizational capabilities theory. First, based on the transaction cost theory we argue that completeness varies negatively with the franchisee's specific investments and environmental uncertainty. Franchisee's specific investments increase their quasi-rents and hence the self-enforcing range of contracts, and environmental uncertainty prevents the franchisor from specifying detailed contract terms. Second, by applying the agency-theoretical view, we argue that contractual completeness varies negatively with monitoring difficulties due to behavioural uncertainty. Third, we examine the property rights hypothesis that completeness varies negatively with intangibility of the franchisor's system-specific assets. Fourth, based on the relational view of governance, we investigate the relationship between trust and the degree of contractual completeness. The complementarity hypothesis states that trust increases knowledge sharing and enables the franchisor to design more complete contracts; on the other hand, according to the substitutability hypothesis, trust decreases relational risks and results in less complete contracts. Finally, based on the organizational capability view, we examine the relationship between contract design capabilities and contractual completeness. We argue that higher contract design capabilities result in a higher degree of contractual completeness. These hypotheses are tested by using data from the Austrian franchise sector.

The article is organized as follows: Section 2 investigates the concept of contractual incompleteness. In Section 3 we develop the agency cost hypothesis, the hypotheses based on the relational view of governance and the property rights

theory, the transactions cost hypotheses and the organizational capabilities hypothesis. Finally in Section 4 we test these hypotheses by using data from Austria.

2 Contractual Completeness

Recent empirical studies on completeness and complexity of contracts show that contractual completeness is a heterogeneous concept without sufficient theoretical foundation (e. g. Parkhe 1993; Saussier 2000; Reuer and Ariño 2002, 2007; Ryall and Sampson 2006; Furlotti 2007; Mesquita and Brush 2008). In the following, first we develop the concept of contractual completeness and second we examine the relationship between completeness and complexity of contracts.

2.1 *Contractual Completeness and Decision Rights*

Designing an efficient contract refers to the question of formulating and assigning specific and residual rights to the contract partners. Specific rights refer to the detailed specification of decision actions in the ex ante period and residual rights refer to the planning of decision procedures which enable decision making about specific actions in the ex post period. The partner who has non-contractible knowledge that generates the residual surplus should have residual decision rights, and the partner who has contractible knowledge should have specific decision rights that are explicitly stipulated in contracts (Demsetz 1998). Complete contract refers to the case where all actions are specified in a comprehensive contract covering every possible environmental situation. In this situation only specific rights are included in the contract. Incomplete contracts refer to the situation in which the agents cannot fully specify the decision actions (contractual obligations) under every possible environmental situation. In this case, specific and residual rights are formulated and assigned in the contract. There is a trade-off on the choice between specific rights (sDR) and residual rights (rDR) which is determined by the contractibility of knowledge. When contractability is low, a low portion of specific rights and a high portion of residual rights are assigned to the partners, and when contractability of knowledge is high, a high portion of specific and a low portion of residual rights are specified in contracts. The ratio between specific and residual rights of the partners defines the degree of contractual completeness: sDR/rDR . The higher the portion of specific rights compared to residual rights specified in the contract, the higher is the degree of contractual completeness; and the higher the portion of residual rights compared to specific rights, the lower is the degree of contractual completeness. Hence a contract is characterized by a low degree of completeness under a low contractibility of knowledge, and a contract is characterized by a high degree of completeness under a high contractibility of knowledge. This approach is compatible with the adaptability view of governance (Simon 1951; Gibbons 2005) that formulates a trade-off between planning of decision actions

(formulating specific rights) and the planning of decision procedures (assigning residual rights) (Bolton and Faure-Grimaud 2005). A similar trade-off is well known in the regulation literature on the choice between rules and standards (Kaplow 1992; Scott and Triantis 2005).

2.2 Relationship Between Completeness and Complexity

After defining contractual completeness we address the question: what is the relationship between contractual complexity and contractual completeness? Recent studies on contractual complexities show that complexity is a heterogeneous concept (e.g. Poppo and Zenger 2002; Ariño and Reuer 2005; Reuer and Ariño 2007; Hagedoorn and Hesen 2008; Barthelemy and Quelin 2006). Although these studies differ widely in their approach and definition of complexity, the main characteristics of complexity concept can be defined as follows: Complex contracts have detailed specification of promises, obligations, responsibilities to be performed, procedures for monitoring and dispute resolution and determine in detail outcomes or outputs to be delivered. Compared to our completeness concept (sDR/rDR), complexity can be defined by the sum of contract provisions consisting of both specific decision rights (as outcome planning) and residual decision rights (as procedural planning) (sDR + rDR). Hence completeness and complexity are related as follows: A more complex contract can be both more or less complete. If the contract has a higher number of detailed provisions regarding the partners' actions in different environmental situations and a low number of provisions regarding residual decision rights, the contract has a high degree of completeness and a high degree of complexity. On the other hand, if the contract has a high number of provisions regarding the assignment of residual decision rights and a low number of provisions regarding specific rights, the contract has a high degree of complexity, but a low degree of completeness. Therefore, complexity and completeness only go hand-in-hand when the use of assets can be specified in detail in a contract due to high contractibility of knowledge. On the other hand, complexity and completeness are negatively related when the use of assets is costly and difficult to specify in a contract due to low contractibility of knowledge, but in this situation the contract specifies in detail the assignment of residual decision rights. Therefore, we do not agree with Ariño and Reuer (2005) that "a contract with more specific and detailed terms is more complete than one with less specific and detailed terms".

3 Determinants of Contractual Completeness in Franchising

Now we examine the determinants of contractual completeness in franchising by applying transaction costs theory, agency theory, property rights theory, organizational capabilities theory and the relational view of governance.

3.1 Transaction Cost Theory

3.1.1 Environmental Uncertainty

According to the transaction cost theory (Williamson 1975, 1985), environmental uncertainty influences the contract design as governance structure. Transaction costs arise due to bounded rationality under a complex and changing environment resulting in high environmental uncertainty (market, cultural and institutional uncertainty). Environmental uncertainty prevents the franchisor from setting detailed contract terms and hence it increases the need for ex-post adaptations by allocating residual decision rights. The greater the environmental uncertainty, the less complete is the franchise contract and the more residual rights and the less specific decision rights are assigned to the franchise partners.

3.1.2 Transaction-Specific Investments

According to the transaction cost theory, specific investments results in quasi-rents that can be expropriated by the less dependent partner (Williamson 1985; Klein et al. 1978). In franchising, both the franchisor and the franchisee have to undertake high transaction-specific investments that increase bilateral dependency (Windsperger 1994). When the franchisor's and the franchisee's specific investments result in high quasi-rents, they likely exceed the potential hold-up gain from opportunistic behaviour, thereby increasing the self-enforcing range of contracts (Klein 1996; Klein and Murphy 1997). In this situation, the hostage effect of specific investments motivates both partners to behave cooperatively in order to realize the relationship-specific quasi-rents. Consequently, the bonding effect of high bilateral specific investments increases the self-enforcing range of contract and reduces the requirements for specifying detailed contract terms. We can derive the following testable hypotheses from this transaction cost view:

H1a: *Contractual completeness is negatively related with environmental uncertainty.*

H1b: *Contractual completeness is negatively related with the franchisee's specific investments.*

3.2 Agency Theory

According to the agency theory (e.g. Lafontaine 1992; Lafontaine and Slade 1998), asymmetric information and opportunism result in high agency costs. The franchisor has two possibilities of reducing agency costs: On the one hand, to reduce the residual loss by increasing monitoring activities and performance measurement

and, on the other hand, by allocating a higher fraction of residual decision rights to the franchisees (Brickley et al. 2003). The higher the behavioural uncertainty (due to moral hazard and adverse selection), the more residual rights should be transferred to the local entrepreneurs, and the less specific rights are formulated in contracts. Consequently, behavioural uncertainty results in measurement difficulties under a multitasking environment and hence in a lower degree of contractual completeness (Holmstrom and Milgrom 1991; Bernheim and Whinston 1998; Eggleston et al. 2000, p 110). We derive the following hypothesis:

H2: *Contractual completeness varies negatively with behavioural uncertainty.*

3.3 *Property Rights Theory*

According to the property rights approach, intangibility of knowledge assets results in allocating residual decision rights to the network partners (Aghion et al. 2004; Lerner and Malmendier 2010; Windsperger 2009). The relationship between the intangibility of knowledge assets and the degree of contractual completeness can be stated by the following proposition: The higher the intangibility of the partner-specific knowledge, the greater is the difficulty for the franchisor to explicitly specify the use of system-specific and local market know-how in the contract, the lower is the ratio between specific and residual decision rights, and hence the lower is the degree of contractual completeness. For the franchisor's system-specific know-how, we formulate the following hypothesis:

H3: *Contractual completeness is negatively related with intangible system-specific assets.*

3.4 *The Relational View of Governance*

Under the relational view of governance (Dyer and Singh 1998; Dyer and Chu 2000; Gulati and Nickerson 2008; Mellewig et al. 2007), there are two perspectives on the impact of trust on the use of contractual provisions: (a) Substitutability view: Knowledge-based trust is a substitute for formal contractual planning (Gulati 1995; Yu et al. 2006). Trust mitigates the contractual hazards due to lower relational risk (Roberts 2000) and hence reduces the extent of formal contract planning. Consequently, the franchisors are likely to use less complete contracts when trust exists between the network partners. (b) Complementarity view: Trust facilitates interorganizational knowledge sharing and enables the formulation of more refined contract terms as "reference points" (Hart and Moore 2008) that determine the boundaries of the self-enforcing range of the contracts (Seppänen et al. 2007; Blomqvist et al. 2005; Klein 1996). Consequently, under a high level of trust the

franchisor uses more complete contracts because trust creates an incentive for intense and open information sharing. We derive the following hypothesis:

H4a: *Substitutability view: Contractual completeness is negatively related with trust.*

H4b: *Complementarity view: Contractual completeness is positively related with trust.*

3.5 Organizational Capability View

The organizational capability view argues that firm-specific capabilities result in competitive advantage through efficient knowledge creation and knowledge exploitation (Nonaka 1994; Teece 2007; Helfat et al. 2007). In franchising, franchisors develop contract design capabilities through interorganizational learning (Argyres and Mayer 2007). Prior relationships may allow for the design of more complete contracts because the partners learn what they need to specify in contracts thereby developing contract design capabilities (Mayer and Argyres 2004; Ryall and Sampson 2006; Argyres et al. 2007; Bolton and Faure-Grimaud 2009). The older the franchise company, the more the franchisors learn about the application of system-specific and the local market knowledge, and the higher are the franchisor's contract design capabilities, i. e. the capabilities to specify more refined contract. We formulate the following hypothesis:

H5: *Contractual completeness is positively related with interorganizational learning.*

4 Empirical Analysis

4.1 Sample and Data Collection

The empirical setting for testing these hypotheses is the franchising sector in Austria. We started our empirical work by obtaining the list of all franchise systems in Austria from the Austrian Franchise Association (AFA). AFA identified a total of 260 franchised systems in Austria in 2004. After several preliminary steps in questionnaire development, including interviews with franchisors and franchise consultants and the representatives of the AFA, the final version of the questionnaire was sent out by mail to the general managers of the franchise systems in June 2005 and September 2005. The questionnaire took approximately 15 min to complete on average. We received 52 completed responses; hence the response rate is 20%. This low response rate might be due to the relatively long questionnaire (7 pages). The general managers (CEOs) as respondents to the survey were the key

informants of the franchise systems. Key informants should occupy roles that make them knowledgeable about the issues being researched (John and Reve 1982). Since the general managers as top decision makers in the franchise systems are involved in all contractual decisions (including the design of franchise contracts), they were judged to be the most suitable respondents.

In implementing the survey we took several steps to ensure a good response rate, ranging from including a support letter from the president of the Austrian Franchise Association to conducting multiple follow-ups with non-respondents (Fowler 1993). We examined the non-response bias by investigating whether the results obtained from analysis were driven by differences between the group of respondents and the group of non-respondents. Non-response bias was estimated by comparing early versus late respondents (Armstrong and Overton 1977), where late respondents serve as proxies for non-respondents. No significant differences emerged between the two groups of respondents. In addition, based on Podsakoff et al. (2003), we used Harman's single-factor test to examine whether a significant amount of common method variance exists in the data. After we conducted factor analysis on all items and extracted more than one factor with eigenvalues greater than one, we felt confident that common method variance is not a serious problem in our study.

4.2 *Measurement*

To test the hypotheses the following variables are important: contractual completeness, transaction-specific investments of the franchisee, behavioral uncertainty, intangible system-specific assets, environmental uncertainty, trust and contract design capabilities (see appendix).

Degree of contractual completeness

The indicator of COMPLETENESS is a proxy for the degree of contractual completeness defined by the ratio between specific and residual decision rights. Hence it addresses the extent to which specific rights of the franchisor and the franchisee are included in the contract. The general managers were asked to rate the degree of contractual completeness on a five-point scale: "The tasks between the franchisor and the franchisee are regulated in a detailed manner in the contract". The higher the indicator, the higher is the degree of contractual completeness.

Transaction specific investments of the franchisee

Transaction-specific investments (SPECIFIC_INVESTMENTS) reduce the requirements for formulating specific contract terms because they increase the self-enforcing range of the contracts (Klein 1996). The franchisee's transaction-specific investments are measured by the initial investments (including initial fees).

Behavioral uncertainty

Behavioral uncertainty (BEHAV_UNCERTAINTY) results in measurement difficulties and monitoring costs under asymmetric information. Higher monitoring costs are negatively related to contractual completeness (Eggleston et al. 2000, p 110). Consistent with previous studies we operationalize behavioral uncertainty with a four-item scale (e.g. Anderson 1985; John and Weitz 1989; Heide and John 1990) (see appendix). The reliability of this scale was assessed by Cronbach's alpha (0.83).

Environmental uncertainty

According to Crocker and Reynolds (1993) and Ryall and Sampson (2009), contract duration is positively related with environmental uncertainty. We use contract duration as indicator of environmental uncertainty (ENV_UNCERTAINTY). This indicator represents the difficulty regarding preplanning of the franchisor's and franchisees' actions under a complex and changing environment. The longer the contract duration, the more difficult and costly is the planning of decision actions in the ex ante period, and the lower is the degree of contractual completeness.

Intangible system-specific assets

Based on indicators used in earlier studies (e.g. Windsperger 2004) we used training days (franchisees and franchisee's employees) (INTANGIBLE_SYSTEM_ASSETS) as proxy for the franchisor's intangible system-specific assets. The number of training days is an indicator for intangibility of the franchisor's system-specific know-how. The assumption behind this measure is that as intangibility of knowledge assets increases, so does the number of days of face-to-face interaction. Consistent with the view of Simonin (1999a, 1999b), the higher the degree of intangibility, the more tacit (less contractible) is the system-specific know-how, and the more personal knowledge transfer methods are used, such as meetings, coaching and training.

Trust

Under the relational view of governance trust may be a substitute for or complement of formal contract planning. Trust is a very heterogeneous concept (e.g. Levin and Cross 2004; Seppänen et al. 2007; Lazzarini et al. 2008). We operationalize trust (TRUST) with a four-item scale (see Appendix) (Cronbach alpha = 0.86).

Contract Design Capabilities

Prior relationships may allow for the design of more complete contracts because the franchisor develops contract design capabilities (Argyres et al. 2007; Bolton and Faure-Grimaud 2009). Experience of the franchise company (as number of years since the opening of the first franchise outlet in Austria) is a proxy for interorganizational learning and developing contract design capabilities (CD-CAPABILITIES).

4.3 Results

Table 1 presents the descriptive data for the sample in Austria.

To test the hypotheses we carry out a regression analysis. We conduct an OLS regression analysis with COMPLETENESS as dependent variable. The explanatory variables refer to trust (TRUST), behavioral uncertainty (BEH_UNCERTAINTY), environmental uncertainty (ENV_UNCERTAINTY), franchisee's specific investments (SPECIFIC_INVESTMENTS), intangible system-specific assets (INTANGIBLE_SYSTEM ASSETS) and contract design capabilities (CD-CAPABILITIES). Table 2 presents the correlations of the variables used in the regression analysis. In addition, the variance inflation factors are well below the

Table 1 Descriptive statistics

	N	Minimum	Maximum	Mean	Standard Dev.
INITIAL INVESTMENTS (incl. initial FEES)	44	.00	590,000.00	81,546.09	1.18956E5
TRAINING DAYS (Franchisees and employees)	45	2.00	68.50	15.0000	14.76097
There is a lot of trust between the partners	49	3	5	4.27	.700
There is an atmosphere of openness and sincerity	49	2	5	4.35	.751
Information exchange is more than agreed	49	3	5	4.20	.763
Partnership is on the basis of cooperation	49	3	5	4.59	.574
TRUST	50	3.20	5.00	4.4040	.54733
It is difficult to predict the behaviour of the outlet manager (or franchisee)	51	1	5	2.59	1.004
It is difficult to control the behaviour of the outlet manager (or franchisee)	51	1	5	2.10	1.044
It is difficult to evaluate performance of the outlet manager (or franchisee)	51	1	4	2.25	.744
It is difficult to measure the local services	51	1	5	2.08	.977
BEHAVIOURAL UNCERTAINTY	51	1.00	4.25	2.2549	.77054
CD-CAPABILITIES (Age of the Franchise System)	50	1	29.00	9.8400	7.58183
ENVIRONMENTAL UNCERTAINTY (Contract Duration in years)	47	1	20	7.83	4.493

Table 2 Correlations

	1	2	3	4	5	6	7
ENVIR_UNCERTAINTY	1.000						
BEHAV_UNCERTAINTY	-0.249	1.000					
TRUST	0.320 ^a	-0.304 ^a	1.000				
CD-CAPABILITIES	0.022	-0.011	0.122	1.000			
INTANGIBLESYSTEM_ASSETS	0.176	-0.365 ^a	0.217	0.001	1.000		
SPECIFIC_INVESTMENTS	0.478 ^b	-0.466 ^b	0.269	0.291	0.259	1.000	
COMPLETENESS	0.063	-0.296 ^a	0.302 ^a	0.105	0.009	0.168	1.000

^aCorrelation is significant at the 0.05 level (2-tailed)

^bCorrelation is significant at the 0.01 level (2-tailed)

rule-of-thumb cut-off of 10 (Netter et al. 1985). We do not find any collinearity indication.

We estimate the following regression equation:

$$\begin{aligned}
 \text{COMPLETENESS} = & \alpha + \beta_1 \text{TRUST} + \beta_2 \text{BEHAV_UNCERTAINTY} \\
 & + \beta_3 \text{ENV_UNCERTAINTY} + \beta_4 \text{SPECIFIC_INVESTMENTS} \\
 & + \beta_5 \text{INTANGIBLE_SYSTEM ASSETS} \\
 & + \beta_6 \text{CD-CAPABILITIES}
 \end{aligned}$$

According to the relational view of governance, COMPLETENESS varies positively or negatively with trust. Under substitutability view, trust reduces relational risk and decreases contractual completeness; under complementarity view, trust enables knowledge sharing and increases contractual completeness. According to the agency theory, completeness varies negatively with behavioral uncertainty. Based on transaction cost theory, environmental uncertainty is negatively related with completeness because it is not possible or very costly for the franchisor to preplan all relevant actions under a complex and changing transactional environment. Furthermore, completeness varies negatively with franchisees’ specific investments due to the hostage effect of these investments. According to the property rights view, completeness varies negatively with intangibility of system-specific assets. Finally, the development of contract design capabilities is positively related with completeness of contracts, due to interorganizational learning.

Table 3 reports the results of regression analysis. The coefficient of trust (TRUST) is positive and highly significant. This is consistent with our complementarity view that an increase in trust enables the franchisor to design more refined contract terms. The coefficient of behavioral uncertainty (BEHAV_UNCERTAINTY) is negative and significant. This implies that high behavioral uncertainty results in high monitoring costs preventing the franchisor from designing more complete contracts. The coefficient of intangible system-specific assets (INTANGIBLE_SYSTEM ASSETS) is negative and significant indicating that higher intangibility of system-specific assets results in less complete contracts.

Table 3 Regression results

COMPLETENESS	
Intercept	2.438 (1.514)
TRUST	0.709** (0.325)
BEHAV_UNCERTAINTY	-0.579** (0.22)
ENVIR_UNCERTAINTY	-0.042 (0.05)
SPECIFIC_INVESTMENTS	3.219E-007 (0.000)
INTANGIBLE_SYSTEM_ASSETS	-0.039** (0.015)
CD-CAPABILITIES	0.225 (0.157)
	F = 4.041***
	Adj. R Square = 0.378
	N = 44

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$; values in parentheses are standard errors

In addition, the coefficient of contract design capabilities (CD-CAPABILITIES) is compatible with the view that interorganizational learning increases contractual completeness. Furthermore, the coefficient of environmental uncertainty (ENV_UNCERTAINTY) is negative as expected but not significant. Finally, the coefficient of franchisee's specific investments (SPECIFIC_INVESTMENTS) is not significant.

4.4 Discussion and Conclusion

The goal of the paper is to explain the degree of contractual completeness in franchising by developing and testing hypotheses derived from transaction cost theory, agency theory, property rights theory, organizational capability theory and the relational view of governance. *First*, starting from the recent literature on contractual completeness and complexity that shows that contractual completeness is a heterogeneous concept without sufficient theoretical foundation, we develop the concept of contractual completeness based on the property rights view of allocation of specific and residual decision rights between contract partners. Contractual completeness is defined by the ratio between specific rights and residual decision rights stipulated in contracts. The higher (lower) this ratio, the more (in-) complete is the contract. *Second*, we develop and test the following hypotheses about contractual completeness in franchising: According to the agency theory, completeness varies negatively with behavioural uncertainty. The results provide support for the hypothesis that measurement difficulties, due to behavioural uncertainty, result in a lower degree of contractual completeness. Based on the relational view of governance, we investigate the relationship between trust and the degree of contractual completeness. Our data support the complementarity hypothesis that trust enables the franchisor to design more

complete contracts. Further we examine the property rights hypothesis that completeness varies negatively with intangibility of system-specific assets. The results indicate that non-contractible system-specific know-how results in difficulties explicitly specifying the use of system know-how in the franchise contract and hence in a lower degree of contractual completeness. In addition, based on the organizational capability view, we show that contract design capabilities and contractual completeness are positively related but the coefficient is not significant. Finally, the data from the Austrian franchise sector do not confirm the transaction costs hypotheses that completeness varies negatively with the franchisee's specific investments and environmental uncertainty.

How does our study extend the results in the literature? The major contribution of our study is first the clarification of the relationship between contractual completeness, decision rights, and complexity, and second the explanation of the determinants of contractual completeness in franchise relationships by applying transaction cost theory, agency theory, property rights theory, relational view of governance and organizational capability theory.

What are the business/managerial implications of (the degree of) contractual completeness in franchising? We limit ourselves to two observations. First, the design of contracts is the most important organizational task in franchising. A choice has therefore to be made which aspects to include in the contract. Our study may be helpful in this respect because it has identified a number of the determinants of contractual completeness and the direction of their effect. Second, the coverage of the business format by formulating specific and residual rights varies between franchises. Kaufmann and Eroglu (1998) stated therefore that "[o]f the many types of management issues faced by franchisors, perhaps one of the most difficult is defining the appropriate boundaries of their format, i.e., maintaining the required level of uniformity for the system to obtain economies of scale, while avoiding the danger of stifling efficient local market adaptation". Our study has provided a start to make concepts like the boundary of a business format and the required level of uniformity measurable by proposing to use the various rights specified in actual franchise contracts.

However, this study has important limitations: Due to the small sample size the generalizability of the results is limited; further research analysing data from other countries with a larger number of franchise systems would help ascertain generalizability of our research results. In addition, environmental uncertainty should be measured by a multiple-item scale since contract duration may result in endogeneity problems. Furthermore, the measurement of contractual completeness is not without limitations; it is a first step to measure contractual completeness. In future studies, we will use a multiple-item scale that differentiates between specific decision rights and residual decision rights specified in the franchise contract. In addition, the development of a more valid indicator for contractual completeness requires the use of more objective measures based on contract data. The collection of contract data is an important issue for future research.

Appendix: Measures of Variables

COMPLETENESS (contractual completeness)	The franchisor has to evaluate contractual completeness on a 5 point scale (1, strongly disagree; ...5, strongly agree): The tasks between the franchisor and the franchisee are regulated in a detailed manner in the contract.
TRUST (trust) Coefficient alpha: 0.86	The franchisor has to evaluate trust on a 5 point scale (1, strongly disagree; ...5, strongly agree): There is a lot of trust between the partners There is an atmosphere of openness and sincerity Information exchange is more than agreed Cooperation is on the basis of partnership
BEHAV_UNCERTAINTY (behavioral uncertainty) Coefficient alpha: 0.827	The franchisor has to evaluate behavioral uncertainty on a 5 point scale (1, strongly disagree; ...5, strongly agree): It is difficult to predict the behaviour of the outlet manager (or franchisee) It is difficult to control the behaviour of the outlet manager (or franchisee) It is difficult to evaluate performance of the outlet manager (or franchisee) It is difficult to measure the local services
ENVIR_UNCERTAINTY (environmental uncertainty)	Environmental uncertainty is measured by the contract duration (in years)
SPECIFIC_INVESTMENTS (franchisee's specific investments)	Franchisee's specific investments are measured by the sum of initial fees and initial investments
INTANGIBLE_SYSTEM ASSETS (intangible system-specific assets of the franchisor)	Total training days of the franchisee and its employees (per year)
CD-CAPABILITIES (contract design capabilities)	Natural log of years since opening the first franchise outlet in Austria

References

- Aghion P, Dewatripont M, Rey P (2004) Transferable control. *J Eur Econ Assoc* 2:115–138
- Al-Najjar N (1995) Incomplete contracts and the governance of complex contractual relationships. *Am Econ Rev* 85:432–436
- Anderson E (1985) The Sales person as outside agent or employee: a transaction cost analysis. *Market Sci* 4:234–254
- Argyres N, Mayer KJ (2007) Contract design as firm capability: An integration of learning and transaction cost perspectives. *Acad Manag Rev* 32:1060–1077
- Argyres N, Bercovitz J, Mayer K (2007) Complementarity and evolution of contractual provisions: an empirical study of IT services contracts. *Organ Sci* 18:3–19

- Ariño A, Reuer J (2005) Alliance contractual design. In: Shenkar O, Reuer JJ (eds) *Handbook of strategic alliances*. 149–167
- Armstrong JS, Overton TS (1977) Estimating non-response bias in mail surveys. *J Market Res* 14 (3):396–402
- Baker GP, Gibbons R, Murphy KJ (2008) Strategic alliances: bridges between ‘islands of conscious power’. *J Jpn Int Econ* 22(2):146–163
- Barney J (1991) Firm resources and sustained competitive advantage. *J Manag* 17(1):99–120
- Barthelemy J, Quelin B (2006) Complexity of outsourcing contracts and ex post transaction costs: an empirical investigation. *J Manag Stud* 43:1775–1797
- Barzel Y (1982) Measurement cost and the organization of markets. *J Law Econ* 25(1):27–48
- Bernheim BD, Whinston MD (1998) Incomplete contracts and strategic ambiguity. *Am Econ Rev* 88:902–32
- Blomqvist K, Hurmelinna P, Seppänen R (2005) Playing the collaboration game right – balancing trust and contracting. *Technovation* 25:497–504
- Bohnet I, Baytelman Y (2007) Institutions and trust: Implications for preferences, beliefs and behaviour. *Rationality Soc* 19:99–135
- Bolton P, Dewatripont M (2005) *Contract theory*, MIT Press, Cambridge
- Bolton P, Faure-Grimaud A (2005) Thinking ahead: the decision problem. Working Paper Columbia Business School
- Bolton P, Faure-Grimaud A (2009) Satisficing contracts, NBER working paper 14654
- Brickley JA, Linck JS, Smith CW (2003) Boundaries of the firm: evidence from the banking industry. *J Financ Econ* 70:351–383
- Crocker K, Masten SE (1991) *Pretia ex machina?* Prices and process in long-term contracts. *J Law Econ* 34:69–99
- Crocker K, Reynolds K (1993) The efficiency of incomplete contracts: an empirical analysis of air force engine procurement. *Rand J Econ* 24:126–146
- Demsetz H (1998) Book review: firms, contracts and financial structure (by O. Hart). *J Polit Econ* 106:446–452
- Dessein W, Santos T (2006) Adaptive organizations. *J Polit Econ* 114(5):956–995
- Dyer J, Chu W (2000) The determinants of trust in supplier-automaker relationships in the U.S., Japan, and Korea. *J Int Bus Stud* 31:259–285
- Dyer J, Singh H (1998) The relational view: cooperative strategy and sources of interorganizational competitive advantage. *Acad Manag Rev* 23:660–671
- Eggleston K, Posner EA, Zeckhauser R (2000) The design and interpretation of contracts: why complexity matters. *N Y Univ Law Rev* 95:91–132
- Fowler F J (1993) *Survey research methods*. Sage, Newbury Park
- Furlotti M (2007) There is more to contracts than incompleteness: a review and assessment of empirical research on inter-firm contracts. *J Manag Govern* 11:61–99
- Gibbons R (2005) Four formal(izable) theories of the firm? *J econ behav organ* 58: 200–245
- Gilson RJ, Sabel CF, Scott RE (2009) Contracting for innovation: Vertical disintegration and interfirm collaboration. *Columbia Law Rev* 119:431–502
- Grossman SJ, Hart OD (1986) The cost and benefits of ownership: a theory of vertical and lateral integration. *J Polit Econ* 94(4):691–719
- Gulati R (1995) Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. *Acad Manag J* 38(1):85–112
- Gulati R, Nickerson J (2008) Interorganizational trust, governance choice and exchange performance. *Organ Sci* 19:688–708
- Gulati R, Sych M (2008) Does familiarity breed trust? Revisiting the antecedents of trust. *Manag Decis Econ* 29:165–190
- Hadfield GK (1990) Problematic relations: franchising and the law of incomplete contracts. *Stanford Law Rev* 42:927–992
- Hagedoorn J, Hesens G (2008) Contractual complexity and the cognitive load of R&D alliance contracts. Working Paper, University of Maastricht

- Hansen ZK, Higgins MJ (2007) The effect of contractual complexity on technology sourcing agreements. Working Paper, Georgia Institute of Technology
- Hart O, Moore J (1990) Property rights and the nature of the firm. *J Polit Econ* 98(6):1119–1158
- Hart O, Moore J, (2008) Contracts as reference points. *Q J Econ* 123(1):1–48
- Heide J, John G (1990) Alliances in industrial purchasing: the determinants of joint action in buyer-supplier relationships. *J Market Res* 27:24–36
- Helfat CE, Finkelstein, Mitchell SW, Peteraf MA, Singh H, Teece DJ, Winter SG (2007) Dynamic capabilities: understanding strategic change in organizations. Blackwell, Oxford
- Hendrikse G, Hu Y (2009) Incompleteness of chinese fruit and vegetable contract. ISNIE-Conference, June 2009
- Hendrikse G, Windsperger J (2009/2010) On network governance. *Int Stud Manag Organ* 39:3–7
- Holmstrom B, Milgrom P (1991) Multi-task principal-agent Analyses: Incentive contracts, asset ownership, and job design. *J Law, Econ Organ* 7:24–52
- Hu Y, Hendrikse G (2009/2010) Allocation of decision rights in fruit and vegetable contracts in China. *Int Stud Manag Organ* 39:8–30
- John G, Reve T (1982) The reliability and validity of key informant data from dyadic relationships in marketing channels. *J Market Res* 19(4):517–524
- John G, Weitz BA (1989) Sales force compensation: an empirical investigation of factors related to use of salary versus incentive compensation. *J Market Res* 26:1–14
- Joskow PL (1985) Vertical integration and long-term contracts: the case of coal-burning electric generating plants. *J Law, Econ Organ* 1:33–80
- Kalnins A, Mayer KL (2004) Relationships and hybrid contracts: an analysis of contract choice in information technology. *J Law, Econ Organ* 20:207–229
- Kaplow L (1992) Rules versus standards: an economic analysis. *Duke Law J* 42:557–629
- Kaufmann PJ, Eroglu S (1998) Standardization and adaptation in business format franchising. *J Bus Venturing* 14:69–85
- Klein B (1980) Transaction cost determinants of “unfair” contractual arrangements. *Am Econ Rev* 70:356–362
- Klein B (1996) Why hold-ups occur: the self-enforcing range of contractual relationships. *Econ Inq* 34:444–463
- Klein B (2000) The role of incomplete contracts in self-enforcing relationships. *Revue d' Economie Industrielle* 92:67–80
- Klein B, Murphy K (1997) Vertical integration as a self-enforcing contractual arrangement. *Am Econ Rev* 87:415–420
- Klein B, Crawford R, Alchian A (1978) Vertical integration, appropriable rents and the competitive contracting process. *J Law Econ* 21:297–326
- Klick J, Kobayashi BH, Ribstein LE (2006) Incomplete contracts and opportunism in franchise arrangement. American, Law & Economics Association Annual Meetings, Working Paper 61
- Lafontaine F (1992) Agency theory and franchising: some empirical results. *Rand J Econ* 23:263–283
- Lafontaine F, Slade ME (1998) Incentive contracting and the franchise decision. In: Chatterjee K, Samuelson W (eds) *Advances in business applications of game theory*. Kluwer, Dordrecht
- Lazzarini SG, Miller GJ, Zenger TR (2008) Dealing with the paradox of embeddedness: The role of contracts and trust in facilitating movement out of committed relationships. *Organ Sci* 19:709–728
- Lerner J, Malmendier U (2010) Contractibility and the design of research agreements. *Am Econ Rev* 100(1):214–246
- Levin DZ, Cross R (2004) The strength of weak ties you can trust: The mediating role of trust in effective knowledge transfer. *Management Science* 50:1477–1490
- Luo Y (2002) Contract, cooperation and performance in international joint ventures. *Strateg Manag J* 23:903–919
- Macneil I (1978) Contracts: adjustments of long-term economic relations under classical, neoclassical and relational contract law. *Northwestern Univ Law Rev* 72:854–906

- Masten SE, Saussier S (2000) Econometrics of contracts: an assessment of developments in the empirical literature on contracting. *Revue d'Economie Industrielle* 92:215–236
- Mayer K, Argyres N (2004) Learning to contract: evidence from the personal computer industry. *Organ Sci* 14:394–410
- Mellewigt T, Madhok A, Weibel A (2007) Trust and formal contracts in interorganizational relationships – substitutes and complements. *Manag Decis Econ* 28:833–847
- Mesquita L, Brush T (2008) Untangling safeguard and production coordination effects in long-term buyer-supplier relationship. *Acad Manag J* 51:785–807
- Milgrom P, Roberts J (1992) Economics, organizations and management. Prentice-Hall International Editions, Homewood
- Netter J, Wasserman W, Kutner MH (1985) Applied linear statistical models. Irwin, Homewood, IL
- Nonaka I (1994) A dynamic theory of organizational knowledge creation. *Organ Sci* 5(1):14–37
- Parkhe A (1993): Strategic alliance structuring: a game theoretic and transaction costs examination of interfirm cooperation. *Acad Manag J* 36:794–829
- Podsakoff PM, MacKenzie SB, Podsakoff NP, Lee J-Y (2003) Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J Appl Psychol* 88:879–903
- Poppo L, Zenger TR (2002) Do formal contracts and relational governance function as substitutes or complements? *Strateg Manag J* 23:90–118
- Reuer J, Ariño A (2002): Contractual renegotiations in strategic alliances. *J Manag* 28:51–74
- Reuer J, Ariño A (2007) Strategic alliance contracts: dimensions and determinants of contractual complexity. *Strateg Manag J* 28:313–330
- Reuer J, Ariño A, Mellewigt T (2006) Entrepreneurial alliances as contractual forms. *J Bus Venturing* 21:306–325
- Roberts J (2000) From know-how to show-how: questioning the role of information and communication technologies in knowledge transfer. *Technol Anal Strateg Manag* 12(4):429–443
- Ryall M, Sampson CR (2006) Do prior alliances influence contract structure? In: Ariño A, Reuer J (eds) *Strategic alliances*. Palgrave MacMillian, Houndsmills
- Ryall M, Sampson CR (2009) Formal contracts in the presence of relational enforcement mechanisms. *Manag Sci* 55:906–925
- Saussier S (2000) Transaction costs and contractual incompleteness: the case of electricité de France. *J Econ Behav Organ* 42:189–206
- Scott RE (2006) The law and economics of incomplete contract. *Annu Rev Law Soc Sci* 2:279–297
- Scott RE, Triantis GG (2005) Incomplete contracts and the theory of contract design. University of Virginia Law School Working Paper 23
- Seppänen R, Blomqvist K, Sundqvist S (2007) Measuring inter-organizational trust – a critical review of the empirical research in 1990–2003. *Ind Market Manag* 36:249–265
- Simon HA (1951) A formal theory of the employment relationship. *Econometrica* 19:293–305
- Simonin BL (1999a) Ambiguity and the process of knowledge transfer in strategic alliances. *Strateg Manag J* 20(7):595–623
- Simonin BL (1999b) Transfer of marketing know-how in international strategic alliances: an empirical investigation of the role and antecedents of knowledge ambiguity. *J Int Bus Stud* 30(3):463–490
- Tadelis S (2002) Complexity, flexibility, and the make-or-buy decision. *Am Econ Rev* 92(2):433–437
- Teece DJ (2007) Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strateg Manag J* 28:1319–1350
- Tirole J (2009) Cognition and incomplete contract. *Am Econ Rev* 99:265–294
- Williamson OE (1975) Market and hierarchies: analysis and antitrust implications. Free Press, New York
- Williamson OE (1985) The economic institutions of capitalism. Free Press, New York

- Windsperger J (1994) The evolution of the vertically integrated firm: a transaction cost analysis. In: Aiginger K, Finsinger J (eds) *Applied industrial organization*. Kluwer, Dordrecht, pp 111–130
- Windsperger J (2004) The dual network structure of franchising firms: property rights, resource scarcity and transaction cost explanations. In: Windsperger J, Cliquet G, Hendrikse G, Tuunanen M (eds) *Economics and management of franchising networks*. Physica-verlag Heidelberg:69–88
- Windsperger J (2009) Allocation of decision rights in joint ventures. *Manag Decis Econ* 30:491–501
- Yu C-MJ, Liao T-J, Lin Z-D (2006) Formal governance mechanisms, relational governance mechanisms, and transactions-specific investments in supplier-manufacturer relationships. *Int Market Manag* 35:128–139